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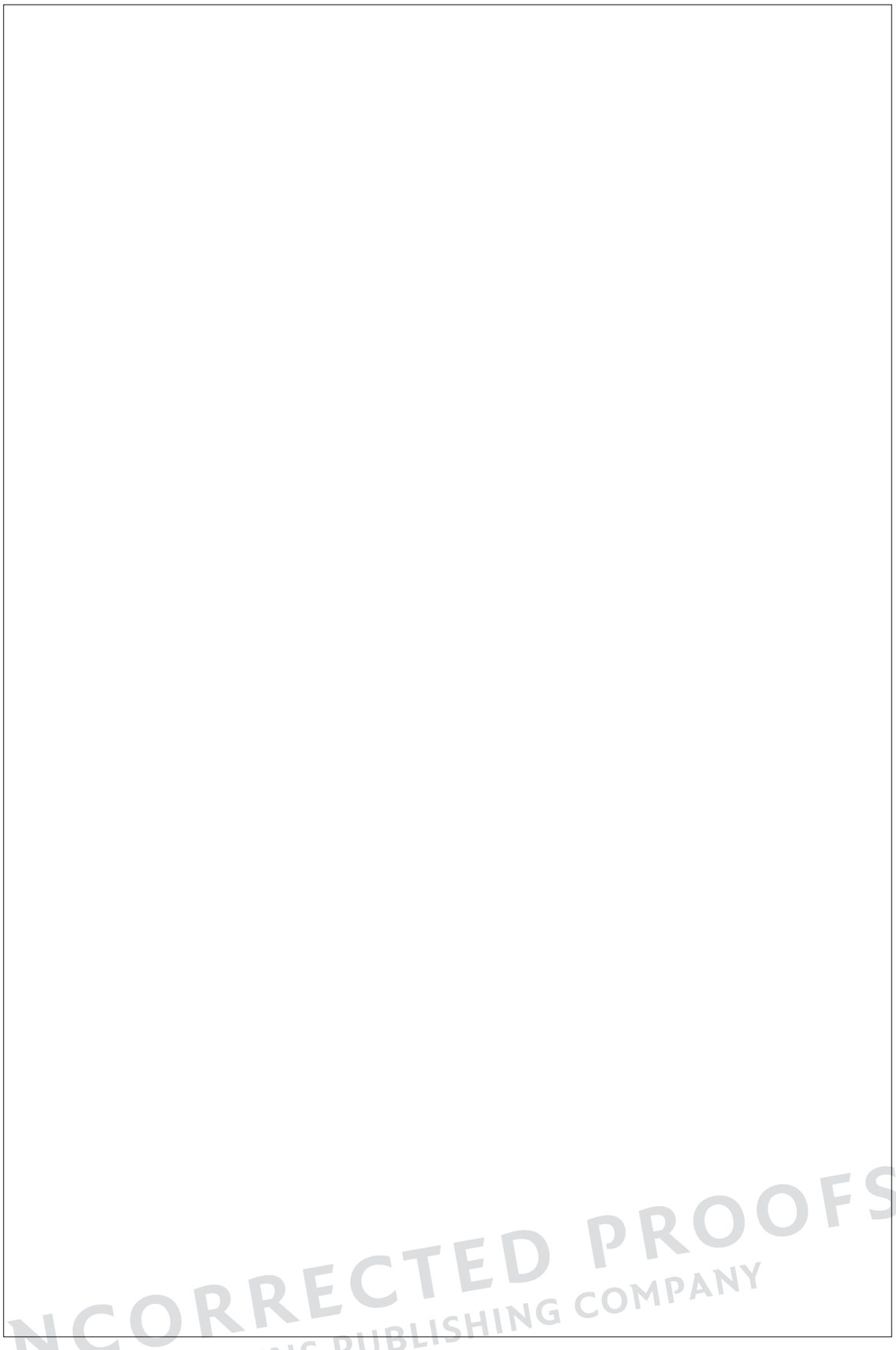
SPECIAL ISSUE

Pragmatic Interfaces

Edited by
Louis de Saussure and Peter Schulz



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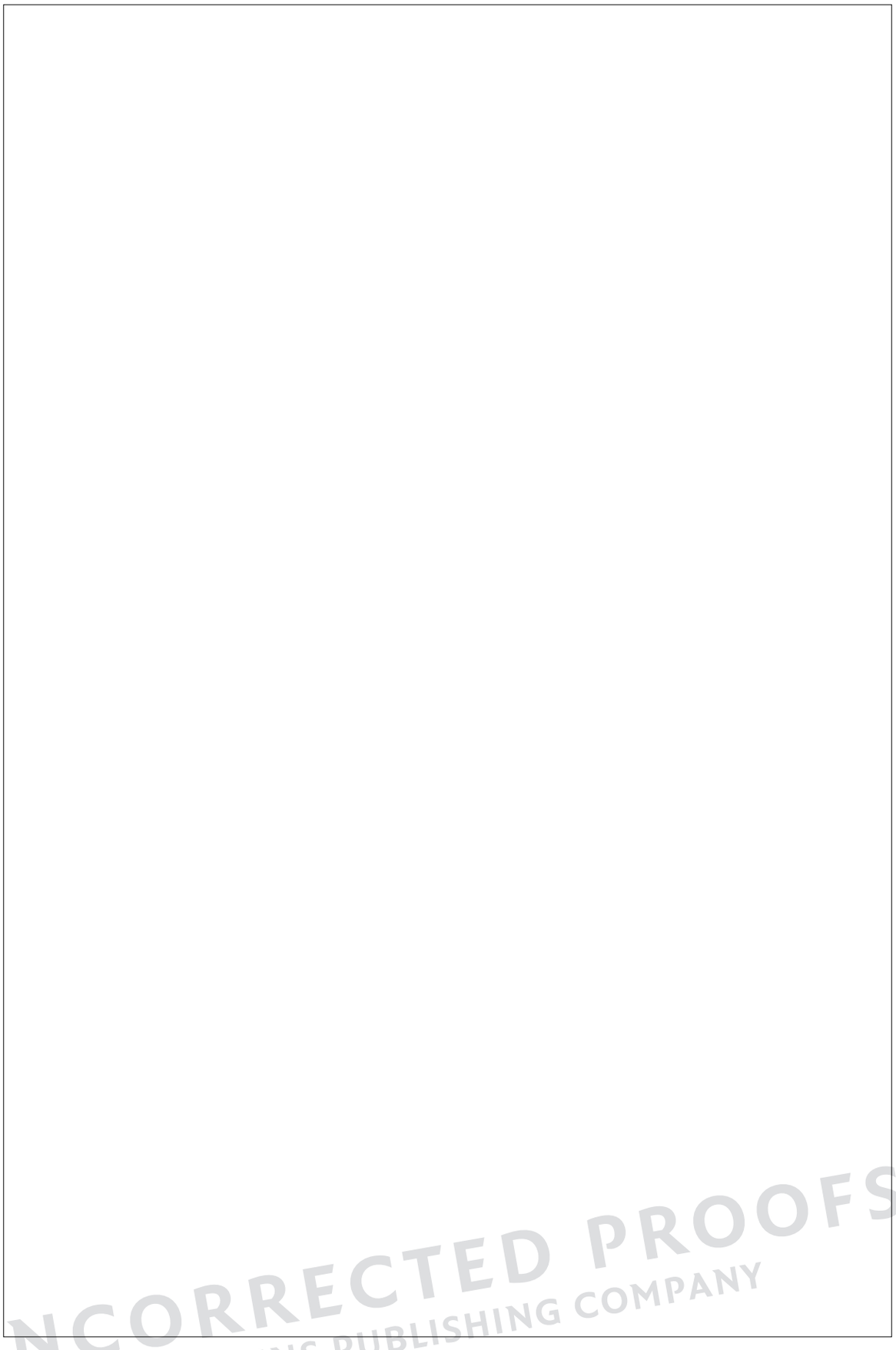

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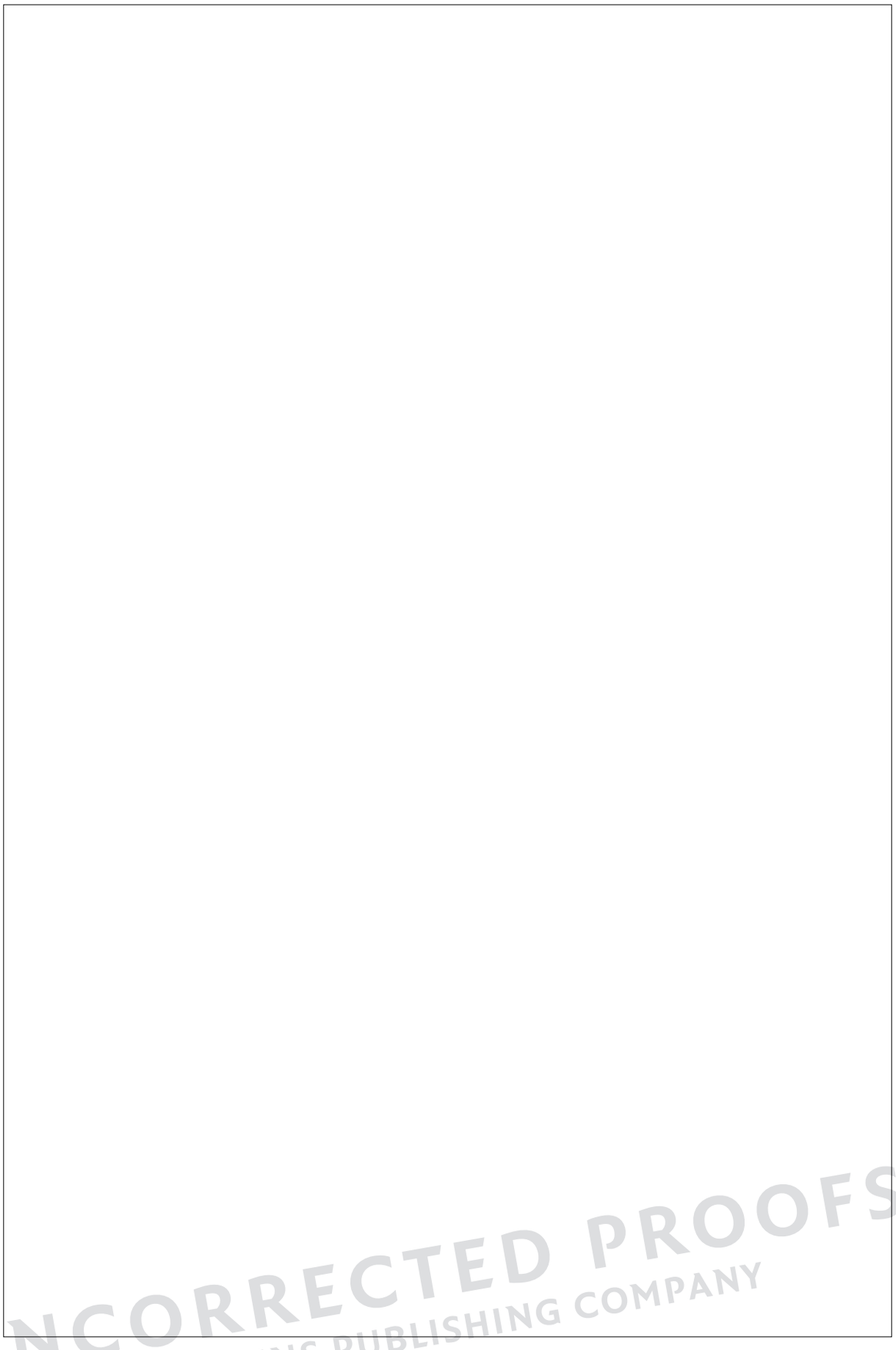

Call for papers

Fourth special issue in the series *Cognition and Technology*

Learning Technologies and Cognition

Editor: Itiel Dror

Learning technologies have been taking an increasing role in almost all learning environments. They are used in a variety of informal and formal educational environments, from early years to university level and throughout adulthood, as well as in many commercial, industrial, and governmental settings. With the greater use of learning technologies it is critical to better understand how they interact with human cognition. Both in terms of how they may facilitate and enhance (as well as hinder) learning, and also in terms of how they affect the way we learn and acquire information, and the nature of cognition.

These issues pertain to specific technologies and to learning objectives. Specific technologies (and their usage) are important to understand in their own right; for example, how the use of electronic boards and visualization tools, e-learning, synchronic vs. a-synchronic remote learning, blackboard, simulation, virtual realities, and other technological learning environments affect learning and the learner. But also the learning technologies need to be considered and understood in light of learning objectives: not only the acquisition of information, but also the ability to retain and use it and the assessment of the effectiveness of the learning process. When considering how best to use learning technologies (and their vulnerabilities) one needs to be able to determine which learning materials and objectives are best suited for these technologies, which learning tools are most appropriate, and how to best use them. Furthermore, a fundamental issue to address is if and when learning technologies should replace traditional learning and when and how should learning technologies be blended with traditional learning.

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Technologies is now going to be published as a book. It is hoped that the Learning Technologies special issue will also appear in book form in the future.

Deadline for submissions: 30 June 2007

Publication: Summer 2008

Send submissions and any inquiries to Itiel E. Dror, id@ecs.soton.ac.uk

Interfacing pragmatics

Louis de Saussure and Peter Schulz
University of Neuchâtel / University of Lugano

For a long time now the broad domain known as *pragmatics* has been suffering from a lack, or insufficiency, of scientific dialogue between the various approaches dealing with language 'in use'. Some scholars are comfortable about not looking at their neighbour's ways, but for many researchers, it is clear that the need for *pragmatic interfaces*, that is for dialogue, cross-fertilization, and, ideally, for technical connections between pragmatic trends has become more and more obvious over the past decades. Certainly, increasingly fruitful research has been pursued in this respect, but a lot remains to be done on the road to better mutual enrichment of approaches within our field of research. It seems that the further we go, the longer the route seems to be. This special issue of *Pragmatics & Cognition* pursues the aim of gathering authors from various pragmatic trends and have them explore this theme of *pragmatic interfaces*, either by taking the example of their own approach, or with a wider look on the domain itself.

First, let us acknowledge that a number of attempts to bring together different theories in pragmatics and neighbouring domains, which were originally designed with significantly different worries, have been achieved successfully. This happened for example when Searle (1969) found a way to handle in a single theory both Austin's (1962) speech-acts and Grice's (1957) notion of speaker meaning, before he turned to other problems of philosophical and cognitive importance; when Lascarides and Asher (1993) brought together Kamp's (1981) Discourse Representation Theory and Mann and Thompson's (1988) Rhetorical Structure Theory, taking into account many developments of discourse semantics; when Ducrot (1972 and 1984) merged Mikhaïl Bakhtin's ideas (elaborated notably with Voloshinov) on dialogic polyphony with semantic theories of negation and irony; when Sperber and Wilson (1986) developed a single pragmatic theory dealing with both philosophy of mind, cognitive anthropology and semantics. More recently, a number of scholars have pursued their work in order to strengthen the compatibility of their pragmatic approach with the advances of cognitive psychology and

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philosophy of language. Levinson, for instance, (1983 and 2000) brought the theory of conventional implicature into the field of cognitive science; he assumes in a recent paper that "there is a very special kind of cognition that underlies language use" (Levinson to appear) although he gives preference to the idea that this cognition is 'discursive' and has more to do with interaction than with language proper. Noveck and Sperber (2004), Gibbs (1989, 2002 and 2003), and Breheny (2006), to name a few, each worked in their own way in order to establish significant new paths towards bringing together pragmatics and experimental psycholinguistics or developmental psychology. Other scholars, those with both philosophical and linguistic worries, like Recanati (2004), Harnish (1991 and 1994) and Carston (2002), showed in their works how much analytical philosophy can help both at the level of semantic structures and at the level of pragmatic meaning, in particular regarding the distinction between what is said *vs*. what is implicated, and regarding the modelisation of the actual process of natural language utterance understanding. At the same time, the merging of both Lakoff and Johnson's (1980) theory of metaphor and Fauconnier's (1985) theory of mental spaces ended up with the creation of a global approach, notably through the work of Fauconnier and Turner (2002), a global approach often labelled *cognitive linguistics*. This once again shows how much 'cognition', at present, is a crucial domain with which pragmatic trends within the logical-formal traditions seek to interface.

Clearly, we cannot mention in their entirety the ever-increasing number of works in such directions within this introduction. These attempts are the promising side of what is happening in current pragmatics research. Although much research within this paradigm is still based on very different premises and is often at difficulty when it comes to show a solid epistemological compatibility, they are all ready for significant insights on what may one day be a solid articulation of pragmatics with philosophy of language and cognitive psychology. This may happen sooner than expected since experimentation is now more and more able to provide us with well-grounded answers to questions that used to appear irresolvable not so long ago.

A number of papers in the present volume directly address concerns regarding this emerging threefold domain of pragmatics, cognitive psychology and philosophy. In a well-developed paper, Eros Corazza works out the notion of context-dependency of semantic forms, in particular indexicality, hidden indexicals, and other contextual enrichments, from a philosophical viewpoint named *situationalism*. Through a deep cross-theoretical review of competing views, comparing his approach to the two other main philosophical attitudes regarding the role played by the context in interpretation, contextualism and minimalism, he defends the view that there is no such thing as 'eternal' truth-value for a given proposition. Therefore, he "embraces a form of relativism". Robert Harnish and Merrill Garrett,

as an experimental follow-up on these matters, explain in detail how they shaped pilot experiments and what results they got in order to test the particular kind of meaning that lies in what Kent Bach calls *implicitures* (a type of unexpressed content) to be compared with Sperber and Wilson's 'explicatures', to Perry's 'unarticulated constituents' and to other scholars' 'enrichments' that raises the debate of what precisely the status of these components of meaning is. Harnish and Garrett cross-theoretically discuss four standard ways of explaining the recovery of non-verbalized items and implicit meanings, the Gricean way, the Relevance-theoretic way, Recanati's way, and Bach's way; they hope, following the results of experimental testing of pragmatic processes, for a stronger "infusion of systematic pragmatic issues more aggressively into mainstream psycholinguistics" so that the status of such items can be classified appropriately into what belongs to the semantic content and what does not. Still with a strong reference to current literature in cognitive psychology, Paul Chilton develops an approach for which a key to natural language understanding is an implicit geometrical-like model of human information handling (Discourse Space theory). He suggests that "geometric concepts, specifically coordinate systems and vectors, can provide a motivated formalism for investigating conceptual structures generated by a human discourse processor" and shows how this should be operative through the example of tense. He takes advantage of these descriptions in order to compare the model he obtains with the ones that were previously used in the literature to explain semantic and pragmatic effects of temporality.

These authors all deal with *meaning*, as pragmatics does in general (except in some trends where notions like *meaning* and *cognition* are still viewed as problematic, and which we will leave aside here). Meaning, for pragmaticists, is in effect a complex notion, and the research in experimental pragmatics as well as the models inherited from Grice show how much the separation of a semantic and pragmatic level should be questioned in detail. As a fundamental opening for this volume, Nicholas Asher addresses this very crucial problem considering the status of semantics and pragmatics. He takes issue with the traditional view which separates very strictly the areas of *semantics* — a context insensitive notion of meaning — and of *pragmatics* — a, so to speak, non-linguistic notion of speaker meaning. He shows precisely how much the problems raised by indexicals and demonstratives make necessary a discussion on semantic underspecification, and asks what actually determines what the underspecified elements are, and if the resolution of underspecification has to do with linguistic competence or with a wider non-linguistic pragmatic competence. His answer comes from the necessity of taking into consideration the determinations that apply in a top-down fashion from discourse structures to utterance interpretation. Kasia Jaszczolt, with similar concerns, takes a large view of the route followed by an interpreter in his search

for an interpretation, and develops in her paper some of the central views of her theory of *semantic defaults* in comparison with other accounts, in particular with Discourse Representation Theory (DRT). She shows a way of modelising how a semantic-pragmatic interpretive system can systematically handle various types of information through a mechanism of cognitive and socio-cultural default interpretation anchored on an underspecification at the semantics-pragmatics interface. Throughout this article, she adds strong elements in the "ongoing discussion about the source and the properties of pragmatic inference", with particular attention to distinguishing reflexive, conscious, pragmatic enrichments from those which take place below the level of consciousness and which she calls "subdoxastic", that directly call for default saturations.

All in all, the papers gathered in this special issue aim at pointing out that although the prevailing attitude in pragmatics today is at best one of mutual ignorance and, at worst, of animosity, there are indeed paths for much stronger mutual enlightenment. However, one must be still aware of the difficulties, in particular due to strong incompatibilities between what one may call *referential* approaches, dealing with semantics, intentions, and the reference to the outer world as a crucial part of the phenomenon to be explained, and *non-referential* approaches, which prefer to view language use as a matter of social behaviour, in particular through notions like *discourse* and *conversation*, often without significant concern with reference or description. If the dialogue between theories in pragmatics and neighbouring domains has significantly increased recently, this has happened mostly between domains that see themselves as somehow compatible. Bridges do exist around the area of pragmatics, semantics, philosophy of language and cognitive science, but not that much between this area and the one represented by psychosocial approaches to linguistic communication, conversation and discourse, nor with the broader domain generally identified under the label of 'communication science', which is more accustomed to sociological approaches of message 'reception', although a number of scholars in communication science, as well as in fields such as marketing and psychology of persuasion, are now standardly verifying their hypotheses through careful psychological experimentation (we're not talking here of neuromarketing which is less related with language), where the result of communicative stimuli are evaluated by questionnaires relative to the contents, sometimes with unexpected results, opening for further research in pragmatics proper (see for example Rubinelli, Nakamoto, Schulz and Saussure, forthcoming).

There is too little or no dialogue at all between current trends in the broad domain of 'pragmatics', particularly between the specialties that range, on the one hand, from contextual semantics, analytical philosophy of meaning to cognitive linguistics and pragmatics and, on the other hand, discourse analysis and the various forms of sociolinguistics and conversational analysis, call them the

psycho-social trends in pragmatics, which are represented more and more in big and generalist conferences of 'pragmatics'. The divergence between these trends could also be stated in terms of allegiance or opposition to the truth-conditional tradition. Certainly, the major challenge is to set up a dialogue between these two very different kinds of views of language. In this volume, Ruth Wodak makes a clear attempt at showing how critical trends in discourse analysis can take advantage of micro-pragmatic analysis, through a case study in political discourse. In her approach she incorporates a number of tools that handle the implicit level of information processing and inferential schemes, showing that higher level types of analysis such as the ones pursued in Critical Discourse Analysis can very concretely interact with research in semantics at the level of single utterance understanding. Frans van Eemeren and Peter Houtlosser propose to view the theory of argumentative discussion founded by Frans van Eemeren and Rob Grootendorst, *Pragma-dialectics*, as pragmatic — referring mostly to speech act theory — and normative, thus with an external, philosophical set of rules, and show how these two sides can interface and provide a full theory for argumentative studies. Moreover, they show paths towards bringing pragmatics to work to improve argumentative practices through a reconciliation of rhetoric — the techniques of persuasion — and dialectics — the techniques of evaluating arguments. Steve Oswald is interested in questioning whether an approach such as Pragma-Dialectics could be articulated with cognitive pragmatics rather than with speech act theory, so that in turn pragma-dialectics could prove a possible module for argument-checking that cognitive pragmatics lacks and should be looking for; he takes the example of Relevance Theory to show his concern, and ends up considering that both models seemingly adopt a 'softer rationality', in Dascal's terms (Dascal 2005), which make them closer than one would have at first expected. Louis de Saussure, in turn, questions the scientific status of 'discourse', suggesting that the notion boils down either to verbal communication in general, or to structured spans of utterances delimited as such. He suggests that an inferential model of communication coupled with a dynamic model of context should prove in fact sufficient to describe what commonsense calls 'discourse'. He then argues against the common idea that a discourse is more than the organised set of utterances composing it when taking seriously the necessity of full pragmatic meaning explanation.

It is usual to talk of *interfaces* among different domains of study but through compatible devices (devices that can use as inputs the outputs of other devices). What seemed more challenging to us was the implementation of interfaces between competitive and potentially incompatible approaches. At first sight, this may seem irrelevant, but in fact it is clear that scientific research in pragmatics needs a stronger common ground than it currently has. Many scholars wonder mostly about interfaces between the traditional domains of study within general

linguistics, in particular between syntax and semantics (an interface actually operative and widespread since the works of Heim and Kratzer 1998), between syntax and pragmatics (see Kempson, Meyer-Viol and Gabbay 2000, Pollock 1997, through the idea that there is no complex sentence semantics between syntax and pragmatics) and between semantics and pragmatics of course, which was the topic of several conferences and books in the past years. But much less has been done in order to bring pragmatic theories to interplay, in particular between pragmatics as contextual semantics, and pragmatics as the study of discourse structures and social determinations. In other words, not much has been achieved, except in the classical works of Labov (1972) and Searle (1969), in order to bring together language as meaning, and (language) as social action. It is hard to find scholars more distant from each other than, say, Grice and Goffman, within a domain of study that bears the same label and a number of similar concerns in fact.

There are however a few propositions about their own work on which all, or nearly all pragmaticists will agree, since these propositions are part of the core definition of 'pragmatics' and of its necessary consequences since the origins of the pragmatic program. Before we turn to these propositions, let us have a glance at the central concerns of the 'fathers' of pragmatics.

Towards the middle of the 20th century, in the 'continental' world, linguists of the French structural tradition, in a critical follow-up to the work of Ferdinand de Saussure, found it important to address *parole* (the actual use of language), and not only *langue* (the linguistic system), contrarily to what Saussure suggested. In the 1940s, scholars like Charles Bally and Emile Benveniste completed the move towards language in use. Both Bally and Benveniste focused on the expression of *subjectivity* in language, and counted linguistic markers of subjectivity as the cue to a linguistic theory of *parole* or, in Benveniste's words, of *enunciation* (which was considered a social activity and actually technically opposed the Saussurean notion of *parole* based on the individuality of speech actions). This is how pragmatics started in that part of the world: as a critical extension of Saussurean structuralism. A noticeable consequence of this view is that there was something worth calling the 'self' which had something to do with the use of language. But in fact, Benveniste's idea was even more closely related to the developments that psychoanalysis was undergoing: language use, for Benveniste, 'shapes' the self during discursive interaction. Benveniste had a structural approach that differentiated various levels of implications or commitment of the 'self' in linguistic activity; for instance deictic markers were considered a criterion in order to differentiate and typologize various types of linguistic productions depending on the various degrees of implication, or commitment, of people involved in a linguistic exchange; this in turn opened the debate about *parole* or *enunciation* towards the works of German 'Textlinguistik' (Harald Weinrich in particular). More or less at the same time, a

similar focus on *language in use* emerged in the Anglo-Saxon world, however with very different concerns, through the works of John Austin and Paul Grice. The authors of this volume mostly focus on these latter approaches, where *pragmatics* is understood as having a twofold object of study: actual meaning and performance of linguistic actions. From the work of Paul Grice and John Austin, the domain expanded in so many directions that the continuity behind these various approaches to the pragmatic domain has become more and more difficult to see.

Nonetheless, all pragmaticists, whatever tradition they belong to, will say that they work on language in use, or, better yet, on the *actual* use of language. All of them will also say that *context* is a key notion for their work: context is what is absent when considering semantic structures abstractly according to the classical view that Asher evokes in his paper. All of them will also say that they work on *empirical* or *experimental material*, that is, on *real things* (as opposed to abstract significations).

But the common ground of pragmaticists probably ends here. Worse still: this may not even be a real common ground in the strong sense, that is, a set of assumptions upon which all scholars within the pragmatic field agree. These propositions are in fact understood so differently in the various pragmatic trends that their content is actually shared only by specific subgroups of approaches inside the pragmatic domain.

'Language use' can refer to actual speech production, but also to actual meaning as opposed to abstract signification. 'Context' can mean the surrounding deictic situation of speech, the social features attached to the interactants, or a selection of mutually manifest hypotheses needed to derive a plausible speaker's meaning from a linguistic stimulus. For conversationalists, 'corpus' linguists and many discourse analysts, the only 'empirical' material that deserves that name is the corpus. Viewing the corpus as unavoidable empirical material is expectable from scholars who want to observe language use as a document for social behaviour studies and as explained by a theory of social action (Filliettaz 2002): such scholars need to see things that indeed happened in order to make generalizations about social issues regarding human linguistic interaction. They need a sizeable material to analyze, so to speak. For them, conversations and discourses are most of all (i) documents allowing to trace back to how people perform speech acts and interact, and (ii) one of the key tools for humans to 'coordinate' their behaviour with that of other people. For pragmaticists interested primarily in speaker meaning, that is, in what the hearer must add to the semantic structure in order to make a hypothesis about the entirety of what is communicated, the empirical material is provided by the natural interpretive ability of the speaking subject. This ability is often viewed as similar to the naturalized linguistic competence in the Chomskyan sense, but at the level of pragmatics, that is, at the level of natural rationality. In other words, the

operation of tracing the possible interpretations of an utterance in a context relies on an inner experience linked to linguistic and pragmatic competence. For these pragmaticists, it is an empirical fact that P can convey meanings Q or R in context C, but not, for instance, meaning S. Such a *modus operandi* opens to experimental work dealing precisely with pragmatic cognitive competence, where pragmatics meets psycholinguistics, on one side, and content analysis and theories of message reception, on the other. A possible encounter of formal and cognitive approaches with speech act theories may happen precisely at the level of experimental validation of hypotheses; however the too rare attempts to ground speech act theory on actual psychological experimentation are not yet developed enough to convince those who doubt the existence of speech acts categories elsewhere than in the theorists' minds (see Bernicot and Laval 2004 for an attempt at grounding promise as a speech act with cognitively represented felicity conditions in children; we leave here aside Searle's own thoughts on the biological grounds of speech act theory).

It won't be much of a surprise that these differences are a consequence of basically two opposite conceptions of the language sciences (which reflect the classical opposing standpoints about what is inside the mind and the reality outside of it). The study of language has always been at an epistemological crossroads and the theatre of serious philosophical disputes. As said before, the history of the study of language stems from the separation between a referential-logical tradition, for which language serves to express thoughts about the outer world (the descriptive function), and an anti-referential tradition, for which language either has no linking function to the outer world or has other, more important, functions besides the descriptive one. The latter view assumes that language bears the basic functions of shaping our thoughts and thus our worldviews (cf. the well-known Sapir-Whorf hypothesis and, more recently, Wierzbicka's lexical semantics and many trends in discourse analysis and cultural studies in relation with language, with or without reference to structural semantics), of insuring the realization of conventionalized human interaction (Goffman, Roulet, Sacks), and of performing illocutionary actions that have an impact on others ('argumentation' in Anscombre and Ducrot's sense).

Referential-logical views on language were dominant for a long time. Their modern formal foundation can be seen as having been established in the 17th century within the French tradition of logic, in particular with Port-Royal grammar (Arnauld and Lancelot 1660), but of course these works anchor on the old Aristotelian tradition. These approaches share the commonsensical notions that language serves to express ideas about realities, that the mental lexicon of concepts is distinct from the public lexicon coded in languages, but that the public lexicon maps onto the mental lexicon, and that linguistic sentences express mental structures, that is, propositional material. This view was also held for complex

structures — arguments. This general perspective, according to which a linguistic element maps onto a mental one, and more generally that the linguistic device, so to say, maps onto the mental one, or interfaces with it, is known as the *logical-grammatical parallelism hypothesis*.

Not only the works of Gottlob Frege and Alfred Tarski, who founded modern truth-conditional semantics, and of formal semanticists in general, but also analytical philosophy of language (from Bertrand Russell to Paul Grice, John Austin, John Searle and François Recanati), Chomskyan generative grammar, the post- and neo-Gricean traditions of pragmatics (Sperber and Wilson 1986 and 1995, Levinson 1980 and 2001, Horn 1989), and trends in the theory of argumentation (van Eemeren and Grootendorst 2004) have some of their roots in the referential-logical tradition, often with regard to conventional aspects too. However this tradition is now interestingly split into two branches, one assuming that the mind's rationality is satisfactorily modelised by logic (hard rationality), which led linguists working on artificial intelligence to found *computational linguistics*, the other assuming that the mind's rationality is better understood as a heuristic system obeying optimization principles (soft rationality). This latter attitude is now more and more widely accepted, after the failed attempts to build up an artificial intelligence that would be the core of a Turing-testable machine. This vision of a softer rationality is also more consistent with more recent models of the mind, be they modular (peripherally modular as Fodor sees it, or massively modular, as suggests Sperber), or not.

It would be useful to take a closer look at the ideas of the main challenger of the logical-referential tradition, Ferdinand de Saussure, since they are more or less still assumed in a number of contemporary trends in pragmatics, consciously or not. Saussure denied the separation between the public and the mental lexicon, and, with it, the idea that language *expresses* thoughts about the world; he opposed the Stoic-Augustinian view on the 'sign', for which a sign is an entity detached from a worldly element to which it refers, and proposed a semiology for which the linguistic sign is an entity where a signified concept merges with a signifying acoustic representation. He suggested thus that thought and language were related in such a way that language provides a structure for thoughts through the semiotic combination of words and concepts achieved by what he calls 'signs'. The linguistic system is, for Saussure, a network of signs, each sign receiving its 'value' from its difference with the other signs in the system, so that anything outside the system will not be considered in the theory, in particular, reference. Saussure held the view that it was too early in the history of science to study language as a natural, biological phenomenon, so that it was necessary for him to build up an idealised model, the *langue*, which is the system shared and agreed upon by a given social community. Many contemporary approaches to pragmatic communication keep

holding this basic assumption that it is a commonly shared system of conventional meanings that suffices to ensure proper communication through a structured architecture of conventional systems, or codes: linguistic codes, social codes, in line with Jakobson's post-Saussurean model of communication, and recalling the unfortunately simplistic 'code-word model' inspired by Shannon and Weaver.

Yet this point must be stressed again: Saussure adopted this view *because he thought that it was too early* for cognitive investigation on language to prove fruitful. He says in the *Third Course*: "The folders that exist inside our mind, we can't explore them" (Saussure 1993: 80; our translation). Now that it has been 100 years since Saussure held this view, we see how different our scientific tools look today and there's little doubt that the 'language-as-a-convention' view must seriously, and more and more consistently, confront the 'language-as-naturalized-communication-device' view, which was called for by scholars not only in syntax as Chomsky did but also widely in current pragmatics. Saussure's 'folders' look just like 'files' and 'folders' of recent approaches in semantics (Kartunnen 1976, Heim 1982, Recanati 1993).

Looking closer at pragmatic theories, one cannot fail to notice that their focus on either speech acts — and, in general, on language *in use* understood as language *as a practice* — or contextual meaning raises particularly deep problems of interfacing. These are probably due to the fact that focusing on speech acts implies, for many scholars, focusing on discursive production while focusing on contextual meanings implies modelling utterance understanding. In other words, the most striking issue is probably, in the end, the difference of viewpoints on this matter across pragmatic theories addressing linguistic behaviour and linguistic processes of understanding.

People interested in speech production generally — but *speech act* is a notion that can also be used without such a complex background — assume that *full understanding* cannot be achieved without getting to the conclusion, for the hearer, that a particular utterance corresponds to a particular speech act type, or, in the words of more interactionist approaches, to a particular function in conversation — or discourse — with regard to a conventional knowledge of such parameters. In other words, linguistic structures bear psychosocial functions without the identification of which comprehension fails. Therefore, for such approaches, a model of speech production provides, in turn, a model of speech comprehension for which the question of utterance *meaning* is handled by conventional semantics.

People primarily interested in speech understanding in context have a completely different model of comprehension, for which the classification of a speech act by a hearer, or the conversational function of the linguistic segment considered, cannot be realized without a full determination of speaker meaning first, since the same semantic structure can represent various speech acts depending on

context (some say, following Sperber and Wilson 1986, that the identification by the hearer of the utterance's speech act category is required for its understanding only in very specific cases). These approaches use a metarepresentational rather than a conventional version of interactive competence: for them, if a speaker can produce an appropriate form for a hearer to understand, it's because the speaker metarepresents the hearer's necessary knowledge as well as his/her cognitive ability to derive meaning.

No doubt that in the future the reflexion on pragmatic interfaces will have to make a choice between frontally addressing this issue or leaving it aside. In a way, an old choice keeps looming in front of us: are we to explore an object such as the study of language use as belonging to *nature* or to *culture*? With this dichotomy as a background concern, pragmaticists will have to face new challenges with the achievements of pragmatic theories on both sides. Even though nature (e.g., pragmatic competence in the human mind) is a condition for culture (e.g., social determinations of speech acts), no doubt the solution will reside in some articulation of the two, either in the perspective of social naturalized competence (Noveck and Pulitzer 2002) or in the idea that there would be something like 'collective', 'shared' or 'distributed' cognition among individuals or even machines (see *Pragmatics & Cognition* 14:2) involved in pragmatic practice. It is not the duty of this volume's editors to give their opinion of what should be the better scientific choice; we point out however that if one fails to take into account a proper theory of meaning, it remains somehow problematic to assess anything at all about pragmatic practice. No one could in effect consider some unintelligible sequence of sounds as 'verbal communication'. But this is food for thought, maybe for the follow-ups this volume may, as we hope, trigger.

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A large view of linguistic content

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This essay lays out a view of linguistic content in which discourse context plays an essential role. It provides a role for sentential content by using underspecification but argues that discourse level phenomena are essential not only to determining content but even grammaticality judgments in certain cases. It is thus argued that the traditional view which separates very strictly the areas of semantics — a context insensitive notion of meaning — and pragmatics — a non linguistic notion of speaker meaning — is inaccurate. In this line of thought, the paper pays a particular attention to hidden indexicals, anaphora and tense. The necessity of taking into account discursive parameters in order to solve semantic indeterminacy in such cases is argued for.

1. The semantics/pragmatics battlefield

The semantics/pragmatics distinction used to be easy: semantics took care of combining the meanings of words following syntax to provide truth conditions for sentences, while pragmatics dictated how the use of a sentence in a particular context might add to what was said to give us what the utterance conveyed. Semantics was part of linguistic content and insensitive to any contextual effects, while pragmatics was a function of the speaker's intentions and beliefs (which of course guided his linguistic actions) and was full of contextual effects.

However, a lot changed in the seventies and eighties, and I believe this picture is now completely untenable. Dynamic semantics discovered constraints on what could be said that stemmed from the interaction between a sentence and its context of use. These looked semantic, since they made no overt reference to the speaker's particular intentions or beliefs. People who believe in dynamic semantics thought of these constraints as the result solely of the sentence's content with the content or logical structure of the discourse context. I'll look at a criticism of this view and defend the idea that dynamic semantics contributes just like standard semantics to constraints on what is said. I then want to argue for two further points. The first is that there's a lot of interesting linguistics to be done beyond

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even dynamic semantics — call it semantics or pragmatics, but it has very little to do with particular speakers' beliefs and intentions. I'll then argue for a more contentious thesis — that the bounds of what is said are not, and cannot just be given by some autonomous semantics of the sentence, as semantic 'strict constructionists' would have it. If we accept the constraints on what can be said given by dynamic semantics as part of linguistic content or even semantics, then we must also accept constraints on what can be said that derive from discourse structure. I'll give three arguments for this conclusion. These two theses articulate a rich view of what linguistic content is, and they make largely irrelevant the old pragmatic/semantic divide. The more interesting divide (and more difficult ultimately to define) is between a notion of linguistic content that is capable of being derived without requiring any detailed knowledge of the speaker's intentions and beliefs and a notion of speaker meaning which can only be grasped in terms of such notions. Linguistics has as a proper object of study the former; the latter lies outside the purview of linguistics proper, though certain linguistic techniques and formal tools may also be of use in its analysis.

2. Surveying the landscape

To get started, let's see what are some of the standard ways of thinking about linguistic content and semantics and pragmatics. Kent Bach is perhaps the staunchest defender of a real division between semantics and pragmatics.[1] Bach divides the world of content into what is said vs. what is communicated, and Bach has a very narrow view of what is said. Just as Chomsky has maintained a thesis of the autonomy of syntax, Bach wants to hold on to something like an autonomy of semantics thesis: there is a notion of what is said that is completely independent of the context of use. Here's how he puts it:

> Obviously not just anything that a speaker means, no matter how far removed it is from what a sentence means, counts as semantic content. But semantic content is independent of whether an utterance is strictly literal or not. So it is a property of sentences not utterances (Bach 2000: 23).

Fair enough. Semantics is not in the business of figuring out just what sort of sense extensions an individual speaker may try to convey on a given occasion of use. This may depend on the beliefs of his or her audience as well as on his or her own beliefs about them. We might, however, be able to distinguish various levels of linguistic and non-linguistic meaning: generalized implicatures (e.g., scalar) particularized implicatures, presupposition, indexically and anaphorically determined content, and context insensitive content. For Bach there really isn't anything in between a

(what I would call nonlinguistic) notion of speaker meaning and a context insensitive notion of utterance independent meaning. This is really the traditional view and will be the one I take issue with.

Kaplan (1989), justly famous for his two stage theory of indexical and demonstrative content, doesn't see things in such black and white terms. He distinguishes context and character — and a notion of truth of a sentence at a context. It's probably fair to say that he would see the meaning of indexicals and demonstratives as a proper subject for semantics. But he also draws a sharp distinction between speaker meaning and semantic meaning. Semantic meaning is limited to character and the way it combines with contexts to produce contexts.

Kamp (1979) (even prior to his dynamic incarnation) thinks that something like Bach's distinction cannot be really maintained. He attacks the 'autonomous view' of semantics according to which semantic (like syntactic) concepts apply to linguistic expressions regardless of how they are used and according to which pragmatic concepts depend on actual uses and thus only apply to utterances. He gives an argument for this, that while not really conclusive, provides a fruitful way of redrawing the traditional distinction to admit a broader notion of linguistic content.

Recanati (2003) like Kamp also takes issue with the idea that there is a minimal semantics. It may be that he believes that there is finally only speaker meaning, but Recanati takes as the position he wants to attack a much more interesting view of the semantics/pragmatics divide than Bach's. What he calls the 'syncretist' conception of linguistic content distinguishes at least four levels: minimal semantics, supplementation by filling in contextual parameters, enrichment by (general linguistic) implicatures, and enrichment by particularized implicatures (dependent on the agent specific beliefs and intentions of the conversational participants).

Many elements of the syncretist view are now commonly accepted in the semantic community. For example, it's now pretty standardly accepted amongst semanticists and pragmatists alike that syntax and compositional semantics using the simple lambda calculus underspecifies the logical form of a sentence. In dynamic semantics and in SDRT (Segmented Discourse Representation Theory), we have devised techniques for representing and building such underspecified logical forms. They can also be interpreted (thus delivering the hardcore semanticist his beloved truth conditions) via something like supervaluational techniques — e.g., by looking at the semantics of all their possible completions. Thus, the position argued by, e.g., Lepore and Cappellen (2005) that a core semantics is incompatible with a view that meaning is contextually determined can be easily shown to be wrong, as long as one allows oneself to use underspecification in specifying the semantic content of expressions. The question that I think is crucial for this view is: what determines the possible completions of such underspecified logical forms?

And what determines what the underspecified elements are? Is it something that is part of linguistic competence or is it part of a wider 'non-linguistic' pragmatic competence?

To address these questions, we need to be a bit clearer about what sorts of underspecification there might be. There are two different types of underspecification. The first type occurs when no material needs to be added to the logical form but the argument for a particular operator is not fully specified or more particularly the scope of a particular operator or quantifier or discourse connective may be underspecified. This is a familiar sort of underspecification when we consider sentences like:

(1) Many problems preoccupy every politician.

The grammar will however typically impose constraints on underspecified scopes; in (1), we know that both noun phrases have *preoccupy* in their scope, but the grammar doesn't by itself specify which quantifier is within the scope of the other, and arguably for constructions involving branching quantifiers we cannot specify a linear order of the quantifiers. But there's also a second type of underspecification at the level of the syntax-semantics interface: the value of a particular parameter may not be known from compositional and lexical semantics, but the (discourse) grammar specifies it to exist. These arise from the processing of anaphorically dependent expressions, which include pronouns. But a discourse semantics like SDRT (Asher 1993, Asher and Lascarides 2003) countenances many other anaphoric elements — including the discourse function of a particular clause. SDRT supposes that every clause has a discourse function, some rhetorical point. This may be specified by the grammar if a certain discourse particle (e.g., *because, too, as a result, …*) or particular construction like a temporal frame adverbial is used. But more often than not such discourse functions remain underspecified. All underspecifications of the first and second type are what Recanati calls 'holes' which need to be filled to produce a complete logical form.

Recanati and many others also note another kind of 'supplementation' of logical form — one of addition by inference or enrichment. This occurs with examples like (2) noted by Sperber and Wilson (1986):

(2) a. A: Have you eaten?
b. B: I had lunch thanks.

Although the addition of an adverbial (e.g., *recently, today*) to both the question and the clause are typically inferred, there's no adjunct that is specified by the discourse grammar and no underspecification that is introduced into the logical form.

Let me try to recapitulate the various views I've mentioned. Although it is in one sense of little interest how one decides to use the terms *semantics* and *pragmatics*, there is a serious issue about 'what is said' or what content is specified by commonly known rules of the language as opposed to the sort of content that depends on the nonlinguistic beliefs and intentions of individual speakers. Supposing we adopt tools like underspecification, there are several notions of what is said or what is semantics in the way that I shall use the term:

- The dramatically underspecified logical form given by lexical semantics and composition from an (often ambiguous) syntax and its content defined supervaluationally.
- Another minimal notion of what is said involves the saturation or witnessing of the underspecified parameters by particular values. This would include Kaplanian contents where various parameters have been fixed relative to the context. From SDRT's perspective it would also include fixing various other elements — (like the attachment point and rhetorical function). It is an open question whether all anaphoric elements (which generate holes in this sense) are filled in for a thin notion of what is said. We need not insist that *all* be filled in since there are some cases of anaphora resolution that are much more difficult than others.
- A yet more robust notion of linguistic content would include various inferences, including those inferences needed to resolve the intuitively unambiguous anaphoric expressions. This would complete the "saturation" process, and might also provide additional enrichments. These inferences would depend on conversational implicatures of a general sort (e.g., scalar implicatures).
- Finally, we have the full fledged notion of speaker meaning in which we abstract away from or deny the reality of any 'autonomous' linguistic meaning and simply think of the content of a linguistic message as a *context change potential* (CCP) over agents' intentional states. Thus, here an assertion transforms the state of the addressee with respect to his beliefs about the intentions and perhaps also the beliefs of the speaker. There is also a CCP defined over the speaker's belief state, though the changes here may simply amount to what he has said. E.g., the speaker after a particular speech act in which he intended to communicate ϕ will now believe that he has successfully communicated ϕ.

We can recast Recanati's various distinctions between various notions of content in terms of various sorts of dynamic relations, which makes more perspicuous a clear division between linguistic and nonlinguistic content. I am going to argue for a notion of linguistic content that is broad enough to include all linguistically resolved underspecifications. It might be extended further to deal with generalized implicatures but I won't do that here.

3. Why semantics includes contextual elements

Bach's view that semantics must be a property of sentences would seem to leave as a nonlinguistic matter all contextual effects. One problem with this view is that it's quite unclear how to handle indexicals and demonstratives. It would seem that from Kaplan's work on demonstratives and indexicals and the dynamic semantics work on presupposition and anaphoric expressions that meaning must refer to (some) elements of a context. Kaplan makes a forceful case that the meaning of indexicals like *I, here, now* essentially involve an appeal to context. Bach admits it's hard to see how anything is part of semantics if the characters of these expressions aren't. On the other hand, Bach sees the reference of demonstratives as a pragmatic affair, since he claims that it involves inevitably an appeal to the speaker's intentions to refer. Bach, as well as Recanati on this point, seems to me to make an unhelpful conflation. Recanati thinks that full pragmatic reasoning (detailed inferences about the details of speakers' and addressees' cognitive states) infect even the basics of semantics. Of course Kripke makes a similar point when discussing names, insofar as Kripke's picture of how the reference of a proper name on a particular occasion of use also makes reference to the intention of the speaker. But this doesn't imply in the least that we can't give a semantic theory of the meaning of a proper name without referring to speakers' intentions. We can give in the semantic theory for some object language L, as Tarski pointed out long ago, a list of pairs of names, with objects to give the meaning of the individual constants of L. Recanati and Bach conflate how reference is established with the theory of a referential relation or semantic theory more generally. The latter need not refer explicitly to intentions of the speaker, even if the theory of how reference is established does.

Bach's view is also too restrictive for another reason, though this depends on a commitment to a particular semantic theory known as two dimensional semantics. Two dimensional semanticists like Frank Jackson, David Chalmers and Bob Stalnaker claim that many operators, in particular operators that describe epistemic modalities or propositional attitudes, are sensitive to the meanings that context sensitive expressions have at *different* contexts. Thus, something like

(3) It's epistemically possible that water might not have been H_20.

is supposedly true on such an account, because although *water* in the actual context is fixed to refer to H_20 in the actual context, in other (possible) contexts it would refer to other types of 'watery stuff'. But this means that we can't compute the truth conditions of such sentences without understanding how terms refer in different contexts. Thus Bach would rule out all epistemic and attitude operators as understood in two dimensional semantics.

4. Semantics includes constraints on anaphora

Kaplan's work points to reasons why we have to accept contextual elements of the deictic variety into our conception of linguistic meaning. But what about contextual elements of the anaphoric variety? Curiously, few people who argue about what linguistic content is address this issue. One exception is Bach (2000). He claims: "In my view this conception conflates semantic content with pragmatic effect. It is in virtue not just of what the speaker says but of the fact that he says it that the (wide) context is changed in a certain way". Or to continue, "…context doesn't constrain what a speaker can mean. It can constrain only what he can reasonably mean and reasonably be taken to mean" (Bach 2000: 36).

For Bach, then, it would seem that evaluating a sentence at a context can't impose any indefeasible constraints on meaning. Context is always wide context: it is the information that is relevant to ascertaining the speaker's intention for the addressee and includes for the speaker his own intentions to refer and to express particular speech acts.

The best way to address this issue is to point out that the logical structure of what is said does impose limits on what a speaker can be taken to mean *dynamically speaking*. The main point of dynamic semantics has been to show that there are certain antecedently given discourse entities that are available as antecedents to anaphoric expressions in discourse and certain others that are not.

(4) John bought a book on semantics. He is reading it now.

(5) Every book John buys is about semantics. He is reading it* now.

Dynamic semantics also permits a compositional interpretation of indefinites within the scope of conditionals and accounts for their anaphoric potential.

(6) If a farmer buys a donkey at the market, he takes it home with him immediately afterwards.

At the level of plural anaphora, various dynamic semantic theories offer an explanation of what plural anaphors are available and of how these anaphors can be interpreted. Without going into the details of the voluminous literature on plurals and plural anaphora in dynamic semantics, one can fairly summarize that work as carrying on the original programme of dynamic semantics in determining the constraints on the anaphoric potential of noun phrases.

But Bach's definition of context insensitivity (where we mean discourse context) is far stricter than just ruling out dynamic semantics. It would appear that he even rules out a Fregean style semantics for terms. On Frege's account, the contribution of a term depends on the context in which it occurs. In indirect contexts

a term contributes its customary sense to the calculation of the reference of the sentence, whereas in direct contexts it contributes its reference. Similarly it contributes its indirect sense to the expression. But this apparently makes the meaning of a term sensitive to the (discourse) context in which it occurs.

One might respond on Bach's and other critics' behalf that the dynamic semantic notion of context change potential is only convincing to the extent that it is the only possible explanation of anaphoric dependencies across sentences. Of course, there is a challenger, the e-type pronoun approach, which forms the basis of the following excursus.

The following point by point comparison gives the highlights of the E-type approach, developed in Evans (1979), to anaphoric expressions.

- in DRT (Discourse Representation Theory) indefinites are free variables (or in DPL (Dynamic Predicate Logic) dynamic existential quantifiers); on the E-type view they are static existential quantifiers.
- anaphoric pronouns are dynamically bound variables; on the E-type approach, they are definite descriptions.
- quantifiers in DRT and conditionals are unselective; on the E-type approach, quantifiers bind a single variable.

The rule for converting pronouns is to take the antecedent and its sentential context and convert it into a definite description. Let's take a quick look at how this works.

> A farmer beat a donkey. It complained → A farmer beat a donkey. The donkey that x beat complained.

To complete the translation procedure from English into standard logic, we need to deal with the variable *x*. You must reinterpret *x* as also giving rise to a definite description: the donkey that the farmer beat complained. Let's see what happens when we introduce the definite description explicitly:

> A farmer beat a donkey. It complained → A farmer beat a donkey. The donkey that the farmer beat complained.

Let's do some quick commentary on this translation procedure. As the procedure stands, the translation could fail to be true when the original sentence was true, because the definite descriptions failed to have a unique semantic value. We could avoid this by changing the meaning of the definite description to something like *all the donkeys that all the farmers beat complained* (Neale 1990) to get the unselective reading proposed by DRT and dynamic semantics. But the translation is rather contrary to intuitions.

As Dan Hardt (2004) notes, it is worth remembering that Evans himself warns that reinterpreting pronouns by means of definite descriptions results in numerous scope ambiguities and therefore can't be the correct interpretation of anaphoric pronouns.

(7) a. John owns a donkey and it likes carrots though it might not have been the case that it likes carrots.
b. John owns a donkey and the donkey John owns likes carrots though it might not have been the case that the donkey that John owns likes carrots.

(8) a. Boston has a mayor and he used to be a democrat.
b. Boston has a mayor and the mayor of Boston used to be a democrat. (ambiguous)

How can we remove the ambiguity? Well, we could change the description by copying a temporal variable into the description but then we need to say something about how to bind that temporal variable with the appropriate adverbials, as in:

(9) Right now the Mayor of Boston is a Republican, but next year he'll be a Democrat. (Neale 1990)

Let's stay for the moment with the idea that we can come up with a recipe for the appropriate description to stand in for the pronoun. As Hardt points out, however, no matter what strategy we choose, the E-type approach has terrible problems with ellipsis.[2] To see what the difficulties are, let's use the strategy of copying the sentential context and consider the following examples.

(10) a. The patrolman who arrested a burglar interrogated him. Dectective Wilson did too (interrogated him). (strict reading only)
b. The patrolman who arrested a burglar interrogated the burglar he arrested. Detective Wilson did too (interrogated the burglar he arrested). (sloppy reading)

Once again we see that an explicit strategy for replacing a pronoun with a definite description seems to go wrong, as it generates readings that are not available for the unreconstructed example (10a). We could change the strategy and copy only the DP (Determiner Phrase), in this case, 'the burglar'. This strategy yields, as desired, only the strict reading for the reconstructed version. But this strategy has problems of its own.

(11) When Officer Smith saw the burglar he arrested, he interrogated him. Detective Jones did too (interrogated the burglar he arrested).

Here once again the copying strategy predicts a sloppy reading that isn't there on the original version with the pronoun. So this strategy fails to be generally applicable. Trying again, we might think to copy the head NP alone as a solution. So you get the strict reading for (11). But now consider

(12) a. The police officer who arrested a burglar insulted him, and the one who arrested a murderer did too.
b. The police officer who arrested a burglar insulted the burglar, and the one who arrested a murderer insulted the burglar.

Our last modification of the E-type approach rules out the sloppy reading, which seems incorrect.

To rescue the situation, the E-theorist has to say that context determines what description is picked up. Perhaps that will fit Bach's view about contextual dependence. It's the speaker's referential intentions that count here as to what description to use. But there's the problem of uniqueness of the definite description. The E-type approach needs to ensure (in order to get the right anaphoric dependencies) that the definite descriptions are evaluated in a minimal situation. But then it's that situation that has to be passed from sentence to sentence and modified, as new information is introduced into the discourse. For instance, each sentence may affect such a context by adding individuals to it as when new indefinites are introduced. Other sentences may just offer 'tests' on these minimal situations. You can see dynamic semantics as accounting for the same phenomena by actually giving a theory of how input states understood as a set of assignments are modified by the content of a sentence. Basically the E-type approach suitably modified with a notion of minimal situation is a dynamic theory in static disguise; it's another way of rewriting the sentence's context change potential.[3]

So in the end, it doesn't seem as though Bach is right about excluding how anaphoric contextual elements function from what is said. There isn't an alternative theory that escapes redefining the context change potential view of meaning and that offers a theory of the constraints on anaphora that dynamic semantics gives. Now it might be as Bach argues that context by itself doesn't determine the actual antecedents of anaphoric expression. But this is of a piece with what he and Recanati say about Kaplanian demonstratives: it is ultimately the speaker's referential intentions that determine the values of the indexicals. And his response here is unconvincing in either case.

If we take characters as stable parts of meaning and allow for a wider notion of semantics in which a sentence at a context is evaluated, then I see little reason to rule out the dynamic notion of context used to analyze anaphoric expressions while allowing the Kaplanian one. Both are needed to determine (the range of) what is said. Core semantics gives us an underspecified logical form, which together with

the discourse context and the external context set bounds on what can be said and specify a range of resolutions to the underspecification introduced therein.[4]

5. Beyond semantics?

The picture of semantics that we have arrived at so far is more permissive than what Bach would like but there is still a clear division between a level of linguistic content with a core notion of semantics as providing constraints on what can be said. Some contextualism has crept into core semantics but not a whole lot. The notions of discourse context and Kaplanian contexts appealed to here are thin, pragmatically speaking. Now I want to show first that there is a considerable amount of linguistics that can be done concerning the nature of sensitive content, call it what is said or what is communicated, as you will. I'll try to establish the notion of discourse structure as something that naturally contributes to truth evaluable content, though in a defeasible way. I will use an argument that appeals to the semantics of tense.

If we look at dynamic semantics' prediction for the temporal structure of texts, this appears to be completely determined semantically at least for certain choices of tense (e.g., sequences of sentences in the *passé simple* or sequences in the *passé simple* [PS] and *imparfait* [IMP] in French). However, this seems not to be correct. The standard DRT algorithm, recall, builds a representation or logical form for a discourse by merging the logical forms for clauses in a certain way. It predicts, for instance, that for an attachment of the logical form of a clause β to the logical form of a clause α in a discourse context λ where α and β both have main verbs in the simple past, the main eventuality of α, e_α, must precede the main eventuality e_β of β (the main eventuality of β is the event or state introduced by the main verb in β). In symbols we have:

- $(<\alpha, \beta, \lambda> \wedge PS(\alpha) \wedge PS(\beta)) \rightarrow e_\alpha < e_\beta$
- $(<\alpha, \beta, \lambda> \wedge PS(\alpha) \wedge IMP\ (\beta)) \rightarrow e_\alpha \subseteq_t e_\beta$

The second formula above encodes the prediction about clauses where there is a switch from the passé simple to the imparfait: there the main eventuality of α must be temporally included in the main eventuality of β.

However, French imparfait and passé simple sequences don't work as predicted.

(16) a. Pierre éteignit la lumière (e1). Il faisait nuit noire (e2) car les volets étaient fermés.
Peter turned the light off (e1). It was pitch black (e2) because the shutters were closed.

b. Marie arriva en retard au cinéma (e1). Elle attendait son mari à la maison (e2).
Marie arrived late at the movies (e1). She was waiting for her husband at home (e2).

The point becomes even clearer in English:

(17) a. Max fell.
b. John helped him up.

(18) a. Max fell.
b. John pushed him.

(19) a. Jill did well in school.
b. She got A's in all her subjects.

These pairs in the examples have the same tense forms but very different temporal structures. So, dynamic semantics alone cannot explain the differences. And of course neither can static semantics. On the other hand, different rhetorical relations can explain the differences in temporal interpretation: Narration (17a, 17b), Explanation (18a, 18b), Elaboration (19a, 19b). A theory like SDRT takes such data to indicate that the temporal structure of a text depends on rhetorical function, and that is a *use* to which sentences are put in a particular discourse context.

One can of course say that this just shows that semantics alone doesn't determine the temporal structure of a text even in the cases where we thought initially that it might. Fair enough. But what sort of pragmatics is involved here? Certainly not the Recanati or Bach sort where we need to refer to the speaker's particular beliefs and intentions. Some pragmatic inferences, inferences about the use of a particular sentence, may not appeal at all to the beliefs and intentions of speakers. This is the way SDRT's defeasible rules for calculating discourse structure work. They exploit various information sources: lexical semantics, discourse attachment facts, and compositional semantics, and perhaps common world knowledge as well. But intentions and beliefs of speakers typically don't enter into the calculation of discourse structure and of its various truth conditional effects like temporal structure.

The general form of an SDRT rule for inferring discourse structure assumes that an underspecified relation links the clauses α and β within some larger discourse constituent λ, written $?(\alpha, \beta, \lambda)$, and exploits information about these clauses and the discourse structure as a whole (T) to infer defeasibly some particular discourse relation R linking α and β. Symbolically,

– The Form of an SDRT rule:

$$?(\alpha, \beta, \lambda) \wedge \text{Info}(\alpha, \beta, \text{T}) > R(\alpha, \beta, \lambda)$$

where Info is what is given by the (underspecified) logical form from the discourse so far together with rules about the co-occurrence of various predicates and arguments. Below are some examples of axioms that yield information relevant to computing a particular discourse relation. The examples below concern information relevant to inferring the discourse relation of Explanation.

– An instance of a law for inferring a possible causal link between β and α. Here the law requires information about information that follows from the underspecified logical forms of β and α — namely that β entails a pushing of y by x and α entails a falling of y — before we can infer a possible causal link between β and α.

$$(?(\alpha, \beta, \lambda) \wedge \text{push}(x, y)(\beta) \wedge \text{fall}(y)) \rightarrow \text{Cause}_{D}(\beta, \alpha)$$

– A generalization of the previous law. SDRT assumes that lexical information will allow us to infer more general conditions like *Contact-force-move*(e_{α}, x, y) from formulas like push(x, y) or shove(x, y). This law thus potentially has much wider applicability than the previous one.

$$([\textit{Contact-force-move}(e_{\alpha}, x, y)](\alpha) \wedge [\textit{Movement}(e_{\beta}, y)](\beta)) \rightarrow \textit{cause}_{D}(\alpha, \beta)$$
$$(?(\alpha, \beta, \lambda) \wedge \text{Cause}_{D}(\alpha, \beta)) > \text{Explanation}(\alpha, \beta, \lambda)$$

None of this part of SDRT appeals to particular beliefs and intentions of the conversational agents in the discourse. Of course, this theory appeals to the fact that discourse is not by accident; people say things for various purposes. But then Bach's conception of semantics is little different: he assumes that people intend to speak English (rather than a language like English in syntax and phonology but different in its semantics) and that they use an assertoric sentence in its standard descriptive use to attribute to it any truth conditions at all. In fact we only appeal to a speaker's speech act related goal (the intention behind his speech act) that is conventionally associated with a particular speech act to derive defeasible laws about discourse relations in dialogue or to adjust discourse structure when certain complex speech acts peculiar to dialogue (like biased questions) occur.

The theory of rhetorical relations with its defeasible inference system informs us about the *preferred* ways of resolving many underspecifications in logical form. Now it seems to me that we might take semantics not only to be concerned with all *possible* resolutions of underspecified elements but with *preferred* resolutions as well. This does invite a slippery slope, because preferred interpretations may often be a function of the speaker's particular intentions and beliefs. But there is a simple way we can separate speaker meaning from linguistic meaning here: see if you can specify the preferred interpretation without reference to particular beliefs and intentions of the speaker. If you can, you've got part of linguistic content; if not

you're talking or thinking about some aspect of speaker meaning. This is a broader conception of semantics than most people would recognize, but the advantage is that we get a much more robust notion of meaning than what can be derived from Bach's conception. This broad conception involves defeasible reasoning, but the defeasible rules themselves don't appeal to any particular intentions or beliefs of the particular participants in a conversation at all. They thus provide part of linguistic content broadly construed rather than speaker content and they offer us interesting generalizations that link the use of sentences in a context to their truth conditions.

6. It is all semantics or all pragmatics? Kamp's argument

But there are reasons to think that this picture itself is false too, though not for the reasons that Recanati brings to bear. To see why there might be a worry, I want to exhume an old argument of Kamp's (1979) concerning how pragmatics and semantics interact.

Free choice permission sentences like (20) have problematic truth conditions.

(20) You may take an apple or a pear.

It looks like this sentence allows us to infer that you may take an apple and that you may take a pear. This is crazy from the perspective of standard deontic logic: $\Diamond (\phi \vee \psi) \not\rightarrow \Diamond (\phi)$! So what is going on?

Kamp's answer is this. When this sentence is understood as a *performative*, it is taken to be an instruction to the set of permissible options of the addressee: namely the addressee may take as a permitted action taking an apple and also taking a pear. That is, if we take the set of permissions to be described by a set of worlds, a performative of the form

– $\phi \vee \psi$

has its performative content computed as:

– $\|\phi \vee \psi\|_C per = \|\phi\|_C per \cup \|\psi\|_C per$

Now if we want to figure out what are the *truth conditions* of the assertion in (20), we need the recursion clause:

– $\|\phi\|_C = \{\langle w_{C'}, t_{C'}\rangle : \exists C' \, \|\phi\|_C per \subseteq \mathrm{PER}(c', b)$, where b is the addressee in C.

This semantics for free choice permission sentences allows us to infer from (20),

(21) a. You may take an apple.
b. You may take a pear.

since the set of permitted worlds for $\phi \vee \psi$ includes the permitted worlds for ϕ and for ψ. The only other observation needed to make the inference work is that $\subseteq$ is transitive.

As we expect from treatments of modality in dynamic semantics, permission sentences are internally dynamic and externally static. Prohibitions, commands and new permission sentences update the set of permitted world time pairs associated with each agent. These modalities support modal subordination but not anaphoric reference from non modal contexts. The problem with this recursion is that the truth conditions of (20) are computed relative to a pragmatic notion, *the performative use* of the sentence. In this case, the strict separation between semantics as what is said and which is computed irrespective of the actual uses of the sentence in a given context and pragmatics which investigates such particular uses is violated. This is a detailed argument supporting the position that someone like Recanati wants ultimately to adopt.

Of course the problem with this argument is that it is only as good as the necessity of computing the meaning of free choice permission sentences via the recursive rules that Kamp suggests. There are ways of avoiding this result (Asher and Bonevac 2001) by using a purely semantic approach to free choice permission. However, Kamp is onto a certain type of argument that might lead to the undermining of the narrow view of semantic content.

First let me just make a small remark about 'use' as the province of pragmatics. Here again we can gain something from Recanati's perspective. There is no privileged semantic data over and above how sentences are used. Descriptive or assertoric uses give truth conditions, but they are part of everyday language use. There's no data that gives us an 'autonomous' semantics, in the way that we might argue for syntax (grammaticality judgments differ from judgments about truth conditions). Truth conditions are supposed to be immutable. But why? Doesn't this just beg the question about what semantics should be?

Can we use Kamp's style of argument to defend the claim that the truth conditions of a discourse depend on discourse structure? Well, if you take the temporal structure of a text to be part of its truth conditions, then the evidence above makes many confident that the claim is true. However, that assumption itself is problematic, at least when we regard temporal structure, because of the defeasible nature of the inferences to temporal structure. But I think we can use facts about preferred interpretations that speakers have in neutral contexts to get at certain linguistic generalizations and that's what a theory like SDRT is supposed to do. The laws for inferring discourse structure rely on lexical choice, logical and sometimes also

syntactic structure, as well as genre. But nonlinguistic knowledge can also affect discourse structure. Non linguistic context can easily shift us over to speaker meaning, overriding preferred linguistic interpretations. So if I have special knowledge of certain circumstances, like people always push others after they fall, and my interlocutor has the same, then we may be able to get a sequence interpretation for (18). But this only shows that speaker beliefs in certain circumstances trump linguistic contents — people can use language for their own individual purposes or to reflect particularly salient facts in the context.

Generalizing away from particular discourse relations will enable us to see more clearly how even if the truth conditions of a discourse are vague, they must take discourse structure into account. More succinctly, discourse structure, just like dynamic semantics' notion of discourse context, imposes constraints on what are possible resolutions of underspecified elements and that by anybody's count must count as part of what is said.

7. The argument from abstract entity anaphora

I argued earlier that dynamic semantics' constraints on anaphoric accessibility form a natural component of linguistic content. But at least as relevant are the constraints on anaphora and ellipsis resolution imposed by discourse structure that would be built up by appealing to the sort of rules above. Here's an example having to do with anaphoric reference to propositions or facts introduced into the text. Ask yourself: what is the referent of *this*?

(22) a. One plaintiff was passed over for promotion three times.
b. Another didn't get a raise for five years.
c. A third plaintiff was given a lower wage compared to males who were doing the same work.
d. But the jury didn't believe this.

An explanation for this and many other phenomena observed about possible anaphoric antecedents in texts has to do with the so called "right frontier" of a discourse structure. The constraint says that only antecedents in the constituent α to which new information β is attached and in constituents that dominate α are available as antecedents to anaphoric elements in β. Here's the discourse graph for (22).

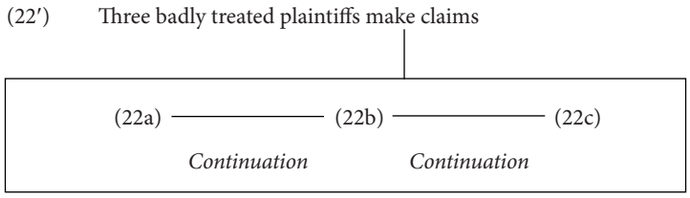

Figure 1. Discourse graph for (22).

We can test the Right Frontier Constraint by looking at a variation on the plaintiffs example:

Change (22) by adding between (22c) and (22d) a sentence that expresses the topic of the segment (22a–c):

(23) a. One plaintiff was passed over for promotion three times.
b. Another didn't get a raise for five years.
c. A third plaintiff was given a lower wage compared to males who were doing the same work.
d. These people were really badly treated.
e. But the jury didn't believe this.

A comparison between (22) and (23) is quite suggestive. What we added in (23) is implicated by (22), but the explicit addition of this information affects the anaphoric possibilities for the pronoun *this*. For instance,

– it can't pick up (23c), and only with difficulty the 3 demands together.
– the preferred antecedent is the proposition expressed by the topic, "these people were really badly treated".

The right frontier constraint captures these observations. (23d) is the last constituent and nothing dominates it (cf. (22′)). So only (23d) is on the right frontier of the graph, which furnishes the topical antecedent.

7.1 Discourse constraints on individual anaphora

The right frontier constraint also affects the availability of antecedents for anaphoric personal pronouns. Consider the following example

(24) a. John had a great evening last night.
b. He had a great meal.
c. He ate salmon.
d. He devoured lots of cheese.
e. He then won a dancing competition.
f. # It was a beautiful pink.

Here is the graph for (24):

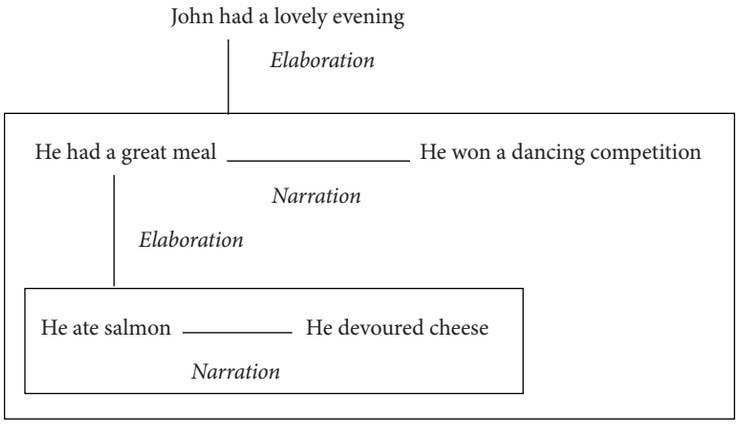

Figure 2. Discourse graph for (24).

By looking at this graph, we see that we cannot attach the last constituent of (24) on the right frontier of the graph so that the intended antecedent of *it* (the salmon) is available, which accords with intuitions.[5]

7.2 The argument from ellipsis

The last two arguments extend the kind of argument that I used to support dynamic semantics' contributions as being genuine semantic contributions, or at least genuine linguistic contributions. But there is an analogue to the Kamp style argument for certain forms of ellipsis. It appears that discourse structure imposes constraints on *grammaticality*, judgments about which form a core component of what can be said. If this argument is right then discourse structure is a core part of linguistic content. The data and proposal that I want to look at come from a very recent paper of Romero and Hardt (2004). It concerns sluicing, which is a form of ellipsis. The following are typical examples.

(25) a. John ate, but I never figured out what Ø [John ate].
b. John ate. Sam ate. But I never figured out what Ø [John ate and Sam ate].
c. John ate. But I don't know what.
d. Mary kissed somebody. You'll never guess who.

Sluicing can occur across separate sentences; hence traditional syntactic theories, whose domain of inquiry is the syntactic structure of an individual sentence, can't impose constraints on such anaphoric phenomena.

The right frontier constraint operates on sluicing as well:

(26) a. John left and then Mary kissed someone. You'll never guess who.
b. Mary kissed someone and then John arrived. #You'll never guess who.
c. Mary kissed someone and then John arrived. You'll never guess from where.
d. John arrived and then Mary kissed someone. #You'll never guess from where.

By using the expression *and then* we've forced a Narrative relation on the discourses in (26). Given SDRT's rules, this forces the right frontier to contain just the second clause of the first sentence. And that means that only material in that clause is available for reconstructing the ellipsis, once again confirming that discourse structure imposes limits on what can be said, on what are the possible completions of the logical form underspecified by compositional semantics.

But there are other constraints at work here.

(27) a. *Mary arrived after John ate but it's unclear what.
b. Mary arrived after John ate but it's unclear what John ate.
c. *Mary arrived after John ate but it's unclear what Mary arrived after John ate.
d. Agnes arrived while John was eating and I was trying to figure out what.
e. John ate before Mary arrived, but I never figured out what.

These simple sentences show a remarkable range of grammaticality. (27a) is an example of sluicing; following *what* is deleted or missing material that must be recovered from context. As Chung *et al.* (1995) point out, we cannot recover the material explicit in (27c) because that constitutes an island violation. But what syntactic constraints alone don't at all explain is why (27a) can't have the reading (27b), which is perfectly straightforward. Nor can syntactic constraints explain why the sluicing examples (27c,d) are OK when (27a) is ungrammatical. Dynamic semantic constraints on ellipsis don't really help us here either. Hardt and Romero (2004) note, off the shelf theories of ellipsis that exploit focus (like Rooth 1992, Fiengo and May 1994, etc.) would predict that a matching content can be found between the ellipsis site and some content in the antecedent discourse.

Hardt and Romero claim that basically it's a discourse constraint given by adjacency in a discourse structure that is the missing constraint on sluicing and other forms of ellipsis. Why should discourse have anything to say about constraints on ellipsis? If we take discourse structure into account and how clauses with ellided material attach to the context then a picture of what is going on begins to emerge. The first observation to make is that the material in the *after* clause is presupposed; it escapes the scope of negation and the interrogative force of a question:

(28) a. It's not true that Mary arrived after John ate → John ate.
b. Did Mary arrive after John ate? → John ate.

Both (28a) and (28b) entail that John ate, and these are classic tests for presupposition. Now in discourse presuppositions have a strong preference to attach high up in the structure; and in any case the material in the third clause with the ellipsis (which is asserted) *cannot* attach to the presupposed material — this follows from the update definition for discourse structures given in Asher and Lascarides (2003). One further observation comes from the right frontier constraint and in particular the way elided material is recovered in a discourse context. The theory of ellipsis resolution proposed in Asher (1993) requires that ellipsis material be recovered from the discourse constituent to which the constituent containing the ellipsis is attached. This is because constituents with ellipsis always attach at least with the structural relations Parallel or Contrast (though they may attach with more relations). This is equivalent to the adjacency constraint postulated by Romero and Hardt for some examples but it is a more nuanced constraint. The discourse structures for (27c) and (27d) are both ones where the ellipsis clause attaches to the constituent with the relevant matching material though in (27c) the elided constituent is asserted and attaches to the assertion that John ate, while in (27d) the ellided constituent is part of the presupposition.

Things, however, aren't quite as neat as I've made out. Consider (29a) and (29b) due to Bernhard Schwarz?[6]

(29) a. John died after he ate something poisonous, but I'm not sure what.
b. ?? John survived after he ate something poisonous, but I'm not sure what.
c. John left after Mary kissed somebody. You'll never guess who.

(29a) is a counterexample to a simple adjacency constraint as elaborated by Romero and Hardt, while the degraded grammaticality of (29b) fits in with their general hypothesis. But what's more interesting about these examples is that the presuppositional status of the modifier changes from (29a) to (29b). There is a causal connection here between the event described in the modifier clause and the event in the main clause. We presume that this causal connection becomes part of the discourse structure, so that we have two discourse relations linking the main clause and the adjunct, one causal relation and one 'temporal' one. Does this relation change the presuppositional nature of the adjunct? Well it seems to. Let's look at our presuppositional tests again:

(30) a. It's not true that John died after he ate something poisonous,
→ John ate something poisonous.
b. It's not true that John survived after he ate something poisonous
→ John ate something poisonous.

It would appear that when we infer a causal connection, the terms of that relation are not typically presupposed (though there are intonational readings where we

infer a corrective discourse function of such negated claims and the correction has as its aim only to deny the causal relation asserted), whereas when the causal relation is not present, the presuppositional nature of the modifier is once again clear (or clearer) as in (30b) (SDRT actually predicts that causal relations can't bind presuppositions, so this is rather unexpected supporting evidence for that part of the theory). What this seems to suggest is that my hypothesis about ellipsis, a more sophisticated adjacency thesis that relies on how certain discourse relations like Parallel and Contrast function, is on the right track.

Like dynamic semantics, discourse structure also imposes constraints on what can be said, and this is also independent of speaker intentions and beliefs. The data about ellipsis shows that even though we might have the intention to use a particular form to express a particular meaning, we cannot unless certain constraints about discourse structure are met. And these constraints have to do with how discourse is structured. Thus, from the facts about anaphoric availability and ellipsis, we conclude that discourse structure and its constraints have a firm part in linguistic content.

Notes

1. Stalnaker also makes a strong division between semantics and pragmatics but it's a weird one. In his article "Assertion" he defines semantics as the study of propositions as sets of worlds (it's not linguistics but algebra), pragmatics as the study of everything interesting linguistically, the study of how linguistic acts are interpreted and affect context.

2. The following examples are all his.

3. There are still some other problems with the E-type approach. First, it doesn't seem as though pronouns and definite descriptions can be equivalent:

(13) A farmer and a philosopher met in the square. He was very rude.
(14) A farmer and a philosopher met in the square. The philosopher was very rude.

There are also the correction cases (due to Mark Sainsbury), which dynamic semantics itself can't handle but which a theory that takes discourse structure into account can.

(15) There's a mosquito buzzing in my room. Oh, it's not a mosquito but a wasp and it's not in my room but outside.

One might defend the E-type theory by reconstructing the definite description as involving some attitudes of the speaker.

4. There is a real problem about update conditions with underspecified formulae. There are two options and I'm not sure how to choose between them. Either we take the content of an underspecified formula to be the union of all of the CCPs of its disambiguations (in which case we think of ambiguous formula as semantically equivalent to the disjunction of its disambiguations)

or we take ambiguity seriously and keep each disambiguation separate — in that case, an underspecified formula specifies a set of CCPs, one for each of its disambiguations. I say that this amounts to taking ambiguity seriously since a disjunction of unambiguous formulas is perfectly unambiguous — in equating an ambiguous formula with such a disjunction we have lost sight of the phenomenon of ambiguity.

5. A much fuller discussion of the right frontier constraint and its implementation in SDRT can be found in Asher (1993) and Asher and Lascarides (2003).

6. Personal communication.

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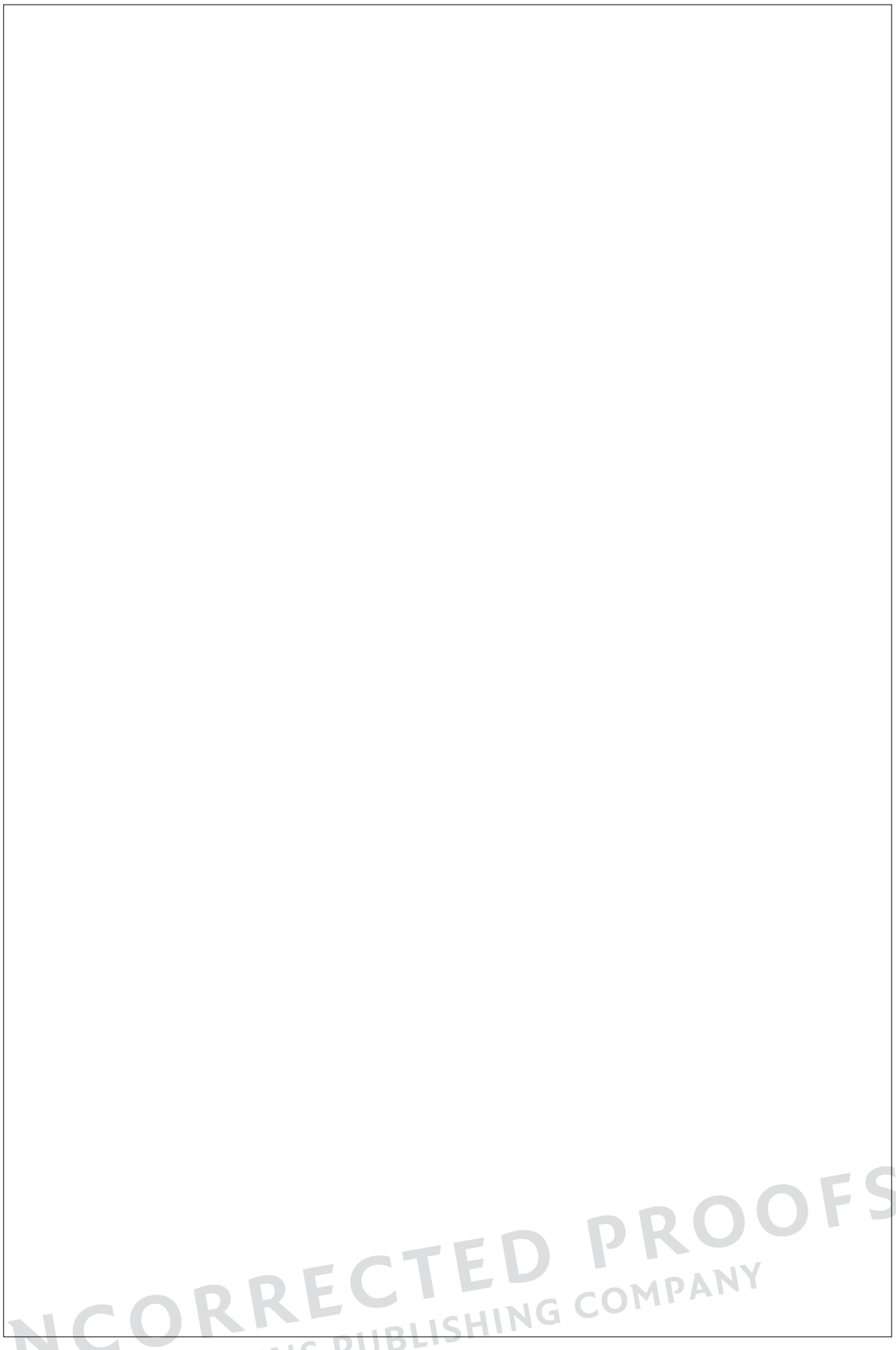

The syntax-pragmatics merger

Belief reports in the theory of Default Semantics

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This paper is a voice in the ongoing discussion on the source and properties of pragmatic inference that contributes to the representation of discourse meaning. I start off from the contextualist standpoint of *truth-conditional pragmatics* (TCP, Recanati 2002, 2003, 2004) and develop a proposal of representations of utterance meaning, the so-called *merger representations*, that incorporate the output of pragmatic inference. The move from TCP to pragmatics-rich *semantics of acts of communication* is facilitated by rethinking the compositionality of meaning and predicating compositionality of such pragmatics-rich structures. I argue that the advantage of 'semanticizing' the output of pragmatic sources of meaning is that we can relax the view on compositionality of meaning and offer an algorithm of the interaction of such sources where the requirement of compositionality is imposed on the output of the interaction rather than on the output of the syntactic processing of the sentence. This proposal is applied to belief reports for which it offers representations of their various readings.

1. Truth-Conditional Pragmatics and Pragmatics-Rich Semantics

This paper is a voice in the ongoing discussion on the source and properties of pragmatic inference that contributes to the representation of discourse meaning. One of the most promising orientations in this debate is *truth-conditional pragmatics* (TCP, Recanati 2002, 2003, 2004). TCP recognizes so-called 'top-down' pragmatic processes that contribute to the truth-conditionally evaluable representation of meaning while not being grammatically controlled. It subscribes to contextualism, a standpoint according to which this pragmatic contribution is always present. In other words, utterances are always processed in context and this context affects their interpretation (see Recanati 1994, 2004). In contextualism, "there is no level of meaning which is both (i) propositional (truth-evaluable) and (ii) minimalist, that is, unaffected by top-down factors" (Recanati 2004: 90). In this paper, I start off from the contextualist standpoint and develop a proposal of representations of

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utterance meaning, the so-called merger representations, that incorporate the output of such pragmatic inference. The move from TCP to pragmatics-rich *semantics of acts of communication* is facilitated by rethinking the compositionality of meaning and predicating compositionality of such pragmatics-rich structures. I argue that the advantage of 'semanticizing' the output of pragmatic sources of meaning is that we can relax the view on compositionality of meaning and offer an algorithm of the interaction of such sources where the requirement of compositionality is imposed on the output of the interaction rather than on the output of the syntactic processing of the sentence. This proposal is applied to belief reports for which it offers representations of their various readings.

2. Truth conditions for sentences or utterances?

In the past three decades there has been a growing division in the field as regards the unit of which the truth value should be predicated. Traditionally, truth and falsity were predicated of sentences in that they applied to the output of the syntactic processing, standardly known as the logical form. The truth value resulted from assessing this logical form with respect to a particular model.[1] Subsequently, ever since Grice (1978) observed that some pragmatic processing may be necessary before the truth-evaluable representation is attained, the role ascribed to this pragmatic processing in establishing the truth-evaluable representation has been steadily increasing. Grice identifies in this respect the assignment of reference to indexical expressions and the disambiguation of ambiguous sentences. His successors are responsible for what is now the wide-spread view, namely that there is a multitude of processes that contribute to the truth-conditional representation. For example, the precisification of the meaning of connectives such as *and* results in its enrichment to *and as a result* in (1′):

(1) Laura watched *My Fair Lady* and decided to study phonetics.

(1′) Laura watched *My Fair Lady and as a result* decided to study phonetics.

It is now widely acknowledged that the outcome of pragmatic processes, be it conscious pragmatic inference or pragmatic defaults (depending on the orientation) contributes to the truth-evaluable representation. Truth conditions are predicated of utterances, speech acts, or other units whose representation is enriched with the output of pragmatic inference.

Furthermore, one has to establish whether pragmatic enrichment can be traced to the syntactic form or rather comes from a separate, truly pragmatic domain of inferring speaker's intentions.[2] In this paper I adopt the latter perspective

and assume that the pragmatic enrichment is not syntactically controlled. In that I follow Recanati's TCP. However, as I shall claim in Section 8, exactly the same theoretical assumptions can be maintained while preserving the traditional label of truth-conditional semantics. This may be just a matter of terminological preferences and being more, or less, reverend towards tradition. On the other hand, the choice may also indicate the degree of importance that the theorist attaches to formalization.

In TCP, the pragmatic process that produces (1′) out of (1) is a so-called 'top-down' process, a process of free enrichment that is not triggered by slots in the syntactic representation:

> …various contextual processes come into play in the determination of an utterance's intuitive truth-conditions; not merely saturation — the contextual assignment of values to indexicals and free variables in the logical form of the sentence — but also free enrichment and other processes which are not linguistically triggered but are pragmatic through and through. That view we henceforth refer to as 'Truth-conditional pragmatics' (TCP) (Recanati 2002: 302).

One of the core advantages of TCP for our analysis is that it relaxes the dependence of the meaning of an utterance on the logical form understood as the output of syntactic processing. And, according to the assumption just adopted, it is the representation of the *utterance meaning* that constitutes the unit of which truth conditions should be predicated.

3. The three readings of belief reports

The object of my investigation will be sentences reporting speaker's beliefs such as (2):

(2) William believes that the author of *Oscar and Lucinda* is a genius.

Belief reports belong to the category of intensional contexts in that they give rise to various well-known puzzles when we try to assess their meaning by considering the extensions of the referring expressions in the embedded clause, without taking notice of the way in which these extensions are taken by the reporter or by the owner of the belief.[3] For the purpose of this investigation, I shall narrow the field further and consider reports in which the way in which the object is thought of, or the mode of presentation of the referent that is of interest is the one pertaining to the holder of the belief rather than to the reporter. In other words, in (2), we will look at different ways in which William, not the person uttering (2), can think of 'the author of *Oscar and Lucinda*'. Within such confines, we can distinguish the

following two readings of (2). First, there is a reading on which William's belief is about a known, intersubjectively identifiable individual, Peter Carey. This is the *de re* reading. Next, there is a reading that can be distilled from the following scenario. William read the novel *Oscar and Lucinda* some time ago, and, while remembering the novel very well, he forgot who wrote it. In full ignorance of who the author was, he utters (3). This is the *de dicto* reading — the reading on which William holds a belief about whoever happened to write *Oscar and Lucinda*.

(3) The author of *Oscar and Lucinda* is a genius.

If we approach the report in (2) from the perspective of the pragmatics of processing, we must also distinguish the scenario in which William holds a belief *de re* but is mistaken as to the identity of the novelist. Say, William is convinced that Ian McEwan wrote *Oscar and Lucinda*. Here we have a mistaken reference assignment which will make the report in (2) *de dicto* in virtue of being opaque to substitutions of coreferential expressions, but at the same time it is a sub-type of a report *de dicto* that corresponds to a belief *de re*. This is the report that I shall now refer to as *de dicto with a referential mistake*.[4] The other *de dicto* reading will be referred to as *de dicto proper*.

The question that arises at this point is whether belief reports are three-way ambiguous. In post-Gricean pragmatics, it is generally acknowledged that one should not postulate semantic ambiguities where a more economical explanation is available. This principle is spelled out by Grice (1978) as *Modified Occam's Razor*, according to which one should not multiply senses beyond necessity. In the case of belief reports, the principle suggests that one should not postulate the readings *de re*, *de dicto proper*, and *de dicto with a referential mistake* as evidence for semantic ambiguity when a more economical treatment of such constructions is available. By an independent but equally valid principle, it also seems that one should not postulate ambiguities when there is no evidence from utterance processing that resolving an ambiguity indeed takes place. It has been common practice in such cases to postulate an underdetermined representation. This representation is the output of syntactic processing and is subsequently enriched with further determinations of meaning that come from pragmatic inference and/or other context-dependent sources to be identified more precisely below.

The next question to answer is whether all three readings are equally salient in processing, i.e., whether they are all equally likely to occur, and whether they all rely on pragmatic inference to an equal degree. It is feasible to search for an answer in an experimental way. However, an empirical enquiry does not seem the best place to start. Current experimental pragmatics relies largely on testing the time of processing of utterances.[5] This is tangential to our purpose because the question that has to be answered first is whether the pragmatic process that enriches

the underdetermined representation is a conscious process of inference or rather some subdoxastic enrichment.[6] Both can take time and the discrimination between them will not yield to methods such as testing the duration of processing. I propose, to begin with, a hypothesis. I shall put forward a theoretical argument in favour of distinguishing between the statuses of the three readings. In order to do that, we shall use the framework of Default Semantics (Jaszczolt 2005a, b, c) and its concept of a *cognitive default*.

It can be safely assumed that the three readings of (2) differ with respect to the salience that the individual referred to as 'the author of *Oscar and Lucinda*' has for William. On the *de re* reading, William holds a belief about an identifiable person, known to him by name and also by some facts about him such as that he is a famous writer, known for his novels such as *Jack Maggs*, *The True History of the Kelly Gang*, or *My Life as a Fake*. William has a clear picture of who he is thinking about and a clear, strong intention to convey some thought about this individual, namely about Peter Carey. On the *de dicto proper* scenario, William holds a belief about whoever might have written *Oscar and Lucinda* and is communicating this thought with a referential intention that is not as strong and clear as the one in the first case. Finally, the scenario *de dicto with a referential mistake* falls in-between. William has a clear idea who he is thinking and talking about: he is thinking and talking about Ian McEwan. However, it is obvious that William must have a rather weak idea of who Ian McEwan is, since he is mistakenly attributing to him the authorship of *Oscar and Lucinda* that does not, even to someone with very perfunctory knowledge of contemporary fiction, share any recognizable features with McEwan's novels. William's 'belief storage' about the referent contains some false beliefs and hence makes the belief expressed in (3) 'weaker', defective. William's expression of this belief is also weaker with respect to its referential intention. This gradation of the strength of referential intention is founded on the property of mental states called *intentionality*, meaning 'aboutness': mental states such as beliefs are *about* an object, or *have* an object. By default assumption, this intentionality is strong: mental states have objects about which we don't assume misconceptions or missing information. The referential use of a definite description reflects such default, strong aboutness, while the mistaken referential and the attributive uses reflect the degress of departure of this standard intentionality and from the standardly assumed referential intention.

We can now move to the classification of the readings of belief reports within the confines imposed here.[7] On the basis of the above observations, I propose that these readings can be graded on a scale of the strength of the speaker's referential intention. The *de re* reading comes with the strongest referential intention, then the *de dicto with a referential mistake*, and finally *de dicto proper*.[8]

At this point we can go back to the question posed earlier concerning the cognitive statuses of these three readings. There are two main options. First, one can make an initial assumption that whatever interpretation the hearer assigns to (2), this interpretation is triggered by the context. Syntactic processing gives us an underdetermined representation, and pragmatic inference, immersed in the context, supplies the rest. But there are problems with this option. As I mentioned earlier, even a cursory glance at these three readings of attitude reports suffices to classify them as more, or less, likely to occur. The *de re* reading is the most salient reading in virtue of having associated with it the strongest referential intention. This reading is associated with the mental state of belief, which has the strongest intentionality. The property of strong intentionality of the mental state warrants the strong intentionality of the surface speech act (here: belief report), and hence we can generalize that strong intentionality pertains to *de re* reports.[9] Now, when a speaker issues an utterance with an intention to communicate some content, this intention is normally the strongest one that can be associated with this type of expression. For example, when a speaker uses a definite description, it can normally be assumed that the speaker has a particular individual in mind, unless the co-text or context signals that this is not the case. Otherwise, the speaker would have used an expression with a weaker referring property such as an indefinite description. By this reasoning we can assume that the strongest communicative intention (and *referential* intention where applicable), and hence also the strongest intentionality, are the norm, or the *default* for that expression. For belief reports, the *de re* interpretation is such a default: the act of referring is aimed at a particular, identifiable individual. I shall call this reading a *cognitive default*. A cognitive default is a default interpretation that arises in virtue of the properties of mental states. The mental state of belief has intentionality, is *about* a certain individual. When the addressee interprets a report on a belief, he/she automatically (by default) associates the strongest intentionality that can in principle be associated with the act of belief reported on.

To sum up, the *de re* reading of (2) is the cognitive default that corresponds to the utterance associated with the strongest referential intention, while *de dicto with a referential mistake* and *de dicto proper* are departures from the default. The output of pragmatic inference and defaults contribute to the truth conditions of the utterance: cognitive defaults account for *de re*, and pragmatic inference for the two varieties of *de dicto*. I return to this analysis in more detail in Section 6. Note that we are departing here somewhat from the model of what is said proposed in TCP where *all* pragmatic additions to the output of the syntactic processing are subdoxastic. The full scale of such departures is presented in Section 5 where I discuss the sources that contribute to the representation of utterance meaning distinguished in Default Semantics.

4. In search of a metalanguage

Even if the proposal as developed so far is on the right track, it will not be complete unless we provide an algorithm for the interaction of the output of syntactic processing and pragmatic sources of meaning such as conscious inference and the subdoxastic enrichment. Contextualism about meaning, i.e., the admission of the 'top-down', compulsory pragmatic processes, is not a formal account, but it is not incompatible with a reformulation of the proposal in a clear, formal metalanguage. On this assumption, the next task is to see whether such formalization can be provided. I shall utilise for this purpose a formal account of belief reports that is already present in dynamic semantics, namely the account of attitude reports in Discourse Representation Theory (DRT; see Kamp and Reyle 1993) as proposed by Kamp (2003). Although DRT does not share all the theoretical assumptions of contextualism, it is compatible with it to an extent that suffices for our purposes. DRT allows for pragmatic input to semantic representations and construes this input rather freely. It is also, by definition, sensitive to information from changing context: it builds representations of discourses incrementally, incorporating information that becomes available at various stages of processing. All this will allow us to utilise the language of discourse representation structures (DRSs), while starting with the contextualist orientation. In other words, what we are proposing is to attempt to spell out the default-based contextualist account of belief reports by using the language of DRT, but using it while preserving the overall assumption of TCP that truth conditions that are of real interest are the ones predicated of utterances.

In DRT, attitudinal states such as belief are represented as follows. Let us assume that MOD is a set of so-called 'mode indicators' such as BEL (belief), DES (desire), INT (intention), or [ANCH, x] for an internal anchor. An attitude description is then <MOD, DRS> (see Kamp 1990, 1996, 2003). <[ANCH, x], DRS> is an *internal anchor* for a discourse referent *x*, linking *x* to some information within the representation of the mental state. Next, we introduce so-called external anchors for discourse referents. An *external anchor* is a function whose domain is the set of internally anchored discourse referents in a <MOD, DRS>, and whose range is a set of referents that do not occur in the <MOD, DRS> (after Kamp 2003). External anchors connect a (singular) proposition with the entities in the domain established by the discourse. A DRS can only have truth conditions if such external connections can be found. Further, a predicate *Att* for attitudinal state is added to the language of DRT. Attitudinal states can now be represented as states *s*: Att (x, DRS, external anchor).[10] Discourse referents *w, x, x′, s*, and *s′* are described by the conditions given in the DRS. Sentence (2), repeated below, has a DRS as in Figure 1.

(2) William believes that the author of *Oscar and Lucinda* is a genius.

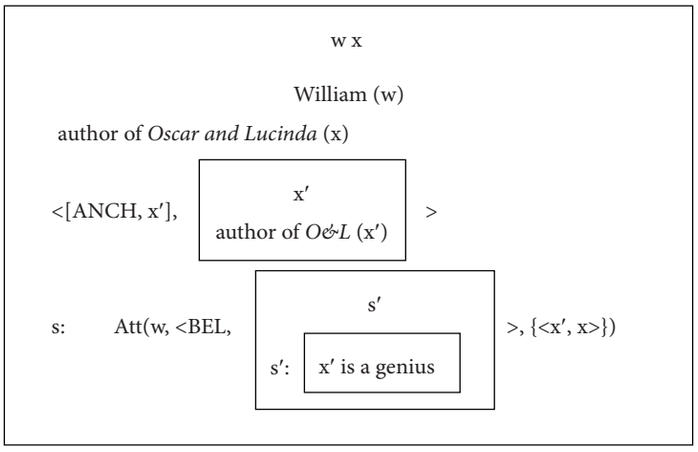

Figure 1. DRS for (2), modelled on Kamp (2003)

Figure 1 represents the *de re* reading of (2). The discourse referent *x* is externally anchored, and the sentence can be evaluated as to its truth or falsity in a standard, truth-conditional, model-theoretic manner. In DRT, the other readings are not (and need not) be represented: in order for a DRS to express a proposition, an internally anchored discourse referent also has to be externally anchored (cf. Kamp 2003: 7). The readings of (2) that we called *de dicto with a referential mistake* and *de dicto proper* are thus left out.

First, let us consider *de dicto proper*. The reading *de dicto proper* does not have external anchors. Kamp (1996: 10–12) allows for the possibility that attitudinal states of belief may have no external anchor when the holder of the belief "is under the illusion that he is standing in a relation of acquaintance to some object — he thinks that he is acquainted with an object in the given way but in fact there is no such object" (Kamp 1996: 12). The belief then is not 'truly *de re*' — as Kamp says, it is only 'formally *de re*', because the object of belief is not intersubjectively recognizable. On this classification, our category of a report *de dicto with a referential mistake* fits within the category of *formally de re* beliefs: there is an object of belief, i.e., there is an internal anchor, but the object so-described does not correspond to an entity in the world and there is no external anchor. But some of our readings described as *de dicto proper* also correspond to *formally de re* beliefs, while others are truly *de dicto*. Readings *de dicto proper* correspond to Kamp's *formally de re* beliefs when the object is imaginary. They are truly *de dicto* when the believer has not even an imaginary object in mind. This is the case, for example, when the belief is held without being fully understood. Sentence (4) is a good candidate for conveying a belief that is held in spite of not being fully understood.

(4) Hyperbolic geometry does not satisfy the parallel postulate.

For most lay persons, the description 'hyperbolic geometry' does not correspond to any entity, be it concrete or abstract. The belief is acquired, stored and held in its entirety: it is not a belief *about* an identifiable object called 'hyperbolic geometry'.

These distinctions between truly *de re*, formally *de re*, and truly *de dicto* beliefs are, nevertheless, very fuzzy and are not easily applicable in representing belief contexts. This much is obvious even from looking at (4): 'hyperbolic geometry' may trigger absolutely no representation in the believer's mind, or, if the holder of the belief is like us, the description will trigger a rather fuzzy idea of a set of laws concerning a curved space. In short, formal anchors can be more, or less, well defined and the borderline between beliefs formally *de re* and truly *de dicto* is therefore naturally hazy. This fact is well discussed in Sperber's (1985, 1997) account of semi-propositional beliefs that are acquired through metarepresenting. It is also well captured in Asher's (1986: 142) statement that the *de re/de dicto* distinction is only a generalization over a more detailed taxonomy in which we can distinguish (i) beliefs without any anchors; (ii) beliefs with only external anchors; (iii) beliefs with only internal anchors; and (iv) beliefs with both internal and external anchors. For our purposes, it will suffice to conclude that what started as a *de re/de dicto* dichotomy is more likely to be a gradation of well-definedness of internal anchors. In addition, however, we shall follow Kamp (1990, 1996) and Asher (1986) who added, as a condition to the construction algorithm for DRSs, that definite referring terms have some, even if only 'schematic', internal anchor.

However, these readings need not be left out when our aim is to model acts of communication, as in TCP. In TCP, truth conditions are predicated of utterances. When what is true or false is the entire act of communication, the reason for treating *de re* on a special footing disappears. In Section 6, I put together the insights of TCP and the metalanguage of DRT in order to model all three possible interpretations of belief reports. I try to adopt the language of DRT and the available types of anchorings and 'shift' them, so to speak, to the level of interactive representations of Default Semantics. The reading *de dicto proper* of (2) will now make use of the anchor as in Figure 2, to capture the sense of 'the author of *Oscar and Lucinda*' as 'the author of *Oscar and Lucinda*, whoever s/he might be'.

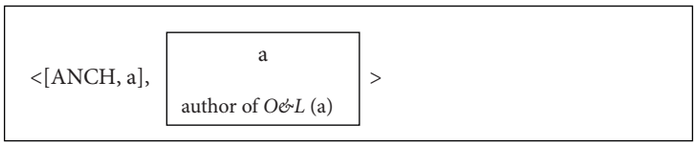

Figure 2. Internal anchoring for 'the author of *Oscar and Lucinda*'

De dicto with a referential mistake is more difficult to represent. It corresponds to a *de re* belief, but a belief about a referent whose identity is misrepresented by the believer. The representation has to capture the fact that there is an intersubjectively accepted referent for the belief, but this individual is not who is referred to by the description on this occasion. This is the situation in which William believes that Ian McEwan wrote *Oscar and Lucinda* and refers to Ian McEwan while uttering the description 'the author of *Oscar and Lucinda*'. This scenario cannot be represented in DRT and, in fact, the problem does not even arise for DRT because this information is not part of the proposition expressed. DRT cannot represent *de dicto with a referential mistake* in that sentence (2) has the same DRS for the readings *de re* and *de dicto with a referential mistake*: there is an external anchor, there is a unique individual that corresponds to the description 'the author of *Oscar and Lucinda*', and the DRS has truth conditions. Identifying a referential mistake has nothing to do with representing the meaning of the *sentence*. But this information about mistaken reference or the lack of a clear referent *is* relevant for a theory of modelling acts of communication. This reading has to be represented in Default Semantics that accounts for merging information about meaning coming from different sources.

5. Merger representations of Default Semantics

Default Semantics (Jaszczolt 2005a, b) allows for various domains of information to partake in assigning the meaning to the utterance. In addition to the sentence structure and word meaning, information can also come from pragmatic input. This input can be of various types. First, there is conscious pragmatic inference. Second, according to Default Semantics, there is pragmatic input that does not amount to conscious processing of contextual clues but rather makes use of standard, presumed meanings. These can be caused by the very design of the human processing system, such as the default *de re* discussed above that arises due to the property of intentionality of mental states, or by the frequently encountered scenarios, stored in the mind as default, presumed, ceteris paribus 'normal' ways things are. We have called the first *cognitive defaults*,[11] and we shall call the latter *social-cultural defaults*. An example of social-cultural default is given in (5). While 'Picasso's painting' can be enriched contextually to mean 'the painting executed by Picasso', 'the painting owned by Picasso', 'the painting selected by Picasso' and a variety of other types of relationship, the first one is indubitably more salient than others, to the extent that it is reasonable to postulate that it goes through without any conscious processing of the context, in virtue of the shared cultural knowledge.

(5) Picasso's painting is of a crying woman.

The expression 'social-cultural defaults' is a broad, umbrella term for all those enriched senses of expressions that arise out of the experiences we collect in our lifetime and that have become sufficiently entrenched to 'click in' automatically, without conscious inference. Some of these experiences pertain to cultural knowledge, as in (5), others are of social provenance, such as that nannies and nurses are normally female, yet others pertain to scientific facts such as that timber floats on water but metal does not. It is not clear at this stage of theorizing where the boundary between such presumed, fast-occurring enrichments and conscious inferential enrichments lies. But this does not mean that such a category should not be present in a model of utterance interpretation. There are sufficient theoretical grounds for distinguishing between conscious, effortful processing of expressions and fast, automatic, effortless 'jumping to conclusions', to use Kent Bach's apt phrase. The onus of proof lies on those who assume costly processes where intuitively there is only such jumping to conclusions facilitated by frequently occurring scenario, common experience, or other sources of defaults. Although the exact properties of default meanings are still subject to debates, it seems very likely that a category of such shortcuts through costly pragmatic enrichments will be experimentally corroborated.[12]

All in all, in spite of some attempts in experimental pragmatics to discredit default interpretations by appeal to the length of processing, these presumed meanings are not to be disposed of so lightly. In the absence of satisfactory experimental design and, a fortiori, experimental evidence, we can safely resort to a rational principle of not postulating effortful inference without compelling evidence, following the line of Levinson (1995, 2000), Recanati (2003, 2004), Asher and Lascarides (e.g. 2003), and many others.[13] And, in the case of social-cultural defaults, there is indeed no evidence of such costly processing.

Cognitive defaults and social-cultural defaults are two out of four sources of information about meaning distinguished in Default Semantics that contribute to creating what is said by the utterance: the utterance meaning. Information from these four sources interacts and produces a so-called *merger representation*. The main task of Default Semantics is then to produce an algorithm for this interaction.[14] Diagrammatically, the sources of information about meaning that contribute to the merger representation are represented in Figure 3.

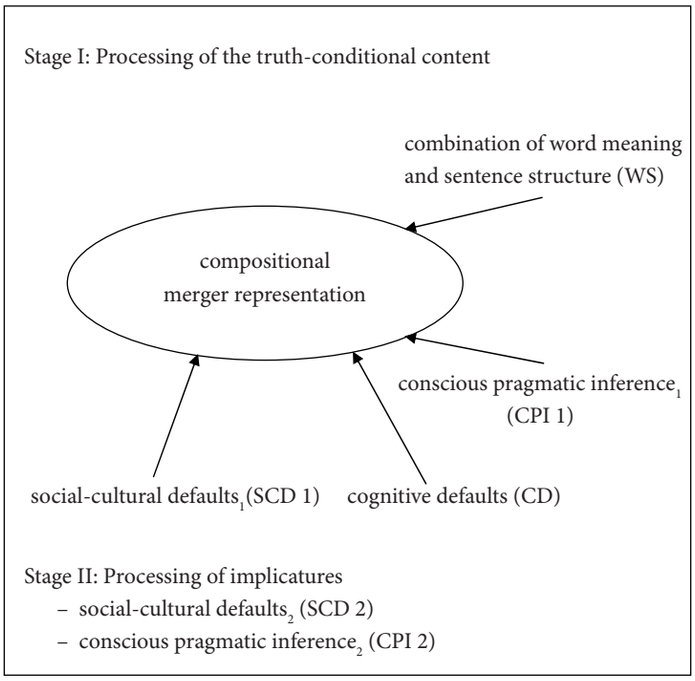

Figure 3. Utterance interpretation in Default Semantics (adapted from Jaszczolt 2005a: 73).

To sum up, the picture that emerges is this. There is a representation of meaning that is constituted by word meaning and sentence structure (WS), merged with any combination of conscious pragmatic inference (CPI), cognitive defaults (CD) and social-cultural defaults (SCD) — allowing, of course, for the situations in which the contribution of these sources is null and utterance meaning can be equated with the output of WS. WS is to be understood as the output of syntactic processing. Following DRT, we assume that a generative grammar such as Generalised Phrase Structure Grammar (GPSG) serves this purpose with a satisfactory degree of cognitive reality, but we leave the issue of a choice of an adequate syntactic theory open. Next, cognitive defaults (CDs) are effortless, automatic enrichments that are the result of the mental architecture: in short, they arise because the intentionality of mental states is normally the strongest intentionality that pertains to the particular type of expression. Definite descriptions and propositional attitude reports discussed above are good examples of a CD. Social-cultural defaults (SCDs) were introduced in the discussion of example (5). This leaves us with pragmatic inference which I dubbed 'conscious' (CPI) in order to distinguish it from automatic enrichments in CD and SCD. CPI is an ordinary process of inference in conversation, modelled on Grice's particularized conversational implicature. The

representation that results from the interaction of these four sources is called a merger representation and is by stipulation compositional.[15]

The next distinction to be introduced is that between SCD 1 and CPI 1 on the one hand, and SCD 2 and CPI 2 on the other. Merger representation is not the only content conveyed by an utterance. There can also be additional meanings recovered by the addressee that can be properly called implicatures. Again, these arise as the output of CPI or as SCDs — let us give them the names CPI 2 and SCD 2,[16] reserving CPI 1 and SCD 1 for contributions to the merger representation.

In the present analysis of belief reports, we shall focus on WS, CD and CPI 1 as these sources of meaning are relevant for their processing. In what follows, I present a Default Semantics account of propositional attitude reports and attempt to provide the basic formalism for the merger.

6. The analysis

In the interactive semantics of merger representations, unlike in DRT, we do not start by mapping only from the syntactic structure of sentences into DRSs. Instead of the DRS construction algorithm, there is mapping from WS, CD, CPI 1 and SCD 1 into merger representations. Unlike in DRT, merger representations for the reading *de dicto with a referential mistake* and *de dicto proper* will have truth conditions because compositionality is, in virtue of our initial assumption, a property of these representations, i.e., of the output of all these four sources.

Asher (1986: 129) metaphorically says that discourse referents are 'pegs' on which the hearer can 'hang' the ascriptions of properties that the DRS-conditions specify. We adopt this view of the semantic role of discourse referents. In merger representations, the discourse referent *x*, standing for the person who wrote *Oscar and Lucinda* ('the author of *Oscar and Lucinda*'), is an argument of the following three conditions:

i. for the default *de re* reading:

$$[\text{Peter Carey}]_{CD}(x)$$

ii. for the de dicto reading with a referential mistake:

$$[\text{Ian McEwan}]_{CPI1}(x)$$

and

iii. for the reading *de dicto proper*:

$$[\text{the author of } O\&L]_{CPI\,1}\,(x)$$

The options (i)–(iii) best capture what we are trying to do in merger representations: we model communicated meaning by using an interactive representation that pays only limited attention to linguistically controlled sources of this meaning, while accounting also for those aspects that are not linguistically controlled.

A brief disclaimer is now due. All this discussion may lead one to conclude that we are proposing here an alternative to the DRT account. This is, however, a false conclusion. By adopting the language of DRSs and some of their construction rules we are not suggesting that there is a problem with DRT as such. We have 'raised', or 'pragmaticized', the object of analysis to that of the interaction of various sources of information, detached this level substantially form the output of grammar and lexicon, and as such we have been pursuing an enquiry that is substantially different from that of DRT. We are not suggesting that it is a weakness of DRT that it can represent only one reading of attitude constructions. Within the assumptions concerning compositionality and meaning construction followed in DRT, this is not a weakness: in the example under consideration, one has to have a referent in order to have a truth-evaluable DRS. All we have done here is suggest an alternative way of thinking about utterance interpretation — a way that utilises the insights of the TCP with its top-down pragmatic inference to the full, retaining at the same time the possibility of a formal account of how utterance meaning is composed.

Next, we have to introduce the semantics of the belief predicate. Let us assume that the utterance reporting a belief of the form '*x* believes that $\mathscr{C}$' can be represented as Bel (x, $\mathscr{C}$).

Bel (x, $\mathscr{C}$) has the following satisfaction conditions: the individual that corresponds to *x* on a certain interpretation has the cognitive state that corresponds to $\mathscr{C}$ on that interpretation. We are now ready to propose merger representations for the three readings of the belief report in (2), repeated below.

(2) William believes that the author of *Oscar and Lucinda* is a genius.

Figure 4 represents the default *de re* reading. The subscripts CD (cognitive default) and WS (word meaning and sentence structure) stand for the source of meaning, and their scope is marked by []. The figure is annotated by a superscript 'p' that stands for the fact that the representation is 'partial' in the sense that the temporality of the eventualities is not worked out.[17]

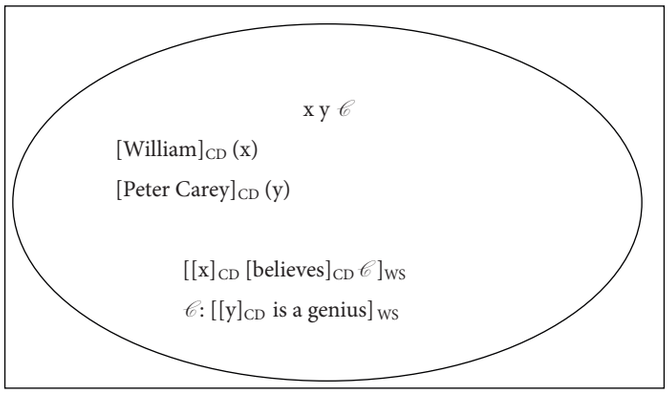

Figure 4[P]. Merger representation of the default *de re* reading of (2)

The default status of this reading is clearly represented. The discourse referent *x* is associated with the person called Peter Carey by means of CD. By the argument from intending, presented in Section 3, the belief is *de re* by means of CD. Now, *Bel* (*x*, $\mathscr{C}$) corresponds here to the condition $[[x]_{CD}\ [believes]_{CD}\ \mathscr{C}]_{WS}$. This is to be read as follows: 'the individual that corresponds to *x* on this interpretation (William) has a cognitive state that corresponds to $\mathscr{C}$ on this interpretation'. In other words, 'Peter Carey is a genius'. $\mathscr{C}$ stands for William's *representation of the eventuality* e: $[[y]_{CD}$ is a genius$]_{WS}$.

Figure 5 depicts the merger representation of the reading *de dicto with a referential mistake*. Just as on the default *de re* reading, the belief is *de re* by means of CD. The difference is that the discourse referent *x* is associated with the person (Ian McEwan) by means of CPI 1. The result of CPI 1 allows the hearer to associate the description with Ian McEwan, while the default association remains that represented in Figure 4.

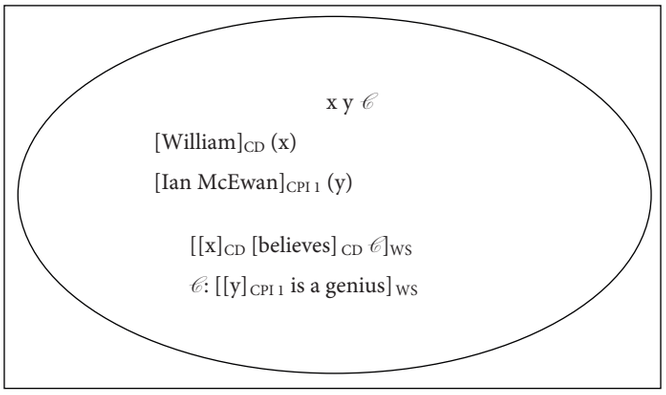

Figure 5. Merger representation of the reading *de dicto with a referential mistake* of (2)

Finally, the reading *de dicto proper* of (2) is represented in Figure 6.

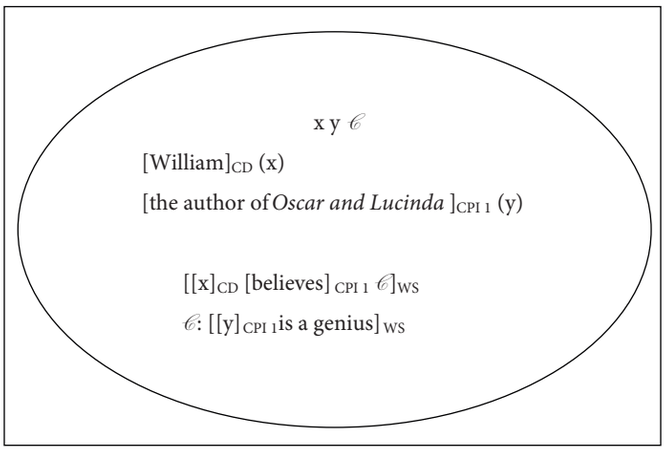

Figure 6. Merger representation of the reading *de dicto proper* of (6)

On the reading *de dicto proper*, CPI 1 is responsible both for the belief (*de dicto*) and for the attributive reading of the description. The fact that CPI 1 applies twice makes this reading more distinct from the default *de re* than the one represented in Figure 5.

7. Towards a formal account for Interactive Semantics

Since merger representations take the formalism of DRT and 'kick it upstairs' to serve for representing the interactive conception of semantics, the formalism for the semantics for merger representations has to differ from the relational semantics used for DRSs in DRT.[18] The main difference is that mental representations are created with regard to the four sources of meaning: WS, CPI 1, CD, and SCD 1. In other words, in merger representations, the predicative conditions draw on the four sources and compositionality is assumed to obtain at the level of the merger. In order to provide the semantics for the belief predicate, we have to start with 'believe' as a two-place operator on terms and representations of eventualities (𝒞). In Default Semantics (Jaszczolt 2005a), I assume that 𝒞 is the second argument of a two-place, first-order predicate. The relational semantics for *believe* is modelled on that for *n*-ary predication, as in (i). ⟦⟧ stand for semantic value; *P* for predicate; *t* for terms (discourse referents, variables in DRT and Default Semantics); *s* and *s′* for the initial and final context in the dynamic-semantic perspective; *M* is a model; and *I* is the interpretation (adapted from Jaszczolt 2005a: 141–142).

(i) ${}_s[\![Pt_1,\ldots,t_n]\!]_{s'}{}^M$ iff s= s′ and $\{[\![t_1]\!]_{M,s},\ldots,[\![t_n]\!]_{M,s}\} \in I(P)$

If we assume for '*x* believes $\mathscr{C}$' the structure *Bel* (x, $\mathscr{C}$) and, despite all the problems with intensionality, take *Bel* to be an ordinary two-place predicate P (t_1, t_2), we obtain (ii).

(ii) ${}_s[\![Pt_1,t_2]\!]_{s'}{}^M$ iff s = s′ and $\{[\![t]\!]_{M,s}\} \in I(P)$.

This is not entirely satisfactory, though: t_2 is not a satisfactory substitute for $\mathscr{C}$. $\mathscr{C}$ is an intensional object that subsumes various degrees of referential intention with which the utterance comes, and *a fortiori* various degrees of intentionality of the belief itself. There is a continuum of degrees of contribution of William's way of thinking about the author of *Oscar and Lucinda* to the merger representation, starting with no contribution on one end (*de re*), to some very detailed mode, whatever it may be, on the other (*de dicto proper*). To elaborate, the role of the way of thinking, also known as a mode of presentation (MoP), is as follows. The *de re* reading does not make use of it, its role for the semantics is null and there is no argument slot for it in the semantic representation. The role of MoP increases for the *de dicto with a referential mistake*: it matters for this reading whether in (2) William thinks about Peter Carey or about Ian McEwan. But, this identification of the referent is *all* that matters. The semantically relevant MoP is fairly coarsely-grained, it does not contribute any finer details pertaining to the novelist that may be present in William's belief. In the reading *de dicto proper*, the granularity of the semantically relevant MoP increases further: any fine detail from William's belief may be relevant. For example, in our scenario for (2), all that William knows about the author of *Oscar and Lucinda* may be that there was one, unique person responsible for writing this novel. In this case, no substitution of coreferential expressions can go through *salva veritate*. To sum up, the granularity of the mode of presentation starts from value 0 for *de re*, and gradually increases through *de dicto with a referential mistake* to *de dicto proper*.

Such gradation is not formalizable by (ii). It is quite plausible that no formalization for such degrees of granularity can be produced. The closest generalization we can obtain is by capturing the imaginary set of all the possible MoPs by means of an intensional object $\mathscr{C}$, as in (iii). The advantage of such a move is that we can retain the appearance of *Bel* as a binary predicate and, at the same time, reflect the variability of MoP.

(iii) ${}_s[\![Pt, \mathscr{C}]\,]_{s'}{}^M$ iff s = s′ and $<[\![t]\!]_{M,s}, \mathscr{C}> \in I(P)$

where

(iii) a. $\mathscr{C}$ is a merger representation of a mental state of *t* modelled on a DRS for an extensional context and constructed according to the reanalysis of a DRS for an extensional context in interactive semantics;
b. $P \in \{Bel_{CD}, Bel_{CPI\ 1}\}$
c. $t \in \{t_{CD}, t_{CPI\ 1}\}$

Parts (iii.a)–(iii.c) are to be read as follows. (iii.a) says that $\mathscr{C}$ is a merger representation and hence is constructed by means of the interaction of any of WS, CD, SCD 1 and CPI 1. It is constructed in a language modelled on that of DRT. Thesis (iii.b) says that the belief operator is *de re* or *de dicto*$_1$ when CD is in operation, or *de dicto proper* when CPI 1 is used. Naturally, mental states other than *Bel* can be accounted for analogously. Condition (iii) reflects the thesis that reference assignment to discourse referents can proceed by means of CD or CPI 1.

At this point, a word in defence of the object $\mathscr{C}$ is needed. $\mathscr{C}$ is an intensional object and as such does not easily fit into formal semantic accounts. Let us compare briefly our analysis with that of DRT. DRT employs eventualities, i.e. discourse referents for events (*e*) and states (*s*) as objects of beliefs. Events and states are there formal objects with variable subjects and variable spatiotemporal location. To follow this route would mean to have to resort to anchoring. However, in our approach, we replaced anchoring with the arguments for the belief predicate: the application of CD or CPI 1 resulted in an unambiguous assignment of a reading to the description. We have also managed to retain the intuitively correct representation of belief reports as relations between a believer and a mental state. But the price to pay is an intensional object $\mathscr{C}$ that functions as an umbrella category for all those readings that incorporate varying degrees of the mode of presentation of the referent. This works well in merger representations but would not work in DRT. DRT ascribes compositionality to the structure of the sentence. This structure is indeed enriched in a dynamic way, but nevertheless compositionality remains a property of the linguistic string. The level of which compositionality is predicated is sentence structure. Default Semantics, on the contrary, 'raises' the requirement of compositionality to the level of the merger. Hence, an object such as $\mathscr{C}$, as well as the resolution of reference within $\mathscr{C}$ by means of CD or CPI 1, is allowed there. It is the product, the merger representation, rather than the WS source, that is compositional. Within this model, $\mathscr{C}$ can also be regarded as compositional, in the pragmatics-rich sense of compositionality.

8. Final remarks and conclusions

Merger representation requires substantial rethinking of compositionality in semantic theory. In the general spirit of TCP,[19] in Default Semantics compositionality is conceived of as a property of merger representations:

> ***Principle of compositionality for merger representations:***
> *The meaning of the act of communication is a function of the meaning of the words, the sentence structure (WS), defaults (CD and SCD 1), and conscious pragmatic inference (CPI 1).*

In other words, the representation of the speaker's act of communication that the model hearer can be predicted to construct is composed of the merger of information specified by these four sources.

In principle, there is nothing to stop us from 'lifting' compositionality to the level of the merger of meaning components that come from various epistemic domains. But the important question is: what does it exactly mean to 'lift' compositionality in this way? Is semantics still conceived of as compositional? And if so, how are we to construe a semantic theory that would be truthful to this 'compositionality raising'? TCP should have no problem with the composition of the merger. Recanati (2004: 132) says the following:

> …the semantics of natural language is not insulationist…[T]he meaning of the whole is *not* constructed in a purely bottom-up manner from the meanings of the parts. The meaning of the whole is influenced by top-down, pragmatic factors, and through the meaning of the whole the meanings of the parts are also affected. So we need a more 'interactionist' or even 'Gestaltist' approach to compositionality.

Compositionality is understood here as a methodological principle for a theory of meaning. We make this claim even stronger: compositionality is to be assumed as a necessary property of any semantic theory where 'semantics' is understood as subsuming such top-down pragmatic input.[20] The proof of the feasibility of composition so conceived will lie in providing algorithms for merger representations for a variety of English constructions.

All that remains is to address the question that on the surface seems merely terminological: is the analysis of meaning in terms of merger representations to be classified as truth-conditional pragmatics or, as we suggested above, as truth-conditional semantics? There are two possible construals. On one, widely accepted type of account, the output of pragmatic processing contributes to the semantic representation and we have a truth-conditional semantic theory that allows for the intrusion of pragmatic input. We have argued here for a greater role of the pragmatic input than just an 'intrusion' to the grammatical structure: instead of

'intrusion', we opted for a 'merger' or an 'interaction'. So, on this construal, we would have an interactive, truth-conditional semantics of merger representations. On the second type of account, we obtain merger representations that have truth conditions in the sense in which utterances have truth conditions in truth-conditional pragmatics. The difference between the two construals lies, as I understand it, in the feasibility of a formal account. If I am on the right track, truth-conditional pragmaticists do not aim at a formalization of the account of utterance interpretation because the top-down processes eschew formalization by definition. Truth-conditional semantics, on the other hand, leaves the possibility of a formal account open — just as various versions of post-Montague dynamic semantics try to incorporate pragmatic input into a formal account of discourse.[21]

Let us take stock. In order to represent the readings of attitude reports as constructed by a model speaker in a conversation, we applied merger representations of Default Semantics where the sources of meaning from which the semantic representation is built are treated on a par. There is a long way to go before we can resolve finally how a merger representation for *Bel* (x, $\mathscr{C}$) is constructed. But, equally, many tools and ideas are already there: the language of DRSs, and the contextualist stance of TCP. Building on these foundation stones, I have proposed a representation of utterance meaning that rests on the four sources of meaning information and on their merger. This required a rethinking of compositionality and 'raising' it from the domain of sentence structure (however dynamically understood) to the domain of merger representation, along the lines of Recanati's proposal of 'Gestaltist compositionality'. The syntax-pragmatics interface became a syntax-pragmatics merger of the output of WS, CPI 1, CD and SCD 1.

Notes

1. See Montague 1974; Dowty, Wall and Peters 1981; Partee 2004.

2. The literature on this topic is vast. See e.g. Stanley 2000, 2002; Stanley and Szabo 2000; King and Stanley 2005; vs. Recanati 1989, 1993, 2001, 2002, 2003, 2005; Bach 2000, and many others. See also Jaszczolt 2002: Chapter 11, and 2005a: Chapter 1 for an overview and discussion.

3. For extensive references and an overview of the research on propositional attitude constructions see Jaszczolt 2000a.

4. See also Jaszczolt 1999, 2000b, 2005a.

5. See e.g. Noveck and Sperber 2004.

6. I.e., below the level of consciousness.

7. See e.g. Jaszczolt 1997, 1999, 2000b, 2005a.

8. It can be argued that in the middle reading the referential intention is equally strong as that in the first, *de re* reading in that reference is made to a salient, identifiable (albeit incorrect) person. However, for the purpose of modelling discourse, the referential intention in the middle reading can be represented as 'dispersed', so to speak, between the individual mistakenly intended by William (Ian McEwan) and the objective correlate of the description in this situation (Peter Carey). I owe this disclaimer to François Recanati.

9. For a discussion of this 'inheritance' of intentionality see Searle (1983: 27–28), and, for an amended view, see Jaszczolt (1999: 104–111).

10. Adapted from Kamp 2003.

11. See Section 3.

12. See Jaszczolt 2006b on the disputes concerning the properties of default interpretations.

13. I provide more extensive arguments for cognitive and social-cultural defaults in Jaszczolt 2005a, b.

14. This task has been attempted for a variety of constructions including referring expressions, propositional attitude constructions, anaphoric dependencies, modalities, and some others in Jaszczolt 2005a.

15. Compositionality is a methodological requirement. I leave the discussion of this pertinent issue until Section 8.

16. Note that there is no CD 2. Cognitive defaults are default interpretations that come from the properties of the underlying mental states and hence are always constitutive of the main semantic representation, i.e., the merger representation. Since implicatures are not utterances but thoughts, understood as mental states, they 'contain' CDs, so to speak, in virtue of their intentionality.

17. The analysis of belief reports along these lines was first suggested in Jaszczolt 2005a: Chapter 5. For a discussion of temporality in terms of merger representations see Jaszczolt 2003; 2005a: Chapter 6; and 2006a.

18. The principles of relational semantics will not be presented here. It is a formal semantics for the representation structures used in DRT and it allows for incorporating changing context into the formalism. See van Eijck and Kamp 1997, or, for a summary, Jaszczolt 2005a: Chapter 3.

19. And also Schiffer 2003.

20. Cf.: "…it is always possible to satisfy compositionality by simply adjusting the syntactic and/or semantic tools one uses, unless that is, the latter are constrained on independent grounds" Groenendijk and Stokhof (1991: 93). For a discussion of compositionality of semantics see Zeevat 1989 and Dekker 2000.

21. See e.g. Kamp and Reyle 1993 and van Eijck and Kamp 1997 on DRT; Asher and Lascarides 2003 on Segmented DRT; or Groenendijk and Stokhof 1991 on Dynamic Predicate Logic.

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Experimental pragmatics

Testing for implicitures

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Grice proposed to investigate 'the total signification of the utterance'. One persistent criticism of Grice's taxonomy of signification is that he missed an important category of information. This content, and/or the process of providing it, goes by a variety of labels: 'generalized implicature', 'explicature', 'unarticulated constituents', 'default heuristics', 'impliciture'. In this study we first take a sample of such phenomena and, from the point of view of pure pragmatics, survey the central descriptions of the content expressed and the mechanisms that might deliver these contents. We then, from the point of view of experimental pragmatics, focus on two accounts: Levinson's I-heuristic, and Bach's standardization. We find experimental evidence for the existence of such implicitures, and for the use of language specific standardizations over language neutral background information.

0. Introduction

Recent pragmatics has uncovered a category of content that is putatively non-Gricean, i.e., is not a part of the meaning of the sentence, is not a part of what Grice would have called 'what is said', and is not a part of what is traditionally considered a (particularized) conversational implicature.[1] This content, or the process of providing it, goes by a variety of labels: 'default heuristic', 'unarticulated constituent', 'explicature', and 'impliciture'. This variety suggests a family of conceptually distinct but overlapping phenomena, though the relationships among these categories has not been sorted out. Numerous controversies rage over these phenomena: Is it semantic or pragmatic? Is it really not a part of what is said, nor a part of what is implicated? Is it linguistically represented or not? Is it subject to compositional mechanisms? Is the information recovered during or after sentence comprehension? And what are the mechanisms that provide this information?

In the face of the intractability of some of these questions by the methodology of (pure) pragmatics, i.e., intuition and argument, some have suggested that it is

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time to turn to the experimental methodology of psycholinguistics for guidance.[2] In what follows we take a sample of such phenomena and ask about the purported mechanisms that might deliver the requisite contents, first from the point of view of (pure) pragmatics, then from the point of view of psycholinguistics. We survey previous relevant work, propose an experimental study for getting at this information, and report on some preliminary results.

1. Impliciture: Some pragmatic background

We will use the term 'impliciture' broadly to cover the communication of information not explicitly contained in the words uttered, but not worked out by typical Gricean mechanisms of particularized conversational implicature, i.e., something between linguistic meaning and speaker meaning conveyed by 'flouting' a maxim. We will represent this information in brackets.[3] This area covers a diverse group of research projects and attendant terminologies, data and theories, where almost nothing is uncontroversial. Here is a brief survey to locate ourselves.[4]

Grice (1975/1989) introduced 'generalized conversational implicature' (GCIs) to mark off a class of implicatures with the distinctive feature that uttering the expression involved would 'normally' carry the implicature, unlike 'particularized' conversational implicatures which typically require special circumstances to be properly understood. Grice's (limited) examples include *He's meeting a woman* [not his wife, mother, sister or close Platonic friend]. Perry (1986) introduced the term 'unarticulated constituents' (UCs) for elements of thoughts expressed in an utterance not linked to items in the sentence uttered (and hence 'unarticulated').[5] Flagship examples are weather sentences: *It is raining [here]*. He did not propose any specific mechanisms for recovering this constituent in communication. The idea that there are such constituents, or that typical examples of them really are such, has recently been challenged by Stanley and Szabo (2000) and Stanley (2000), but defended by Bach (2000) and differently by Recanati (2002). Sperber and Wilson (1986) introduced the term 'explicature' for similar phenomena (see also Carston, 1988, 2002) and propose that they be explained with mechanisms of 'enrichment' (spelled out in terms of relevance theory). Flagship examples are mealtime sentences: *I have eaten breakfast [today]*. Recanati (1989, 1993, 2004) agrees with most of this data, but introduced some of his own terminology. He distinguished between what he calls (i) 'primary' pragmatic processes, devoted either to building a proposition from a nonproposition using procedures of 'saturation' and 'metonymical transfer', or building a second, intended, proposition from a first, using procedures of 'strengthening' and 'expansion', and (ii) 'secondary' pragmatic processes, mostly devoted to traditional conversational implicature.

Bach (1994) also agrees with much of the above data and introduced some of his own.[6] He distinguished between 'completion' implicitures (similar to saturation), and 'expansion' implicitures. Unlike Sperber and Wilson, Carston and Recanati, Bach follows Grice in holding to a narrow, strict construal of what is said, one in which the words, their order and grammatical construction must be respected. (we return to Bach). Levinson (1995, 2000), adapting Grice's category of (GCIs), proposed that communication is governed by a small number of shared 'default heuristics' (DHs) that allow a speaker to compress, and the hearer to correspondingly expand, a message in the face of information flow restrictions, 'a significant bottleneck' in the human vocal-auditory channel. Flagship examples here are so called 'scalar implicatures' such as *Some [but not all] of the guests have left the party*'[7] (we return to Levinson).

Many of the above options can be represented as competing paths through information and mechanisms getting the hearer from a sentence with its linguistically encoded meaning (whatever exactly that turns out to be), through what is said, the impliciture (explicature) to what is conversationally implicated. See Figure 1.[8]

It is still an open question in pragmatics how the proprietary data from each of these projects is related to the others, and it is an open question what the relationship is between the mechanisms each proposes to deal with the data. What is the relationship between these (kinds of) examples? *First*, one might view these as mostly competing theories of one and the same phenomena, with allowances made for the generally recognized distinction between completion (saturation) and expansion (strengthening) phenomena and the difficulty in finding a unique general characterization of it. *Second*, one might view these as different theories of (mostly) different phenomena. This seems to be the view implicit in the field, but it must be taken with the proviso that the phenomena can overlap, in particular, that completion implicitures might be cases of unarticulated constituents. On this view, information (directly) communicated, but not $said_G$[9] can have different characteristics, and be explained by different mechanisms: (i) what is implicated by GCIs: explained by GCI; (ii) what is implicated by DHs: explained by DHs; (iii) what is communicated by expansion $impliciture_E$: explained in part by standardization; (iv) what is communicated by completion $impliciture_C$ or is an UAC: explained by some so far unspecified form of contextual supplementation. *Third*, one might view these as different labels for different aspects of the same phenomena. I.e., suppose 'impliciture' (explicature), and 'UAC' label the *character* of certain information that is 'conveyed' but not $said_G$, and 'GCI', 'standardization' (for 'expansion' cases of impliciture at least), and 'DH' label the *mechanisms* that contribute the information so characterized.

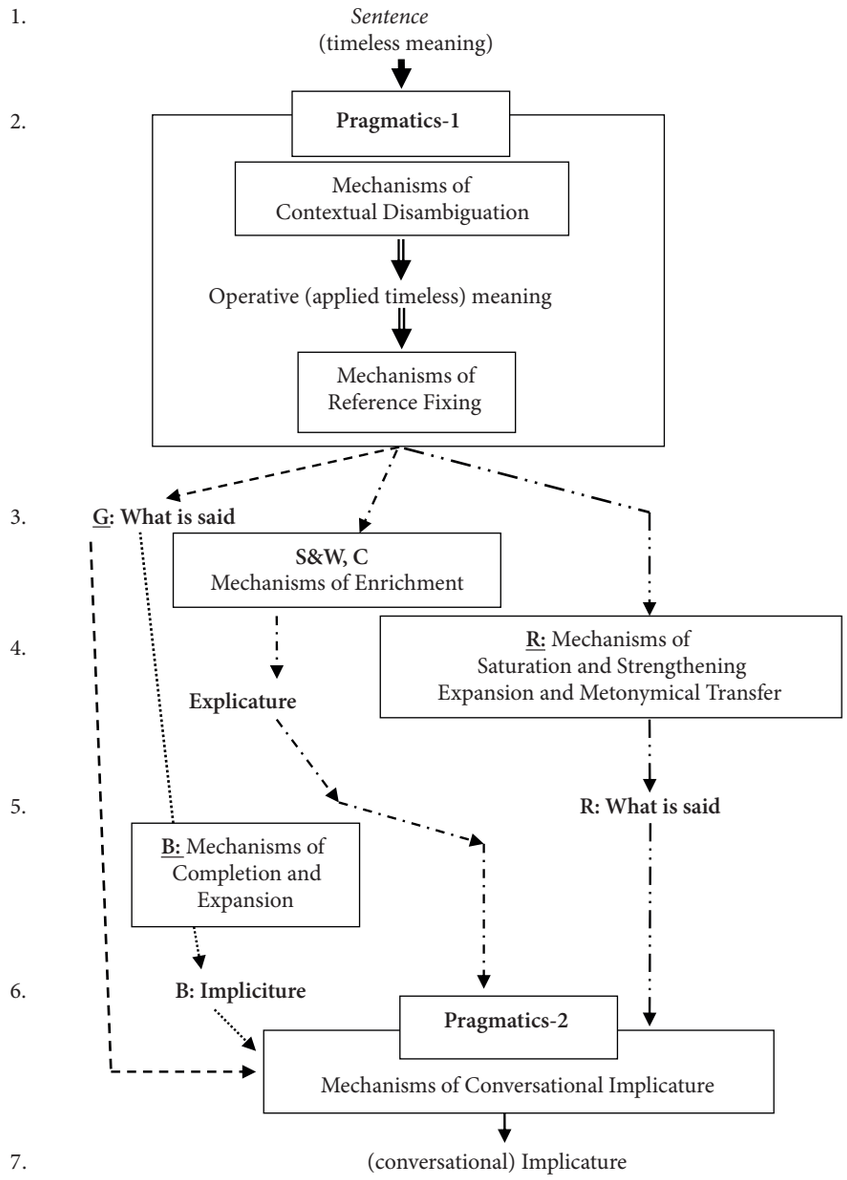

Figure 1. Pragmatic options: From linguistic meaning to conversational implicature.

2. Impliciture: An issue

Our interest here is more narrowly focused on just two proposed mechanisms: Bach's application of 'standardization' to implicitures and Levinson's Q2 (1996)/I (2000) heuristic.[10] Bach introduced 'impliciture' to cover phenomena of not being explicit in what one says:[11]

> The speaker says something, but means some qualified version of that … the speaker failed to make explicit part of what he meant … In each of the … examples the speaker could have made fully explicit what he was trying to convey by including the italicized material (or its equivalent — the exact words don't matter) in his utterance (Bach 2001: 252).

'Standardization' was first proposed in Bach and Harnish (1979: Chapter 9) as a relation that certain sentence forms have to indirect illocutionary acts when those sentence forms gain, by precedence, instruction, etc., a use that, though not a part of the sentence's literal and direct illocutionary potential, nevertheless does not have to be figured out from scratch each time the way non-standardized forms typically are.[12] Parade examples of standardized indirection are *Can, could, would you VP?* as contrasted with the semantically similar form *Do you have the ability to VP?*.[13] Standardization plausibly extends to nonliterality in the sense that some nonliteral uses of language also do not have to be figured out from scratch each time. They recur often, are used for instruction, etc. Think of proverbs, familiar (as opposed to novel) metaphors and other figures of speech. To these cases of nonliterality, which Bach calls cases of 'constituent' nonliterality, he adds cases of 'sentence' nonliterality, where "the whole sentence is used nonliterally, without any of its constituent expressions being so used" (Bach 2001: 249).[14] It is this notion he would like to use to explain some impliciture phenomena.

Levinson's I-heuristic ("What is expressed simply is stereotypically exemplified"; Levinson 2000: 37) says, basically, that if a remark is unqualified and the vocabulary undistinctive, then the situation reported will have the stereotypical features of such situations, even where not explicitly linguistically encoded.[15] This contrasts with two other heuristics we will not be concerned with, the Q-heuristic[16] ("What isn't said, isn't"; Levinson 2000: 35), and the M-heuristic[17] ("What is said in an abnormal way isn't normal"; Levinson 2000: 38). Regarding the contrast between the I-heuristic and the Q/M-heuristics, Levinson says "… the Q- and M- inferences [are] based primarily on linguistic alternates, and the I-inferences [are] based primarily on stereotypical presumptions about the world …" (Levinson 2000: 40).[18]

There is a relevant issue surrounding I-heuristics: what is the relation between 'specific' or 'stereotypical' information and general knowledge? Regarding the

I(Q2) heuristic, Levinson says: "such a heuristic is extremely powerful — it allows an interpretation to bring all sorts of background knowledge about a domain to bear on a rich interpretation of a minimal description" (Levinson 2002: 33).

But if such a line cannot be drawn then the I-heuristic is tantamount to interpreting an utterance against general beliefs ('knowledge'), and that would pose a number of problems regarding both the relation of general knowledge to linguistic knowledge and context, and the internal structure of general knowledge. For the purposes of this study we will assume that information appealed to by the I-heuristic is part of general beliefs ('knowledge'), and that in the communication situation some of this information is either assumed or made mutual by the speaker.[19] In lieu of having answers to all these problems, we will adopt the strategy of selecting intuitively plausible pieces of information to play the role of shared or background information on a case by case basis.

3. Standardization and the I-Heuristic: Pure pragmatics

We will now give analyses of some impliciture examples in terms of two dimensions: (i) the intuitively plausible *content* of the impliciture, and (ii) the postulated *mechanism* underlying that content. As will readily become apparent, these are linked — different content analyses demand or preclude different mechanisms. In many cases we will see that the correct analyses of content and mechanisms are underdetermined by intuition and plausibility (though more data could help). This is, then, an area ripe for experimental evidence. In each case we will display the full range of content analyses employed (in so far as they are) by the major views, but we will only explore the default heuristic and standardization mechanisms here.[20] Furthermore, in the case of standardization, two options are available — non-standardized first (standardized second) and standardized-first. Traditional Gricean implicature inferences suggest that with these implicitures, the nonstandardized, compositional interpretation is taken first and rejected for the standardized interpretation only if contextually inappropriate. On the other hand, the characterization of standardization given earlier makes it possible that the standardized interpretation is the most salient one, and is operative in neutral and enabling contexts. Both are possible from the point of view of pure pragmatics, so we will carry along both versions by putting an asterisk next to the step using a contextual trigger, which can be skipped in the case of the standardized-first option. We will return to this issue in the experimental portion of the paper.[21] Here are some samples (with approximate implicitures):

(1) It's raining [here]

(2) I've had breakfast [today]

(3) He went to the edge of the cliff and [then] jumped [off it]

(4) You won't die [now/from that]

(5) There's beer in the fridge [to drink]

(6) Anna turned the key and [so] the engine started

We will look at the first two in some detail.[22]

(1) It's raining (uttered in San Francisco)

I. Content

– *Unarticulated Constituent (UAC)*: This would express an incomplete proposition (or proposition 'radical'): 'It's raining …'

<rain, now, ( )$_{loc}$>[23]

– *Completion Impliciture (IMP$_C$)*: (Same as UAC)
– *Expansion Impliciture (IMP$_E$)*: This would express the complete proposition: 'It's raining somewhere or other':

<there is a location l: rain, now, l>

– *'Hidden Indexical' Semantics (HIS)*: This would express the proposition: 'It's raining here':[24]

<rain, now, here>

II. Mechanism

DH: Levinson might appeal to the I(Q2) heuristic, and infer, similarly to the Gricean:[25]

a. 'It is raining' means 'It is raining somewhere or other',
b. 'It is raining somewhere or other' is inappropriately weak or unspecific as a contribution to the talk exchange at this point,
c. I(Q2) Heuristic: 'Minimal forms warrant maximal interpretations' (maximally informative),
d. 'It is raining in San Francisco' would be maximally (appropriately) informative,
e. So S communicated (implicated) that it is raining in San Francisco.

Standardization: As an expansion, it might have the quasi-Gricean analysis:

a. 'It is raining' means 'It is raining somewhere or other',

*b. 'It is raining somewhere or other' is inappropriately weak or unspecific as a contribution to the talk exchange at this point,
c. 'It is raining' is standardized for 'It is raining here',[26]
d. Here = San Francisco,
e. So S implicitly (directly) communicated that it is raining in San Francisco.

(2) I've had breakfast (uttered 1/1/2000)

I. Content

– *Unarticulated Constituent (UAC)*: expresses an incomplete proposition (or proposition 'radical'):

<have breakfast, ( )$_{time}$>

– *Completion Impliciture (IMP$_C$)*: (Same as UAC)
– *Expansion Impliciture (IMP$_E$)*: Expresses the complete proposition: 'I've had breakfast sometime before':

<there is a time t in the past: had breakfast, t>

– *'Hidden Indexical' Semantics (HIS)*: Expresses the proposition: 'I've had breakfast today':[27]

<have breakfast, today>

II. Mechanism

DH: Levinson might appeal to the I(Q2) heuristic, and infer, similarly to the Gricean:

a. 'I've had breakfast' means 'I've had breakfast at some time or other',
b. 'I've had breakfast at some time or other' is inappropriately weak or unspecific as a contribution to the talk exchange at this point,
c. I(Q2) Heuristic: 'Minimal forms warrant maximal interpretations' (maximally informative),
d. 'I've had breakfast today' would be more (appropriately) informative,
e. So S communicated (implicated) that they have had breakfast today.
f. Today = 1/1/2000,
g. So S (directly) communicated that S has had breakfast on 1/1/2000.

Standardization: As an expansion, it might have the quasi-Gricean analysis:

a. 'I've had breakfast' means 'I've had breakfast at some time or other',
*b. 'I've had breakfast at some time or other' is inappropriately weak or unspecific as a contribution to the talk exchange at this point,
c. 'I've had breakfast' is standardized for 'I've had breakfast today',

d. So S implicitly (directly) communicated that S had breakfast today (on the day of utterance).
e. Today = 1/1/2000,
f. So S (directly) communicated that S has had breakfast on 1/1/2000.

Conclusions: The above remain rough approximations to the stories these theories would tell about these examples, but they are, hopefully, enough to both get a feel for each theory, and to motivate some general experimental questions. So far, we have to face the following facts:

Default Heuristics:

1. We have no criterion for being a 'simple' form.
2. We have no criterion for stereotypical information associated with a form.

Standardization:

3. We have no criterion for when a form is standardized for what.[28]
4. We don't yet know how to characterize the interaction of context and standardization. Does context *override* (and/or *suppress*) the standardized interpretation, where it is present but not contextually operative (like an irrelevant meaning)? Or is the standardized interpretation *suspended* (and/or *disabled*) in the sense that the form does not have that meaning in that context?

There is only so far one can go in resolving these issues on the bases of intuition and reflection, and though the field has not reached the end point of such effect yet, we will turn now to the experimental phase, and propose an experiment to get at some of these issues.

4. Standardization and the I-Heuristic: Experimental pragmatics

4.1 Preliminaries

To evaluate these two competing views we must derive different testable predictions from each of them. Even staying within the same general methodology as earlier studies, i.e., presenting sentences as utterances in context and having subjects respond in various ways to them,[29] we need to make some additional assumptions in order to get these predictions. On the standardization side, we noted earlier that the standardized (*vs*. non-standardized) interpretation could be: (i) the most salient, (ii) the less salient, (iii) overridden by context, or (iv) suspended by context. In what follows we will apply the following working assumptions:

A1. Standardized interpretations are like meanings in that they 'attach' to the type of form being uttered, and are retained in canceling contexts.[30]
A2. Standardized interpretations are more salient, preferred, etc.
A3. Standardized interpretations must be overridden by context when the (compositional) linguistic interpretation is favored.

On the I(Q2) heuristic side, we will assume:

A4. Stereotypical information that heuristics allude to is a part of general background information we bring to most talk-exchanges (the earlier 'outer circle'), which then is either (i) modified by contextual information (the earlier 'middle circle') (ii) or modifies it.[31]
A5. Utterance interpretation takes place with ready access to such information and important triggers for such information include specific lexical items and the evolving topic of discourse.

We examine mechanisms of impliciture modulo the assumptions just outlined. We first take note of some existing experimental findings that bear on the questions and then report our initial experimental steps.

Experimental work most immediately relevant to our interest in impliciture addressed two main issues. The first of these is the ability of naive language users to categorize utterance contents as a part of what is said vs. implicatures and implicitures (Gibbs and Moise 1997: Experiments I-IV; Nicolle and Clarke 1999: Experiments I, II; Bezuidenhout and Cutting 2002: Experiment I). The second is the effort to describe the mechanisms underlying the recovery of implicitures (Nicolle and Clarke 1999: Experiment III; Bezuidenhout and Cutting 2002: Experiments III, IV. These experiments tested several of the sentence types we have discussed).

All these studies sought to elicit categorization judgments that would distinguish literal from enriched interpretation. Various approaches for instruction in the relevant distinctions were tried. None were effective. Though this apparent opacity of naive language users to the difference between what is said and what is implicated for the sentence types tested is interesting and in some respects surprising, we will not consider it further.[32]

Our focus is on the mechanisms for recovery of implicitures. In addition to categorization questions, the three experimental studies just cited also used context manipulations to bias interpretations. Those reliably induced selection of minimal or enriched interpretations. Though not observable in the reflective judgments of naive speakers for context free presentation, interpretive differences emerged robustly in processing driven by context. The Gibbs and Moise and the Nicolle and Clark studies suggested a multi-step processing account.

Bezuidenhout and Cutting (2002) used similar materials to extend and more sharply test the conclusions from those studies. They tested contextual influence on minimal interpretations for the test sentences, aiming to determine whether there is a necessary stage in pragmatic processing at which such is recovered. This question requires measures sensitive to the time course of the mental events that lead to an interpretive preference. To this end, they measured reading times for the target sentences in differing contexts. They contrasted three processing models they abstracted from the literature. Two of these models assumed that multiple processes support pragmatic interpretation and one model assumed a single process. They described a Gricean based process as a 'literal-first serial model' (LFS). On this view, listeners first recover a minimal proposition (including reference fixing and disambiguation) before engaging in (other) pragmatic processing. A second multi-process model was intended to reflect proposals of Gibbs and of Levinson. It combined parallel processing with a preference ranking favoring enriched interpretations ahead of the minimal. This they termed a 'ranked parallel model' (RP). The third option was a single process model based on their interpretation of Relevance theory. That model eliminated any special status for minimal interpretations. They termed this the 'local pragmatic processing model' (LPP): pragmatic processes were assumed to be called on from the beginning of the utterance, with full contextual interaction occurring as the utterance unfolds.

Bezuidenhout and Cutting developed test sentences representing six categories labeled scalars, cardinals, possession, time-distance, temporal relations, and quantifier. These were visually presented as the final sentence of a story. Stories were varied so as to bias towards the enriched interpretation or towards the minimal interpretation. The contexts were evaluated in a preliminary experiment (using a paraphrase measure) that demonstrated the relevant biasing effects on the sentence interpretations.

Test sentences were presented in a self-paced reading task that was immediately followed by a judgment task meant to test for the presence of minimal interpretations. That second task did not produce a decisive result and we will not discuss it here (though it was compatible with the reading time result).

Reading time for each target sentence provided a measure of processing efficiency in the two types of constraining contexts. On Gricean assumptions (minimal interpretation is first computed: LFS), reading times should be faster in minimal contexts than enriched contexts. Minimal context would fit and response times should be relatively 'fast'. In enriched contexts, a mismatch would arise and processing should be slowed. By contrast, the RP model predicts the opposite profile, with faster reading times for enriched contexts because enriched interpretations are assumed to have a higher preference ranking. In a minimal context, there would be a mismatch, requiring a shift to the second ranked alternative, thereby

slowing processing. The LPP model predicts no difference as a function of context since it assumes that context drives interpretation from the outset. Mismatches do not occur in either context.

Results showed reading times were faster in enriched contexts than in minimal contexts. This is decisively against the LFS model and fits the ranked parallel pattern. LPP is not supported since, other things being equal, it predicts equivalent times for the two contexts. Bezuidenhout and Cutting's discussion of these results is cautious and emphasizes the potential for differences among the several different types of sentences included in their experiments, and they raise the possibility that different processing accounts may apply for some of the different sentence types. They note that the one-process model may be viable in some instances and the multiple process model in others.[33]

We agree that this is an important avenue for study. The question of when interpretation is driven by the form of the sentence is central. The cases of impliciture that we have discussed are prime candidates for answering such a question. Does the demonstrable context free impliciture arise when contrary contextual constraint is present? If so, how is contextual evaluation then applied? If not, how can contextual constraint avert the consequences of standardization? The analyses based on Bach's claims re standardization and Levinson's re default heuristics implicate context in different ways and these form the basis for questions that we wish to pose for experimental analysis.

4.2 Experimental studies of impliciture

We report an exploratory evaluation of three types of impliciture that test their interaction with contextual constraint. We first assess context free preferences for several examples of each type of standardization. This provides sets of items for which the impliciture is reliably elicited in context free conditions.

Given sentences with a clear context free preference for the standardized interpretation, the second step is a test of the interaction of that interpretation with contextual constraint. What is the impact of enabling and canceling contexts? Is an impliciture computed even in a context that defeats it? On the strongest reading of our assumption A3, context can not eliminate context free patterns. On our assumptions A4 and A5, canceling contexts should eliminate the availability of the I(Q2) heuristic. Intermediate results (*viz.* a change in the time course or a reduction in strength of the impliciture) for canceling contexts will require analysis based on the detail of the data profile.

Our experimental approach relies on the presumptive 'spelling out' of the implicitures. In each of the test cases that we use, standardization postulates an unspoken expression (or at least a limited range of concepts) conveyed by the form of

the test sentence. This information is implicit in an utterance of the test sentence. For example, *It's raining* conveys ['It's raining' + [appropriate stipulation of location]]. The experimental test relies on the assumption that what is expressed is the fully fleshed out version. The methodological issue is to say what that fully fleshed version is and then to test for the presence of the implicit component.

We report here a pilot experiment using a speeded question answering task on a subset of the six sentence types discussed earlier. The objective is to demonstrate the viability of the materials and provide a conservative measure of contextual effects. In the longer term, we will pursue more sensitive time dependent measures.

4.2.1 *Pilot experiment 1: Testing context free interpretation with a question answering task*

Our aim was to assess the strength of implicitures that depend only on the form of words in the test sentence. Two sets of stimulus sentences were used: an impliciture set and a non-impliciture set. Each member of the impliciture set had a roughly matched (structurally similar) sentence lacking the impliciture. The non-implicitures serve as rough comparison base for the strength of the impliciture effects and as foils to encourage attention to the task and promote comprehension based responses. The measure used was a timed question answering task.

Impliciture probes: These are the words generally used to overtly express the presumed impliciture (as these have been discussed in the pragmatics literature) or a syntactically and semantically comparable word that is not in the impliciture. The probes used for the impliciture sentences were also used to test the non-impliciture sentences. For example, the impliciture sentence 'It's raining', was matched by a nonimpliciture such as 'It's my birthday'. The probe words HERE and THERE followed the sentence as possible answers to a question word presented at the end of the test sentence. The probe word HERE expresses the presumed impliciture for 'It's raining', while the probe word THERE does not. Impliciture probes should be strongly preferred and produce faster response times (RT) following the impliciture sentences than when they follow a non-impliciture sentence. For the non-impliciture sentences, no location concept/word should be automatically elicited. Responses to the impliciture probe in that environment should be slower and less systematic.

Methods

Procedure: Subjects heard stimulus sentences presented from computer controlled sound files. Every test sentence was preceded by a short, neutral phrase ("Somebody said: [experimental sentence]". The sequence of presentation events was as follows:

a. introductory phrase
b. test sentence
c. probe QUESTION

Presentation of the test sentence was at normal speaking rates, and with normal prosodic phrasing. The introductory phrase facilitates this by providing a prosodic carrier and alerting stimulus. The forced choice task was initiated by visual presentation of a single question word appropriate to the impliciture (e.g., 'when?', 'where?', 'whose?'; see examples of stimulus materials below) with the two probe words printed beneath it. Subjects hit a response key to indicate their choice.

Design: Sentences and probe types are crossed. The impliciture/non-impliciture contrast is a within-subjects comparison. The impliciture/non-impliciture sentences were matched on syntactic structure but varied in principal lexical content. Each participant saw 14 exemplars of each of 3 sentence types, and similarly for the matched set of non-implicitures.

Materials: Three types of sentences were used to test the materials and methods. Examples of each of the three types are listed below. Fourteen instances of each of the three types were tested. The examples provide an impliciture, a non-impliciture control, and the probe questions and answers (related/unrelated) used for the example items.

1a. Somebody said: 'It's raining' WHERE?
HERE THERE
1b. Somebody said: 'It's my birthday' WHERE?
HERE THERE
2a. Somebody said: 'I've had breakfast' WHEN?
TODAY ONCE
2b. Somebody said: 'I've had a long life' WHEN?
TODAY ONCE
3a. Somebody said: 'John cut a finger' WHOSE?
HIS OURS
3b. Somebody said: 'Paula waved a flag' WHOSE?
HERS OURS

Results

The results for both the choice profile and the time taken to select a response are directly related to the presumptive implicit information. Differences between probe types for the implicitures were systematic and substantial and differed significantly from corresponding contrasts for the non-implicitures. Relevant contrasts are briefly described below. We do not present a detailed statistical analysis of all the patterns in the data comparing the two sets since the main intention of this was to

evaluate the question answering method and to identify a set of implicitures with strong context free bias for subsequent use in pilot experiment 2.

Table 1. Forced choice task.

Table 1 Forced choice task		**Impliciture Items**			**Non-Impliciture Items**		
		Impliciture Response	Non-Imp Response	No Response	Impliciture Response	Non-Imp Response	No Response
Location							
(Here/There)	*Mean*	1289	1761		1870	2076	
	N	306	19	11	206	100	18
Possession							
His/Yours	*Mean*	1368	1877		1770	2241	
	N	321	10	5	256	30	38
Time							
Today/Once	*Mean*	1243	2187		1713.5	1623	
	N	306	24	6	95	232	9
	Total						
	Means	**1300.17**	**1941.67**		**1784.50**	**1980.33**	
	N	**933**	**53**	**22**	**557**	**362**	**65**

t tests			
	Location	$t(23) = 8.9$	$p < .001$
	Possession	$t(23) = 3.9$	$p < .001$
	Time	$t(23) = 4.4$	$p < .001$

In this table, entries provide: (a) The number of choices made for each probe type following the impliciture and non-impliciture sentences. N is the number of observations for 24 subjects across 14 sentences of a given type; numbers in some cases do not sum to 336 because of missing data. (b) The mean response times in milliseconds for each probe type. (c) Contrasts for impliciture sentences vs non-impliciture sentences: t-tests (two sided) use all responses (i.e., collapsed across response types) for impliciture and for corresponding non-impliciture sentences (note: these are sentence based tests; subject based tests are also highly significant).

Several features of the results indicate the special status of the implicitures. First, the choice between probes was uniformly for the impliciture word following an impliciture sentence: 95% of responses followed that pattern. Overall, a comparable bias was not found for the non-implicitures: 60% of those responses were impliciture words. There was, however, a substantial variation in question answering preferences among the 3 types for the non-impliciture sentence. (No such variation was present for the implicitures.) Two of the non-impliciture types showed the same direction of preference as the implicitures, and one the opposite.

The most similar to the impliciture choice profile was for the possession sentences; that profile, however, had a quite different response time (see below).

The response times to select an answer were substantially and significantly different for the implicitures and non-implicitures. Overall, responses following impliciture sentences were much faster than those following non-implicitures (528ms). Further, in the few instances in which a non-impliciture response was made following an impliciture sentence, the response time was very long compared to the impliciture choice (mean difference between types: 641 ms). By contrast, response time differences between the two probe types following the non-impliciture sentences were substantially and significantly smaller (mean difference between types: 195 ms). Again, the possession sentences were most similar to the implicitures in that response times were faster for impliciture words than non-impliciture words following the non-impliciture sentences that were matched to the possession set. So, the preference was similar, but the time taken to effect it was much longer: impliciture responses for the possession implicitures were 402 ms faster than the comparable response following the non-impliciture possession sentences. None of this is surprising based on the strong intuitions that we begin with in selecting the test materials for evaluation. The non-standardized answers seem infelicitous following the implicitures and are simply not chosen; the decision times strongly reflect the bias. This attests the brute facts of the standardization. The most essential outcome of this experimental comparison is the demonstration of a strong context free bias in favor of impliciture driven choices. There was some variability among the fourteen individual examples of implicitures included in each of the three sets, but that internal variation was substantially smaller than the differences between impliciture and non-impliciture sentences. As, we note below, for the next step of investigating context, we used the results of pilot experiment 1 to choose test items for pilot experiment 2 that minimize the variability in strength of impliciture.

4.2.2 *Pilot experiment 2: Manipulating context*

This experiment tested the impact of biasing contexts on the processing of sentences evaluated in experiment 1. Enabling contexts (supporting the impliciture) were contrasted with canceling contexts (which disable the impliciture). The pattern of outcomes can ultimately help adjudicate between the standardization and default heuristic descriptions of implicitures. On standardization assumptions A1-A3, we should continue to observe evidence for the activation of the meanings associated with the implicitures even in a canceling context, since the standardized interpretation attaches to the form of words. On default heuristic assumptions A4-A5, responses related to the impliciture should be activated only in the enabling context, since the stereotypical information (*viz.* the impliciture) is a part

of background information. The context manipulation was pretested off-line for effectiveness. In this experiment, we used visual presentation of all the materials in order to get reading time measures for contexts and implicitures. We again used the question answering procedure, but in this case, responses were oral and timed by voice trigger.

Methods

Procedure: All materials were presented visually. The contexts were presented line by line and were self-paced. The last line of the presentation was the impliciture sentence. The question word and the forced choice alternative probes followed the last sentence. Reading time for each line of context was separately recorded, as was reading time for the impliciture sentence. The participants pronounced their answers and the time to onset of the verbal response was recorded.

Design: Two counterbalanced sets of materials paired each test sentence with an enabling and a canceling context. For each participant, the materials sets were evenly split between enabling and canceling contexts. No participant saw any individual test sentence more than once.

Materials: Eight sentences were taken from each set of the 14 used in experiment 1 and contexts were designed for each. The eight 'best' in terms of speed and uniformity of choice in experiment 1 were selected. In each case, a sentence standardized for a given interpretation was presented in two contexts: one compatible with the standardized interpretation, and one that canceled that interpretation. NB: The canceling contexts were designed to be strongly compatible with the non-impliciture response alternative. Thus, supporting context dictated the impliciture response word, and canceling contexts dictated the non-impliciture response word. For every context/impliciture sentence combination, the objective was to insure that a felicitous answer was provided in the probe pair presented following the question word. To determine the success of the context construction, an off-line test was done. Context sentence pairs were presented in test booklets with layout exactly as that to be presented on the computer screen in the response timed experiment. In this test, participants circled their preferred answer. 24 subjects provided responses (12 for each of the counterbalanced lists). Choices favored the context determined responses at rates of 95% or better for all three sentence types and for all contexts, both supporting and canceling. By this measure, canceling contexts canceled as effectively as enabling contexts supported. The two types of contexts were equated for length. Examples for each of the three types are given below.

(1) It's raining.

Enabling Context (EC) John and Mary were vacationing in San Francisco. They planned to spend their first afternoon playing tennis. But the weather forecast was

definitely not encouraging. And, when John looked out the window at lunchtime he sighed, and said to Mary: "It's raining" [here/San Francisco].

Canceling Context (CC) John left his Boston job early to rush home and catch the Red Sox-Yankee game on TV from New York. But the game is iffy because thunderstorms have been threatening. During the pregame show, his fears come true. "Nuts", he said. "Just as I thought. It's raining" [there/New York].

(2) I've had breakfast.

Enabling Context (EC) John and Mary meet at the bus stop in front of a coffee shop. They work for the same company division and frequently commute to work together. This morning, they have met for a very early departure to attend a special meeting that is scheduled at the company's main headquarters. It's a long bus ride across town. John, who is always late, says hopefully: "I had to leave the house in a rush. I'm really hungry. Do you want to grab a quick bite before the bus comes?" Mary, who is always on time, replies with a smile: "No thanks, I've had breakfast" [today].

Canceling Context (CC) Zoog the alien from Zog lands his spaceship on Earth. He is cleverly disguised as a human, but knows little of the local food and customs. Poor Zoog gets arrested after blundering around for a week and confesses that he is an alien. Naturally, nobody believes this. When the police psychiatrist questions him, Zoog proudly reports: "I figured out the traffic lights, and when to cross the street. I got my shoes shined. I ate some ice cream at a Baskin Robbins today. And a few days ago, I visited McDonald's in the morning, so I've had breakfast" [once/not today].

(7) I cut a finger.

Enabling Context (EC) Al is busy in the kitchen helping his wife by chopping the salad veggies. This is not his usual practice and he is feeling quite pleased with himself for volunteering. But, he's not really paying close attention as he is also watching a baseball game on TV. He gets a little too careless with his knife and lets out a sudden yelp. "Ouch! I cut a finger!" [his own]

Canceling Context (CC) Mabel is a new manicurist. She is nervous on her first job and her very first client is a fussy old man who had been coming to the shop for years. Mabel was in tears as she explained to her boss why the man shortly left in a huff. "Oh", she wept, "I worked carefully, but he moved his hand all of a sudden. You heard him say 'Ouch'? Well, I cut a finger" [his/not hers].

Subjects: Twenty-four University of Arizona undergraduates were tested for this pilot study. They were volunteers who received class credit for participation.

Results

1. Reading times for the context passages leading up to the target sentence were compared for enabling and canceling contexts. This provides a rough index of the complexity of the contextual information. The average time to read each line of the context was compared for the two contexts. These times showed no consistent pattern and did not differ statistically. In addition, reading time for the target sentences was compared following each context type. A difference would be expected if reading time reflects integration time, and if the implicature is available and interferes with integration. There was some indication that it took longer to read the target sentence following the canceling contexts, but it was weak. This difference was not statistically significant.
2. The question answering task: since the passages were pre-tested in an untimed task with materials distributed just as they were in the timed experiment, it was established that the passages did reliably select the contextually appropriate answer word following both enabling and canceling contexts. The expectations for the timed task were: first, subjects would continue to choose the context driven answers even under time pressure, and this proved to be the case. Accuracy for the contextually driven response was very high for all sentence types. Second, if context can suppress the impliciture, other things being equal, the two context types should not differ systematically. But, if the impliciture is invariably computed, this should set the stage for response competition and times for the canceling context should be longer than those for the enabling context. The results revealed a substantial and statistically reliable difference between the contexts, with the enabling context being faster.

Table 2. Contextual constraint results: Supporting and canceling contexts for impliciture sentences.

		Context Types		
		Enabling	**Canceling**	**Difference**
Locative	context	11872.5	12105.15	232.65
	impliciture	1134.8	1143.685	8.885
	answer Vk	1461.7	1588.25	126.55
Temporal	context	13104.1	13842.15	738.05
	impliciture	1236.65	1308.2	71.55
	answer Vk	1655.15	1939.45	284.3
Possession	context	13316.85	13294.55	–22.3
	impliciture	1154.95	1212.1	57.15
	answer Vk	1390.9	1593.1	202.2

t-tests	context	impliciture	answer VK
two-tailed	$p < 0.490528$	$p < 0.469231$	$p < 0.005895$

In this table, entries are: (1) reading time for *context: values* are the summed reading time for the 8 context lines; (2) Reading time for *implicitures*: these appeared as the 9th line of text; (3) *answer VK:* these are voice key times for question answering after presentation of the impliciture sentence.

Discussion

This pilot experiment used a measure that relies on a conscious decision about the meaning of the target sentences in a constraining context. The time to respond ranged from about one to three seconds, with the mean response time at around 1.7 seconds. It should be borne in mind that this response time included reading time for both the question word and the response alternatives. The task is a relatively natural one. Subjects did not report difficulty with task demands and were quite accurate. On the basis of results from this task, we can affirm the presence of some factor that slows question answering following the canceling contexts. We cannot affirm that it is because the impliciture was activated, though that is a plausible construal. It remains possible that the canceling contexts were more complex, and it remains possible that the fit between the target sentence and contexts was less felicitous for the canceling contexts. The comparable reading times for the two contexts and the high accuracy rates provide some basis for arguing against those alternatives. It remains to directly demonstrate activation of the impliciture in canceling contexts. Our intention is to test this using other measures. We are currently working with a naming task rather than a question task. The essential change from the current task will be to remove the question word and present only one target word to pronounce. If the impliciture is computed, we would expect to see facilitation for the impliciture related target even following a canceling context. That work is in progress.

The initial results of our study with implicitures supports a processing picture that is similar to the one favored by the outcome of the Bezuidenhout and Cutting (2002) study. Some differences are present. Their materials spanned a greater range of sentence types than we used. And, we did not find a reading time difference. Materials differences may be part of that failure to find the reading time effect. But it is also possible that with a larger sample size, the rather weak trend we did observe might emerge with greater force.

The question answering times we observed were quite robust and were significant for each of the three types of implicitures that we tested. They argue in favor of a model that distinguishes a response to sentence form that is distinct from context. We focused our analysis on a contrast between the standardization ideas

as expressed in work by Bach, and default strategies as formulated by Levinson. To do this, we were obliged to elaborate Levinson's I-heuristic. One might choose not to embrace that move. Setting that specific matter to one side, the more general observation is this: a single process theory does not readily accommodate the resistance to contextual constraint demonstrated by the implicitures in our experiment.

5. Some conclusions

The experimental investigation of standardized forms that we outlined seems to us a promising avenue for deepening our understanding of the way in which pragmatic mechanisms relate to language processing systems. The implicit context-free 'continuations' of these kinds of sentences are powerful. They afford excellent test vehicles for an investigation of interactions between pragmatic processes that are heavily reliant on sentence form with those that arise from the contents of specific context. The interpretive outcomes of contextual interactions with sentence form are richly played out in various aspects of pragmatic theory, and have given rise to a range of alternative accounts of pragmatic phenomena. We believe that progress on the theoretical issues that divide pragmatic theorists will require a broadening of the data base. The effort to fit the theory to the constraints of real-time processing models seems well worth the effort. An increasing number of investigators interested in pragmatics have been taking this tack. We think these efforts will be valuable not only to those interested in pragmatic theory, but will also hasten a healthy infusion of systematic pragmatic issues more aggressively into mainstream psycholinguistics.

Notes

1. Harnish (1976, 2005) argues that Grice had the category, but not a label.

2. See Noveck and Sperber (2004).

3. Later we will also use it more narrowly in discussing particular phenomena so labelled by Bach (1994).

4. Generative grammar has recognized such 'understood elements of content' for at least fifty years, both in the form of 'linked' contents (ellipsis) and 'free' contents (PRO, argument structure).

5. Not to be confused with the linguistic notion of an unpronounced, but linguistically real, constituent.

6. Bach (1994) introduced 'impliciture' to replace Sperber and Wilson's (1986), 'explicature' because of the nonexplicit nature of the information.

7. There are systematic similarities and differences between Grice's 'generalized conversational implicatures' and Levinson's 'default heuristics' which we will not go into here.

8. For relevance theorists (Sperber and Wilson, Carston etc.) pragmatics 1 = pragmatics 2 = principles of relevance.

9. 'Said$_G$' in the strict, narrow, 'Gricean' sense.

10. Bach has been critically discussed by Bird (1997), Vicente (2002), and Levinson by Bezuidenhout (2001).

11. We assume that all cases of narrow impliciture involve the possibility of adding words and making it explicit, following Bach "what one means includes an implicit qualification on what one says, something that one could have made explicit but did not" (2001: 252). We leave it open whether or not all cases of broad impliciture are cases of narrow impliciture, i.e., whether all cases of conveyed (but not encoded or implicatured) information could have been made explicit by adding words to the original.

12. Searle (1975) associated 'conventions of usage', which are not 'conventions of meaning' with these forms. See also Morgan (1978) and Geis (1995: Chapter 5). On the Bach and Harnish (1979: Chapter 9) view, standardization *contrasts* with conventionalization.

13. It is currently an open question how schematic standardization is, i.e., does it govern just specific sentences, or can it govern sentence frames (as in the text), and to what variety of sentences does it apply. Bach and Harnish (1979: Chapter 10), for instance, apply standardization to performatives.

14. It is possible to argue that this is not a distinction in kind but of degree, and that sentence nonliterality is just the limiting case of constituent nonliterality. Bach sometimes uses 'nonliteral' in a special way, where the utterance is nonliteral if the speaker does not mean *just* what the expression means. See Bach (1998) for a survey of the uses of 'standardized nonliterality' so conceived. The normal notion, which we will be using, is weaker, since it requires only that what the speaker means be at variance with the linguistic meaning. If the speaker means *at least* what the sentence means, the speaker is speaking literally.

15. Levinson elaborates on this by splitting the I-heuristic into two principles: "*Speaker's maxim* … say as little as necessary; that is, produce the minimal linguistic information sufficient to achieve your communicational ends (bearing Q in mind) … *Recipient's corollary* amplify the informational content of the speaker's utterance, by finding the most *specific* interpretation, up to what you judge to be the speaker's m-intended point …" (2000: 114).

16. The 'Q' is an allusion to Grice's (1975, 1989) first maxim of Quality ('Make your contribution as informative as is required').

17. The 'M' is an allusion to Grice's (1975, 1989) maxim of Manner: 'Be perspicuous' (in one's conversational contribution).

18. In other words, the Q/M-heuristics have a metalinguistic aspect missing from the I-heuristic.

19. See Bach and Harnish (1979: Chapter 1) for the notion and role of 'mutual beliefs' in communication, and see Wilks and Bien (1983) for the idea of making a piece of information 'mutual' as the need arises. Taylor (2001) also sees such background information as playing a decisive role, though he does not relate it to Levinson's heuristic, whereas Brennan (2003) does.

20. In the cases of unarticulated constituent analyses and completion implicitures, no specific mechanisms are generally proposed by theorists for getting the contextually provided information into the proposition expressed — see Bach (1994) and Recanati (2002). Stanley (2000) assimilates 'unarticulated' constituents to hidden indexicals, but the process of interpreting indexicals is also not completely settled.

21. We will say very little about the pragmatic complexities of these examples and treat them at a simple and intuitive level and (only) in the spirit of the theories they are modelled on. For instance, in some cases changing the wording even slightly can make a big difference; in other cases the forms are quite productive and the impliciture is preserved. Comparative work, which is currently being conducted by Professor Liu Si at Beihang University, Beijing, will also address the question of the generality of these phenomena.

22. We do not include in this survey the recent and interesting 'minimalist' position of Cappelen and Lepore (2005: Chapter 10), wherein, roughly, (1) would express the proposition that it is raining (simpliciter) and (2) would express the proposition that the semantic value of 'I' in the context has had breakfast (simpliciter). For our limited purposes, these contents would function very much like expansion implicitures (though they would not be equivalent semantically to them). The differences would be handled by Cappelen and Lepore's 2005: Chapter 13) 'speech act pluralism'. See the journal *Mind and Language* 21(1) (2006), for some critical discussion of the book.

23. We follow the convention of enclosing propositional material in angled brackets.

24. The hidden indexical theory has to justify that the indexical is 'here' and not, e.g., 'here in San Francisco'. This point holds for hidden indexicals in general.

25. Remember, although there are similarities, there are substantial differences between the Grice and Levinson frameworks.

26. Note the introduction of the indexical 'here' and its attendant problems.

27. As with 'here', the hidden indexical theory has to justify that the indexical is 'today' rather than, say, 'this morning'. The answer, whatever it is, will have to accommodate the fact that the breakfast-script, as one of the mealtime-scripts, contains both typical breakfast foods, and typical breakfast times. Hence 'breakfast' can be used to refer both to a kind of meal and a time of meal-taking. Qua time of meal, one can have steak 'for breakfast'. Qua kind of meal one can have breakfast (e.g., ham and eggs) at sunset. Interestingly, the two uses do not go together easily. It would be odd to report the sunset ham and eggs as 'I had breakfast for dinner', and a menu might say either: 'Breakfast served from 7am to 11am' or 'Breakfast served 24 hours a day', but unlikely both.

28. Bach (1989: 81) does propose a 'test' for standardized nonliterality. The idea behind it is that the standardized interpretation is asymmetrically dependent on the nonstandardized interpretation. It also appears that 'standardized' as used in the test is roughly equivalent to 'common' — which was not a part of the technical notion in Bach and Harnish.

29. See Gibbs and Moise (1997), Nicolle and Clark (1999), Bezuidenhout and Cutting (2002), and Bezuidenhout and Morris (2004). See below. We discuss these experiments and their attendant models in more detail in Garrett and Harnish (in preparation).

30. But it is not (yet) a full-blown meaning. Standardized indirect forms, for instance, are not linguistically ambiguous. The traditional theory of meaning really has no category for standardization.

31. There might be a psychologically relevant distinction here between what Putnam (1975) calls stereotypical information about things or events (think also of frames and scripts), and what Searle (1978) calls the 'Background' — information we would rarely think to report, though it is clearly at work during utterance interpretation. For now we will ignore this.

32. See Garrett and Harnish (in preparation) for further discussion.

33. There are other studies that raise issues that intersect with those we are examining. In particular, there are several studies of scalar implicature that contrast one-process and two process models. See, e.g., Bezuidenhout and Morris (2004), Breheny *et al* (in press). We do not address the work with scalars here as there are good reasons to distinguish them from implicitures. Indeed, they are treated by Levinson with the Q-heuristic rather than the I-heuristic that is our focus.

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Geometrical concepts at the interface of formal and cognitive models

Aktionsart, aspect, and the English progressive

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The paper has two related aims. One is to outline a proposal for a spatially motivated model of discourse, called Discourse Space Theory. The other is to use this framework to explore, in a relatively formalised way, the spatial basis of the conceptual complexities arising in the uses of the English progressive verb form (be+-ing). The theory utilises an abstract space in three dimensions (time, space and modality). Verb stems are associated with Aktionsart schemas; aspectual forms like the progressive are viewed as operations on these schemas. The proposal is that geometric concepts, specifically coordinate systems and vectors, can provide a motivated formalism for investigating conceptual structures generated by a human discourse processor.

1. Introduction

As language users process incoming discourse, they make mental representations on the basis of the conventional meaning of the linguistic expressions and other conceptual contributions. This paper outlines a method (Discourse Space Theory or DST) for modelling such discourse representations. It differs from current formal models of discourse (e.g., Discourse Representation Theory or DRT (Kamp and Reyle 1993) and S(egmented) DRT (Asher 1993; Lascarides and Asher 2003)) in emphasising cognitive representations, especially spatial representations and their derivatives.

The fundamental assumption of the model is that when humans speak to one another (or write to or for one another) they always do so in a spatio-temporal framework. They refer to objects: if these objects are material they have spatial extension; if they are mental objects they have quasi-spatial extension. Objects are referred to for the purpose of representing their properties or states, or for representing relations between two objects or among more than two. Speakers

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also always assign a temporal (or atemporal) index to such representations that are ultimately relative to the time of utterance. Further, the model also makes the fundamental assumption that speakers always index the degree to which they accept the reality of the representations. That is to say, speakers communicate the degree to which they accept some representation corresponds to reality, where 'reality' is also a conceptual construct of the speaker or some community of speakers. In part, all three dimensions (spatial, temporal and modal) are determined ontologically: future eventualities for example cannot help but be less certain than past ones, distant objects less detailed than close ones. I will refer to these three aspects of utterance representations as 'dimensions' of discourse.

A further fundamental assumption is that spatial cognition is relevant to the linguistic encoding of non-spatial concepts, specifically temporal relations and modal concepts. That there is a common conceptual medium from which these dimensions are constructed was proposed by Anderson (1971). The spatial component of temporal and other concepts was demonstrated by Jackendoff (1976), Gruber (1976), Talmy (1983); and a unified approach to space, time and tense is outlined by Lyons (1977) as well as Frawley (1992). The development of cognitive linguistics has led to detailed accounts of certain conceptual domains in terms of metaphorical mapping from spatial image schemas (Lakoff and Johnson 1980, Johnson 1987, Lakoff 1987, Lakoff and Johnson 1999) and Langacker (1987, 1991, 1995) has developed a consistent pictorial formalism that captures linguistically encoded meanings in essentially spatial terms. Langacker's system is an idiosyncratic descriptive system that makes no use of symbolic logic or any other standard formalism.

Frawley's work in particular repeatedly invokes specific spatial concepts of distance and direction. Now these two concepts happen to be the ingredients of the mathematical definition of vectors, a notion that Frawley also informally invokes. The present paper is proposing that such suggestions should be developed formally. It is therefore worth noting recent developments that have begun to explore the vector properties of certain linguistic concepts.

O'Keefe and Nadel (1978), O'Keefe (1996, 2003) in their work on spatial representation in the mammalian hippocampus propose a 'vector grammar'. For example, O'Keefe (1996) analyses the semantics of English prepositions by drawing systematically on standard vector geometry, a line that has been followed and explored by Zwarts and Winter (2000) and van der Zee and Slack (2003).[1] This approach opens up numerous theoretical issues — for example, whether Euclidian or non-Euclidian geometries are appropriate, whether axial systems, vectors or topological relations are most plausible. There is currently, however, no unified formal model of the ways in which values in the three dimensions (space, time, modality) co-vary and interact, apart from strong pointers in Lyons (1977) and Frawley (1992).

This paper outlines the theoretical model of Discourse Space Theory (DST) and uses it to explore the conceptual organisation of the meanings associated with aspectual (Aktionsart) schemas and the progressive form of English verbs.

2. Vectors and coordinate systems

Vectors are simple mathematical objects that have (a) magnitude (i.e., length) and (b) direction. They are often represented graphically as arrows, but can be interpreted as representing positions, translations, forces, functions, or sets of points on Cartesian axes. An important element in the theory of vectors is the concept of vector space — *sets* of vectors that can be represented in systems of coordinates of one or more dimensions and which satisfy certain axioms that we don't need to go into here. One of their advantages is that they can model physical processes and geometrical properties, but also quite abstract relations; they can also be manipulated algebraically and play a role in computer implementations, especially connectionist modelling.

The starting point is the hypothesis that we can represent discourse by means of a Cartesian coordinate system, as shown in Figure 1.

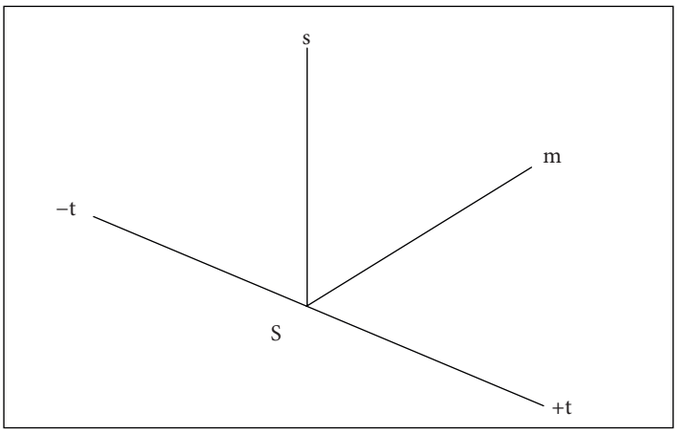

Figure 1. Discourse Space Model.
Key: s = spatial axis; m = modal axis; t = temporal axis; S = speaker

Such diagrams, when they represent conceptual structures prompted by linguistic utterances, are called discourse space models (DSMs). The axes do not represent physical space, or not only or not all of physical space. We assume the discourse space has three orthogonal axes, spatial, temporal and modal. The spatial axis abstracts away from three-dimensional physical space to represent relative distance

from the deictic origin. This is not to say that discourse processing does not involve mental representations of 3-space as cognised by humans (directed back to front axis, directed upright axis and left-right axis), the aim of DST is to model *discourse* space, in the abstract sense even though it is likely that the characteristics of such abstract spaces derive from physical experience.

The s-axis is thus only abstractly, or metaphorically, spatial. Because it represents relative distance from the deictic centre or Speaker, it can be understood as representing the conceptual structure figure-ground, which has been invoked frequently in cognitive linguistics as the conceptual basis of grammatical subject object organisation (Langacker 1987: 231–236). The temporal axis is a directed line, giving relative temporal 'distance' from the origin, running through the origin and thus having negative (past) values and positive (future) values. The third axis is termed the modal axis. Its role is to reflect what seems to be the case for all utterances, *viz*. that speakers give utterances a valuation in terms of their truth value. Relative to the speaker's cognitive state, states of affairs are always certainly true for the speaker, possibly true, certainly not true. This leads to the assumption that a negation or counterfactual region lies at the distal end of a vector pointing away from the egocentric origin. The spatial and the modal axes are half-lines, because there seems to be no intuitively relevant sense for negative space or negative modality.

The three axes are relative scales. Absolute units are not defined on them: this is, after all, a model of discourse and distances relative to the Speaker at the deictic origin are given pragmatically. However, in the discussion that follows below, an arbitrary unit distance is assumed for the vector relating two points. As for points in the D-space (discourse space), they are 'located' by their coordinates on the three axes. Any point in the space is a function of temporal, discourse distance and epistemic distance from the speaker. Ontologically, points are discourse referents — that is, anything to which a speaker refers, whether physical entities, notions, or eventualities. Unlike DRT, DST assumes that speakers always 'ontologically specify' their discourse referents in terms of their temporal location, their discourse distance (i.e. figure-ground relation) and their epistemic 'distance' — all three 'locations' being deictically determined. One major difference between DST and DRT (and its variants) is that times are not treated on a par with referents, but are part of the cognitive framework in which speakers set up referents. The model does not semantically specify the points: it distinguishes points in terms of their discourse function, but does not in itself distinguish e.g. *John* and *book*.

The intersection of the axes defines the viewpoint of S (speaker, subject, self). In a DSM the speaker's self, what is 'here', 'now' and 'real' coincide. In addition to defining viewpoint literally (i.e. geometrically) as a point, it may be that there is a region of proximal space that defines a cognitively privileged region on the three axes, but I do not pursue this issue here.[2]

A crucial further assumption is that natural language sentences can be represented by vectors. There is an obvious application to sentences denoting change of location:

(1) John went to Geneva.

(2) John moved the vase from the table to the shelf.

These meanings can be represented as translation vectors: e.g. *John* is represented a point translated the distance and direction to the location *Geneva*. The second sentence involves both a translation vector for the vase, and a vector that we can interpret as a direction of applied force. Such examples suggest that non-spatial transfer and transmission verbs could get the same treatment, e.g.:

(3) John donated a thousand Euros to the College.

(4) John told the story to Mary.

These examples are related to (2) in so far as they involve three arguments, of which one (*John*) is an agent, the second something (*a thousand* Euros, *the* story) transferred, and a third which in a derivative sense is a receiving location (*the College*, *Mary*). Sentence (3) is obviously linked to the concept of physical transfer, sentence (4) less obviously. Discussion of the precise differences would take us to far afield; the relevant point is the conceptual parallelism.

We might extend this analysis to verbs of perception and cognition on the grounds that they have the two essential ingredients: distance (pragmatically or discursively given) between cogniser and cognised, and direction from cogniser to cognised. In some cases the spatial basis is lexically evident:

(5) John looked at/in the direction of/towards Mary.

(6) John turned his thoughts towards Mary.

It may be possible in this way to give a cognitive explanation to semantic roles of various types. It may be plausible too to represent many two- and three-place predicates in this way, even if there is no overt spatial morpheme. I will not pursue this further here, save to note that the residue of spatial perceptions that we seem to be confronting abstracts away from the three orthogonal axes and preserves just the ingredients of vectors –distance and direction, which are also the components that are retained on the spatial axis of our discourse space model. There are many loose ends to be dealt with — it is not at all clear how or whether propositions expressing properties of objects can be expressed in this sort of formalism.

3. Aktionsarten

Before considering how DSMs model instances of discourse, we need to say something about the conceptual structures that are drawn on in discourse processing. We focus on one particular area that is amenable to geometric interpretation. All verbs come with conceptual frames that specify the nature of the eventuality they are associated with. Each eventuality has characteristics deriving from the way material eventualities are (or are conceptualised); in discourse, the character of the eventuality can also be influenced by the entities (represented by NPs) they are associated with in a clause. The term *Aktionsart* is used here to denote these relatively stable conceptual schemas. It is important to distinguish Aktionsart from aspect, although the two terms denote closely related phenomena. While *Aktionsart* refers to types of eventuality concept coded in the language system, *aspect* refers here to operations on verbal meanings (a crucial part of which is their Aktionsart meaning) that occur through a speaker's choice of verb morphology and adverbials. In broad terms, aspect and tense impose a viewpoint on eventualities.

The most commonly used Aktionsarten distinctions in the overall category of eventuality, deriving from Ryle 1949, Vendler 1957, Kenny 1963, Comrie 1976, Dowty 1977, Bach 1986, among others, are as follows. The basic distinction is between states (internally homogeneous and extended in time) and happenings. The latter have sub-types: events including semelfactives like *wink* (punctual), processes or activities (extended in time), accomplishments and achievements.

Some verbs denote happenings that are conceived as inherently punctual (*hit the ball*); others are inherently state-like (*Mary was happy*; *Jon knows the song*).

Processes/activities resemble states in being extended, but states are homogeneous throughout their extension. Further, the non-homogeneous processes can be subdivided into accomplishments and achievements. Accomplishments are processes that cannot be said truthfully to have happened until they are completed. Examples are: *John drew a circle*, *Dave painted the door*, *Mary swam from Dover to Calais*, *Tony made a speech*. The drawing of a circle, swimming from Dover to Calais, etc. can be contrasted with *John was drawing*, *Jan ran*, etc., in which no goal (in spatial and metaphorical senses) has to be reached for it to be true to make the assertions, and which do not denote accomplishments, but activities (unbounded processes). Accomplishment processes consist of parts (or phases) all of which are required for the accomplishment of the process. Achievements are also extended processes but focus on the final phase, in many cases inherently conceptualised as a punctual event. Examples of achievements are: *Mary arrived*, *Hilary reached the summit*, *Jill recognized Jack*. With respect to these inherent semantic properties of verbs and the situations they denote, tense and aspect operations have various effects, including treating one type as if it were another, as the case when punctual

events are treated in discourse as if they were extended, and extended processes as if they were punctual events.

These Aktionsarten can be given an interpretation in a two-dimensional plane whose axes are time and space. However, there is a small class of verbs in English and other languages, illustrated in (7), that require the third dimension (modal) that is postulated in DST:

(7) John tried to close the window.

Verbs such as *try*, generally called conative, scope over process eventualities and have the effect of representing the non-completion of all or part of the process. In processing (7), we presumably form a mental representation of John closing the window; *tried to* has as one of its effects that this happening is irrealis. The question we have to address, is how to model this kind of representation

The following subsections briefly show how the geometrical model handles the above conceptual distinctions in eventuality types.

3.1 States

States, such as those instantiated in (8) have a natural spatial representation along the lines of Figure 2. The diagrams for inherent Aktionsart structure do not specify time direction, which DST treats as a function of the discourse position of the speaker, since they are not discourse instantiations. The arrows are sample vectors from an infinite set of vectors of equal length and direction. The space they occupy is arbitrary and can be extended; the space is unbounded in this sense. Any arbitrary vector from the space is equal to any other: the space is 'homogeneous' in this sense and corresponds to a well known defining feature of state-type situations.

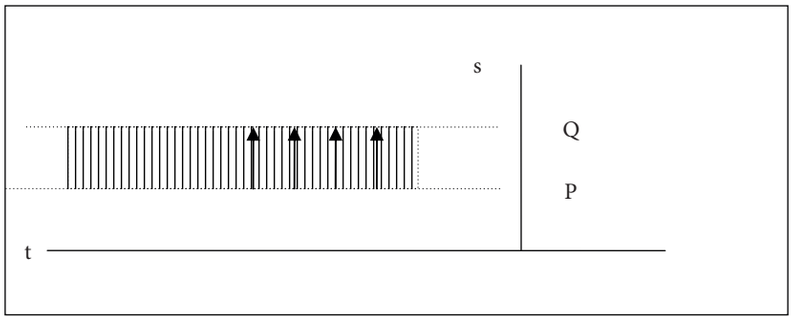

Figure 2. States.

Sentences (8) are discourse instantiations of verbs that have as part of their meaning the Aktionsart quality represented as in Figure 2. It is important to note that

Figure 2 shows *sample* vectors but is to be understood as indicating a continuous unbounded space of vectors at every point on t. The discourse may (as in (8c)) or may not set bounds on the state, but the conceptual structure of state verbs does not inherently include bounds. Many state verbs do not easily accept time-period adverbials (?*Jane knew the words for three weeks*),[3] though many do. For example, (8a) is perfectly acceptable in the form *Jane was in London for three weeks*. However, if there is no time adverbial, there is no obvious inference that the state had a beginning and an end. The most basic state-type relation is spatial location (1) and it is relatively uncontroversial that spatial location can be given by a vector. In this simplified picture, P might be Jane, Q London, as in (8a).[4] However, DST also uses the localist (and cognitive linguistics) hypothesis according to which such relations are the basis for non-spatial concepts.

(8) a. Jane was in London.
b. Jane knew the words.
c. She was happy for three weeks.

The predicate *know* in (8b) is also analysed as a directional relation 'locating' a non-spatial referent, and properties are treated in the same way (8c). The details cannot be argued here. It is, however, well known that properties in the material sense of the term (possession) are plausibly represented as spatial (Anderson 1971, Lyons 1977, Frawley 1992). Many languages use spatial prepositions for material possession (*le livre est à Jean*). Properties such as *happy* can be expressed as possessive relations (*she had a happy disposition*). DST generally adopts the position that state-type situations include physical location and abstract location in the sense just outlined.

3.2 Punctual happenings (events and semelfactives)

The sentences (9a) and (9b) below involve directed spatial movements.

(9) a. The judge nodded.
b. Jim flicked the switch.

Certain happening types, which I refer to as 'events', involving actions that last some critically short period of time, seem to be inherently conceptualised as points. In physical reality all happenings occupy some space of time, but some (e.g., *tap*) are shorter than others (e.g., *open*). Some can be viewed as point-like (*he opened the door*) or as happening over time (he *opened the door (slowly)*). Semelfactives (*tap*, *wink* …), can only be conceived as points. Punctual happenings can be represented as a single vector at some temporal point determined in discourse (Figure 3). Modelling intransitive semelfactive verbs (*nod*, *sneeze*, *flash*)

is not straightforward, since they seem to have no spatial extension (in conceptual representation). Langacker (1991: 209) calls them 'punctual verbs'. In vector terms, however, it is possible to treat them as zero vectors (acceptable mathematical objects with no length or direction). In discourse, however, distance and direction can be assigned: *the light flashed towards us from five miles away*. For convenience, they are shown diagrammatically as having extension. From the point of view of the time-axis they are point-like.

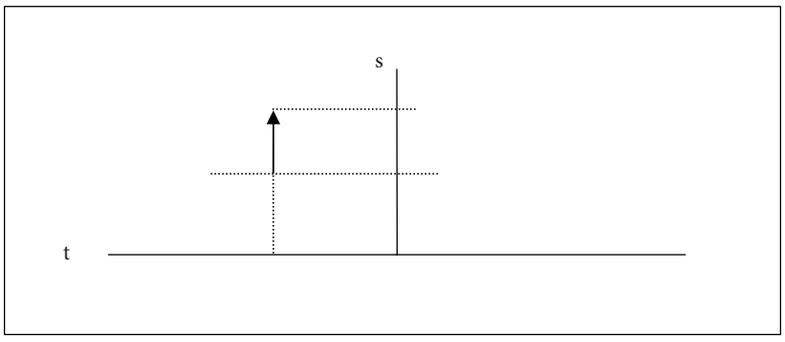

Figure 3. Semelfactive event

3.3 Processes (activities)

In the following,

(10) a. The dragon slept.
b. Lance peddled.

sleep (10a) has a natural onset and termination but is not conceived as having phases (except by experts), and in (10b) *peddle* can be extended in time but is conceived as internally cyclical (like *run*, *walk*). Intransitive verbs such as *sleep*, *ponder*, *sing* (but not *sing a song*) are bounded sets in which there is no spatial displacement and no change: a labelled vector (representing the semantic properties of the verb, *sleep*, *ponder*, etc.) maps a discourse referent into itself (Figure 4). Transitive verbs that denote homogeneous durative activities (e.g., *wear a hat*), which similarly require the present progressive, can be modelled as a continuous set of a location vector in a continuous vector set like the one in Figure 2, with the difference that the set is bounded (the wearing of hats is limited to bounded time periods, like sleeping). All homogenous activities are thus state-like in that they involve continuity.

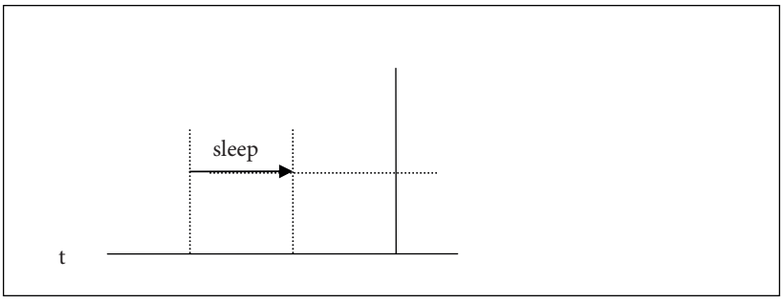

Figure 4. Homogeneous activity

Sentence (10b) (cf. also *walk*, *skip*, etc.), on the other hand, involves more than one *discrete* sub-action (specific cyclical leg movements). Each of these is conceptualised as punctual.

3.4 Accomplishments

The two types of happening (accomplishments and achievements) can also be represented geometrically by exploiting simple properties of vectors in a spatio-temporal coordinate system. Figure 5 shows the general case for accomplishment types.

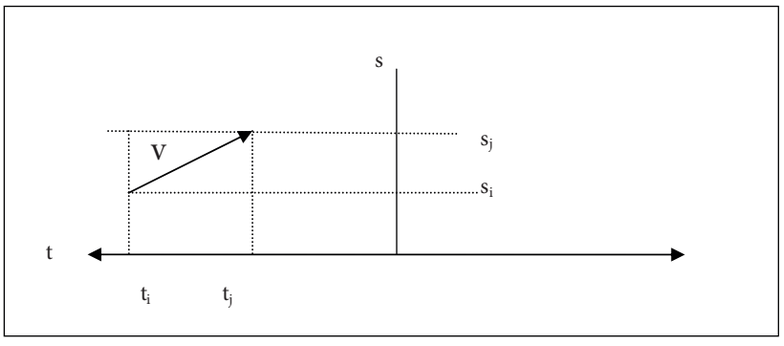

Figure 5. Process type accomplishment.

Unlike punctual events the process vector is a set **V** of linearly dependent vectors $\{\mathbf{v}_1, \mathbf{v}_2, \ldots \mathbf{v}_n\}$ lying in a straight line with endpoints that may or may not become specified in discourse. Such a set can be understood as a path consisting of an indefinite number of smaller paths (translation vectors) with the same direction. In verb semantics this may be a physical displacement. The coordinates specified at (s_i) and (s_j) can be thought of as the bounds of this type of happening — like achievements discussed next, accomplishments are telic. Each vector in the

set, though linearly dependant on the others, has a different position. This corresponds to the well-known heterogeneity criterion of process Aktionsarten, *viz*. that no part of the process at any proper sub-interval is equivalent to any other (it occupies a different position in the overall process).

(11) a. Jan walked from London to Manchester.
b. Jane sang a song.

Happenings not involving physical displacement of a discourse referent (cf. 11b) can be analysed in a similar way.

At any discursively instantiated point t_k, $t_i > t_k < t_j$, the process is not complete. There is also a significant implication in the vector formalism. The orthogonal projection of the entire vector onto the s axis (or any other specified vertical line intersecting with the t axis) is a vector with no temporal extension: that is, it has the configuration of a punctual event as described above in Figure 3. This is an important point, because one of the effects of tense-aspect operators in discourse is to transform processes (and sometimes states) into punctual events (application of simple past), and conversely (application of past progressive or imperfect). In general, the whole of an accomplishment process (unlike, as we shall se) achievement processes can be projected as a punctual event.

The happening-type process (or activity) is different from accomplishment in being unbounded (atelic). Sentence 11b denotes an accomplishment, of which the 'goal' is the song; the process of singing a song is accomplished only at the point (s_j, t_j). However, the sentence *Jane sang* would be a process (or activity) type without specified goal, thus akin to states, and such a happening type has no specified (s_j) and no $(_{tj})$, like states.

3.5 Achievements

Achievement type processes, such as *deciding*, *arriving*, *remembering*, *dying*, *reaching the summit*, etc., pose a problem for formalisation in the conventional formats because they involve conceptual 'focus' on the end phase, which may be a point, of the denoted process. In Langacker's terminology, the end point is 'profiled' and the profiling can be shown iconically in his pictorial system. In the present format achievements can be treated as a special case of accomplishments. They consist of just two linearly dependant vectors, one of which may be a zero vector. Thus in modelling

(12) Hilary reached the summit,

there is a relatively long vector (whose starting point may or may not be indicated in discourse) corresponding to the presupposition of a period of movement prior

to the event denoted by reaching a goal. As before, we propose that non-physical achievements denoted by verbs like *decide* are analogous: there is a period of cogitation 'on the path' to the 'goal' denoted by 'decide' (cf. *arrive at a decision*). The general case is depicted in Figure 6.

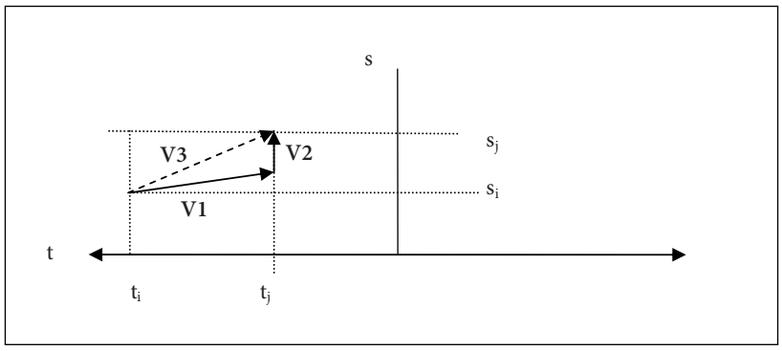

Figure 6. Process-type achievement

Here, the continuous happening of *reaching*, *arriving*, etc. is shown as a two component vector ($\mathbf{v}_1$ and $\mathbf{v}_2$). Addition of vectors gives us $\mathbf{v}_3$, equivalent to an accomplishment, a useful result, since achievements and accomplishments are indeed both happenings that relate beginnings to ends (telic). Note that in Figure 6 $\mathbf{v}_2$ is shown as equivalent to a punctual event (Figure 3), as generally required. However, $\mathbf{v}_2$ can be given length over time, as some discourse contexts require: *He was filmed as he was reaching the summit*.

3.6 Conatives

The type of sentence illustrated in (7) is not strictly an action type per se, but a quasi-aspectual representation of an action type. Similar constructions are those with *almost*, *be about to*, and verbs *manage* and *fail.* Such cases require the modal dimension that is already inherent in DST.

The semantic effects of the verb *try* are (a) that some time interval (lexically or pragmatically given) is introduced over which effort is exerted by the agent who has the intention of bringing about some happening and (b) that the happening does not in fact come about. The DST geometry can depict this. In Figure 7 *try* is modelled as a vector that can be thought of as a force vector, whose start is in the realis plane and whose end is in the irrealis plane over time. The happening of closing is presented as a punctual event in the irrealis plane. The coordinates of *John* and *window* are defined in the realis plane.

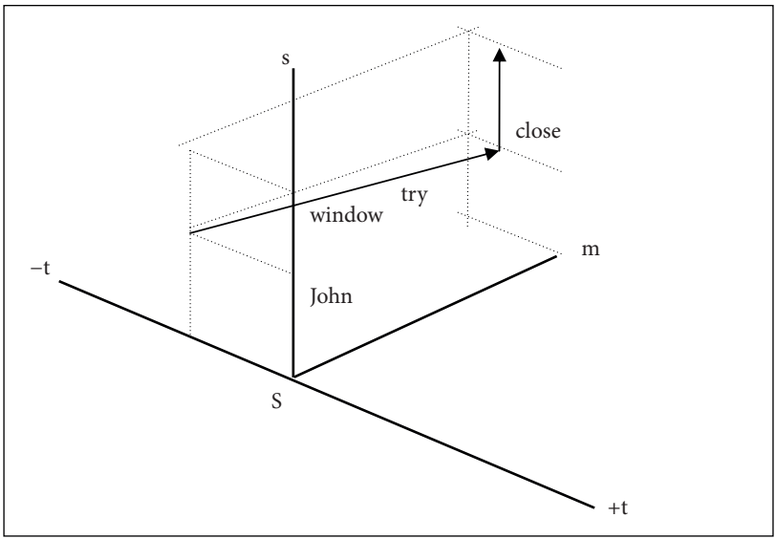

Figure 7. Conative happening type.

Having briefly outlined a geometric account of some key Aktionsarten, we proceed in the next section to show how the model accommodates aspect operations on eventuality types.

4. The workings of tense-aspectual operators in discourse

Morphemes that trigger aspect effects are considered as operators on Aktionsart structure held in long-term memory. The aspectual operators are in some cases conceptually similar Aktionsart schemas (and maybe derive from them). It is not therefore surprising that some aspect operators are compatible with the Aktionsart structures of some verbs but not others. Some verbs, however, have structure typically amenable to alternate aspects (i.e. can be 'viewed' in different ways); some discourse exceptionally applies aspect to yield exceptional cognitive effects.

4.1 Simple versus progressive: Present and past

The conceptual present in DSMs is a zero point: it has no dimensions on s, t or m. The simple past tense in English denotes t_0, a point that is 'between' past and future for S's consciousness; it also represents epistemic certainty (for S, the speaker). It may be the centre of a peripersonal region in the temporal and modal planes as well as the spatial.

Let us assume that, for some discourse generation, a tense operation locates an Aktionsart structure of some verb at t_0. For stative verbs the simple present suffices (*Jane knows the words*). Progressive is not a choice except under exceptional discourse conditions (**Jane is knowing the words*). In DST terms, the coordinate at t_0 coincides with one vector in the unbounded continuum of vectors representing *Jane + know + the words*. Since this vector is equivalent to any other in the set no further cognitive (aspectual) operation such as progressive is needed. For past reference points relative to S, the progressive also requires highly specific discourse context; since simple past (*Jane knew the words*) specifies a point on −t, it coincides with one or more vectors from the continuous set that defines state concepts; it also retains the unbounded nature of the Aktionsart schema, unless the discourse sets such bounds. These well known data suggest that progressive has a stative element; it is not typically applied to inherently stative types.

Homogeneous atelic activities like *sleep* (cf. (10a), *The dragon slept*) cannot report a present situation with simple present tense: **the dragon sleeps*. This is because of the inherent boundaries in the Aktionsart structure: a sleep period cannot be contained in a point. Present and past progressive are possible. This is presumably because a function of the progressive is to in some way invoke a whole process-type frame and simultaneously extract or 'focus on' some sub-interval of that process. It summarizes an entire process (a specific relation between *Dave* and the *door*) and locates it at a point.

For heterogeneous activities (**Lance peddles*, **Jim walks*, etc.) simple present is also not possible, but for slightly different reasons. Since simple present denotes a point it can at most coincide with only one of separate sequential leg-movement cycles that constitute *walk*, etc., but *walk* is a sequence of several steps.[5] The present and past progressive are compatible: again this seems to imply that the progressive necessarily calls up at least a sub-interval (not a point) of a process in which a certain number of cycles occurred. In the case of heterogeneous activities, this must mean, in DST terms, a subset of discrete vectors.

Semelfactives also cannot occur in the simple present: **Mary coughs*. If simple present's job is to pick out a punctual vector from a *continuous* (i.e., homogeneous) set, then this is not possible with semelfactives: the input is not appropriate since coughs, blinks, shrugs and the like are conceptualised as isolated happenings at a single time point. Unlike *walk*, etc., they are not part of a continuous physical movement with cyclic sub-phases, but are discrete, i.e. with intervals of time between them. The present and passive progressive cannot be used to report the ongoing happening of a single semelfactive event. Rather, use of the progressive prompts a conceptualisation in which discrete spasmodic events succeed one another. Thus: *Mary is coughing* cannot without effort be understood as Mary being in mid-cough, but as in the process of a series of separate spasms. Again, this must

be because the progressive opens, so to speak, a temporal window on a sub-interval of some process.

Accomplishments and achievements cannot be combined with the English simple present tense form: **John draws a circle,* **the train arrives*. Since simple present is a point on t it is not compatible with processes which are inherently time-structured. Although achievements contain a punctual component, this component is part of an overall non-homogenous happening. Accomplishments are compatible with present progressive, but it is often said that achievement verbs are incompatible with the progressive. However, this is not entirely the case since discourse conditions can be imagined for *the train is arriving*, for example. This follows from what would be expected from the way we have defined achievement Aktionsart above, with the distinguishing condition that progressivisation only operates on the second vector.[6]

4.2 Simple past and past progressive

We confine our investigation here to past tense manifestations of progressive and simple verb inflections. These are tense-aspect operators that are crucial to narrative and the subject of much debate in DRT (Kamp and Rohrer 1983, Kamp *et al.* 2005).

The coordinate formalism of DST enables us to suggest a way of modelling the simple past versus progressive (past or present). Simple past is possible with all the Aktionsarten discussed. This, we could reason, is because simple past calls up a completed activity and treats the whole as a point on −t. How can this be described in terms of the DST geometry? Figure 8 illustrates the general idea for the accomplishment process exemplified in *Dave painted the door*, using a DSM as outlined in Section 2, and representing the accomplishment process *paint* as the vector **u**. The simple past is an operator on this Aktionsart structure that 'selects' the orthogonal projection ($\mathbf{v}_2$) of the entire process onto a line at a point j on −t. In slightly different terms, the simple past prompts a conceptualisation focussed on the vector component $\mathbf{v}_2$ of **u** along s, not the vector component $\mathbf{v}_1$ along t: simple past is, in part, the orthogonal projection proj_s **u**. The vector $\mathbf{v}_2$ is one dimensional: it 'occurs' at a point in time.[7]

In the present example the space-time plane is located at m = 0, that is, the completed process is presented as certain from S's viewpoint. Modalised forms of past tense (*may have painted*, *must have painted*, *probably painted*, etc.) are shown in DSMs by moving the plane to appropriate points on m. There are details of formal precision that cannot be pursued here.

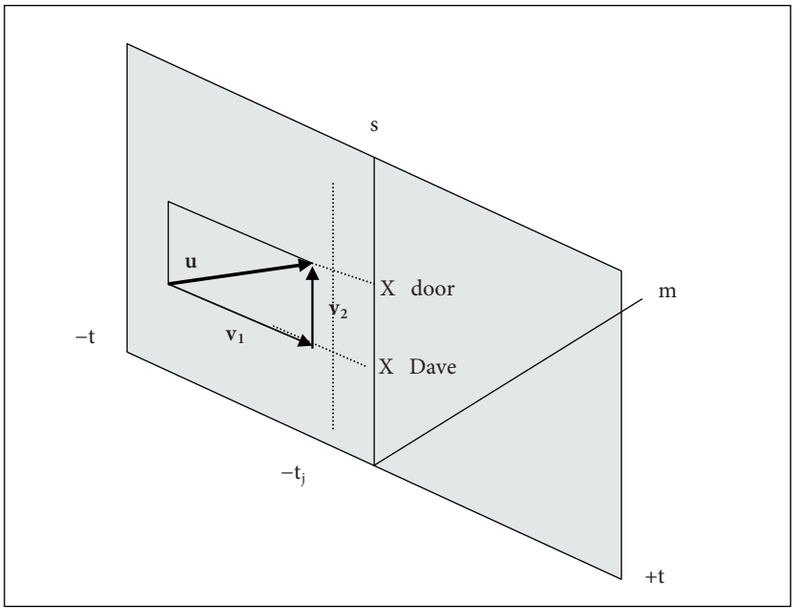

Figure 8. Simple past projection.

There have been many attempts to describe the essence of the English progressive (and approximate equivalents such as the Russian imperfective aspect and the French *imparfait* tense form). Several key characteristics receive regular attention:

A. Narrator located 'close to' happening
The progressive is a 'zoom-in' operation; it imposes a 'viewing frame' (or "snapshot", Michaelis 1998: 266) excluding endpoints from the field of vision. (Lakoff 1987: 428; Langacker 1995; Michaelis 1998: 59–60, 266).

B. Narrator located 'inside' or is present at happening
The progressive form presents the happening of which it speaks as "open" and "from the inside" (Kamp *et al.* 2005: 69–70). "The progressive temporally elongates the event, from an *interior viewpoint* …[it] is an operation that *extends an event from the inside*" [original italics] (Frawley 1992: 313). 'Inside' what is not always made clear. These ideas seem similar to Sten's (1952) point that the French *imparfait* indicates a happening that would be present for an observer in the past.

C. Temporal inclusion of punctual happenings in narrative
DRT is explicit that it is inclusion inside a temporal interval that is at issue (Kamp and Ryle 1993; Kamp *et al.* 2005).

D. Temporal extension
   Progressive presents a happening … 'as temporally extended', whereas [the simple past] 'presents it as 'closed' … 'from the outside'… as 'punctual' (Kamp *et al.* 2005). Also progressive 'extends' or 'elongates' a happening (Frawley 1992).

E. Stativisation (homogenisation)
   The 'zoom-in' operation explains the 'homogenization' effect (Langacker 1995).
   According to Michaelis (1998: 26), "[The progressive] serves to arrest the development of an event en route toward its endpoint of culmination". The component state denoted by the progressive form is part of the happening denoted by the verb. Kamp *et al.* (2005: 77–78) formalise the idea that the progressive operation produces a state-type happening.

It is also widely noted that the progressive is a 'background' tense and that while the simple past 'carries the story forward' the past progressive generally does not.

Descriptions that speak of the progressive 'opening', 'elongating' or 'extending' a happening (characteristic D above) are in effect referring to happenings that are either inherently 'short' or punctual, or are being viewed as such via a simple past operation. From the present point of view, some Aktionsarten, *viz.* processes (activities), can be operated on either by simple past (i.e. viewed as a punctual) or by the past progressive (i.e., 'extended' or 'elongated').

The above descriptions testify to the conceptual complexity of the English progressive (and of equivalent forms in other languages). Much of this complexity can be captured in geometrical terms. The following account leaves loose ends but shows how the framework can be elaborated. The progressive involves several linked operations on input Aktionsart schemas.

Let us consider the mini-discourses in (13).

(13) a. Dave was painting the door. Mary arrived.
     b. Mary arrived. Dave was painting the door.

The first point to note is that the auxiliary *was* locates a reference time at some point (pragmatically or discursively determined) $-t_j$, relative to S, and that this is anaphorically related to the time denoted by the simple past form of *arrived*: specifically, the relation in such cases is such that the time point denoted by the *-ed* form is included in the interval denoted by the *-ing* form. The question is how the formalism we are investigating can show this, together with the other effects listed above.

Let us assume that a discourse processor calls up an entire Aktionsart schema and then applies the progressive operator. It is not clear how this should best be drawn in DSMs. It may be the case that the processor first inserts the schema

in the ongoing discourse representation (as suggested in Figure 9), operates the progressive aspect upon it, and then allows the full schema to 'fade', or to be 'backgrounded'. In the present state of knowledge it is not clear how to characterise this precisely, but foregrounding/backgrounding effects are in any case required in numerous aspects of discourse processing. Provisionally we assume that the Aktionsart accomplishment schema for *paint* is inserted in the discourse space with coordinates on s corresponding to *Dave* and *door*. The modal coordinate is 0 in this example. How is the schematic frame positioned on −t?

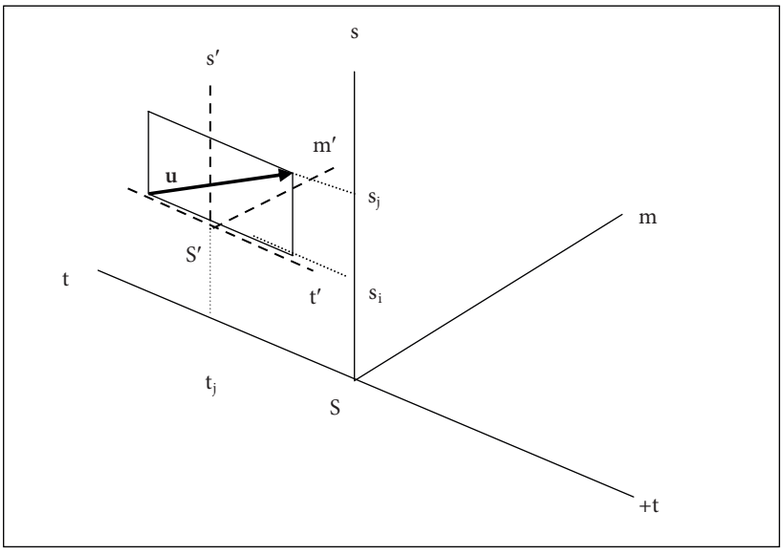

Figure 9. Past Progressive projection

We know that $-t_j$ must occupy some point within the interval set up by the progressive and that the latter must be a proper sub-interval of the total time course of the *paint* process (cf. characteristics A and C). Inception of the painting process may or may not be given pragmatically or by the discourse and at this point in the discourse processing the processor cannot know if Dave goes on to finish ('accomplish') the painting, though subsequent discourse details may decide the shape of subsequent DSMs (e.g. *Dave put down his brush; he finished the job before making a cup of tea*). Thus in Figures 9 and 10 the t coordinates of the endpoints for the process are arbitrary. The relative position of t_j within the *paint* frame assumes that the default is that t_j is in the centre of the frame, unless the discourse indicates proximity to either inception or conclusion. Some justification for this comes from the English metaphorical expression *Dave was in the middle of painting* versus *had just started/had nearly finished*.

The proposal is that the past progressive can be modelled as a translation of axes as shown diagrammatically in Figure 9. The base system with origin S is copied to a new position with origin S′. The s′ axis of the shifted coordinate system is aligned with tj; the origin is shifted on s to some point between s_i and s_j, remaining at 0 on the m-axis. The rationale for this is as follows.

We have to decide where the origin of the new coordinate system is positioned. Characteristics A, B and C above suggest it is reasonable to assume it lies on the vector component along t. This assumption has useful consequences. Furthermore, the reportive use of the present progressive may be typically linked with spatial proximity to the happening. If there is no locative prepositional phrase, then the default assumption is that the asserted happening is 'in the same location' as S, as indicated by *It is raining* versus *It is raining in Manchester*.

How does the imposition of a 'viewing frame' arise within the Aktionsart frame, such that the progressive operator excludes (or allows to 'fade') the endpoints of the total process (characteristic A and also progressive as 'backgrounding')? The answer has to do with the viewpoint of S. In the case of the simple past, S's viewpoint does not shift and it picks out $\mathbf{v}_2$, as described earlier. This shift, unlike the simple past viewpoint in Figure 8, produces a 'side on' view, with respect to the s–t plane, rather than an 'end on' view — or lateral rather than longitudinal (these are metaphorical ways of stating the geometrical relationships).

How is the Aktionsart frame restricted by the progressive operator in such a way that the endpoints are 'out of view'? Suppose that in evoking the Aktionsart frame the origin of S's coordinates remains at $s = 0$ and that S's angle of vision θ (again this is a visual metaphor) subtends the temporal length of the component of the process schema, i.e. $\mathbf{v}_1$. This is indicated in Figure 10 by the dashed arrows *a* and *b*. (For clarity Figure 10 shows only the s and t axes of the DSM.) Imagine now that the progressive in fact shifts S' closer to the process evoked by the predication in the progressive sentence of (13), as suggested by characteristics A, B, C. The new 'viewing' position is S" in Figure 8. The angle of vision θ remains the same and subtends a smaller segment of the accomplishment process, corresponding to a proper subset of the vectors in **u** (a phase in the continuous process *paint*). Assuming that the origin S" is at s_i gives the segment subtended by a' and b'. If we assume (as suggested by B and C) that the progressive gives a view 'from inside' the process, then we get an even smaller portion (vector) of the overall process. Such variations depend on contingent discourse factors.

We can now consider characteristic E above, stativisation. The sub-phase of the process on the present account is not a state as we have defined it and it may be appropriate to question the accounts that characterise subcomponents of processes as states. In this connection, English progressive should not be equated with e.g. French *imparfait*, which is used to denote states in the past (*Jacques détestait*

les chats, but **James was hating cats*). There is some ambivalence in the characterisation of the phase isolated by the English progressive (cf. "state phases count as dynamic situations", Michaelis 1998: 82). Langacker, who also claims that the progressive has a stative quality, accounts for progressivised statives by saying that they imply incremental or imminent change. But this is precisely what is implicit in the present account: the vector (or set of vectors) picked out by the progressive is precisely a direct line corresponding to change over time toward a goal. This then accounts for examples like *Jon is/was living in Hammersmith*, *Sarah is/was believing Harry's lies*. What such cases show is that the progressive is associated with process Aktionsart schemas, and that application of the progressive operator switches the stative verb type to process verb type. This means temporal 'movement' toward an endpoint is imposed; the progressive simultaneously, via axis shift, 'zooms in' to isolate a phase vector, directed towards the endpoint. Similar observations apply to other Aktionsart schemas. In the case of progressivisation of achievement schemas, e.g. *Mary was winning the race*, *the train is arriving*, it does not seem to be accurate, intuitively, to say (as some accounts do) that the denoted process is stative; rather, the focused vector is a movement over (a short interval of) time. While the present account is consistent with Langacker's and others' idea that the progressive isolation of process segments is analogically related to the spatial and visual effects, it does not agree with the view that the result is necessarily a stative construal of dynamic process phases.

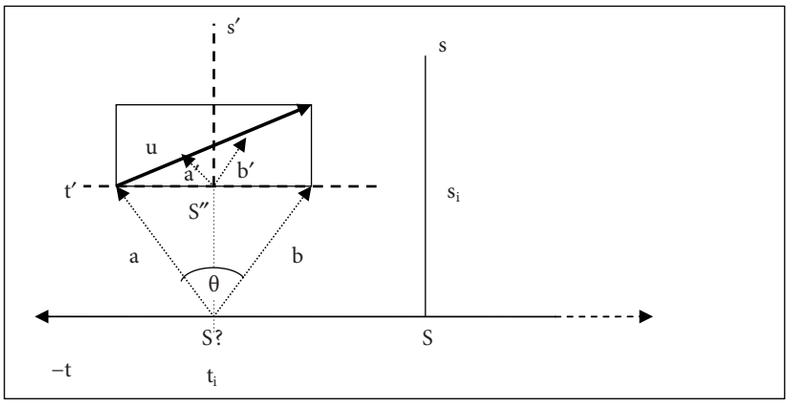

Figure 10. Progressive 'angle of vision'.

5. Conclusion

That theorists resort to visual and spatial metaphors in many descriptions might suggest that space and vision are in fact cognitively significant. As these metaphors seem to provide a framework for reasoning about the nature of tense and aspect, it is worth considering how to formalise this framework. This paper has demonstrated some initial steps in using geometric concepts, especially coordinate systems, vectors and some standard properties and operations. These ideas have been presented diagrammatically, but it is feasible to state them algebraically also. Focussing briefly on two much discussed areas, Aktionsarten and aspect, it has been possible to interpret several insights found in the literature within an integrated geometric framework. In a more complete DST account epistemically modal variation (the m-axis) would play a bigger part. Verbal forms denoting future happenings, for instance, are widely recognised to be modal: DST supplies a natural way of integrating temporal and epistemic values. The same is also true for the modelling of generic present-tense assertions.

The approach outlined here suggests an alternative to exclusively truth-conditional approaches and favours those that are cognitively based. While detailed comparisons are impossible here, certain advantages can be noted. In comparison with formal accounts, such as the very successful approach of DRT, the present approach makes temporal distance, spatial distance and epistemic distance relative to a speaker's viewpoint a fundamental feature of the model. This seems to me cognitively more plausible and does not, for example, lead to treating time points as ontologically equivalent to other discourse referents, as DRT appears to do. In comparison with accounts in the cognitive linguistics literature, the present account has the advantage of offering a precise and well established formalism, which, because it is geometrical, is grounded in spatial conceptualisation, as cognitive linguistics might expect. In contrast to the diagrammatic depictions found in much of the cognitive literature, the present approach adopts mathematical principles that seem to permit a connected account of aspect phenomena to emerge automatically. Ultimately, it may be possible to find a motivation for the DST approach in cognitive neuroscience, where some geometry-based frameworks have already been developed. In addition to the work of O'Keefe and Nadel (1978) and O'Keefe (1996, 2003), Gärdenfors (2000: 52), for instance, who adopts Gallistel's (1990) claim that the nervous system uses a spatially based system of coordinates in which vectors represent external stimuli, suggests that "this geometrical mode of representation is also used for higher forms of mental processes". In general, it is worth noting that there is a tradition of formal semantic and discourse analysis (Petitot 1995, Thom 1970) that is rooted in geometric conceptions of space.

Notes

1. There have also been recent proposals for introducing vector representations into DRT (Maillat 2005).

2. Conceivably, such a region is also related to peripersonal space as defined in cognitive psychology and neuroscience.

3. However, the present perfect is acceptable: *Jane has known the words for three weeks*. The present perfect does not impose a bound (other than that imposed by the time of speaking).

4. The vector here is a position vector rather than a translation vector as in, e.g., (1).

5. Michaelis (1998: 47), following Dowty, argues that simple present picks out a point within the cycle, whereas here I am treating a whole cycle as (conceptually) a punctual event.

6. The second vector cannot in such instances be zero.

7. This analysis follows from standard vector geometry. An advantage of the approach is that the descriptive formalism is not ad hoc.

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Contextualism, minimalism, and situationalism*

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After discussing some difficulties that contextualism and minimalism face, this paper presents a new account of the linguistic exploitation of context, situationalism. Unlike the former accounts, situationalism captures the idea that the main intuitions underlying the debate concern not the identity of propositions expressed but rather how truth-values are situation-dependent. The truth-value of an utterance depends on the situation in which the proposition expressed is evaluated. Hence, like in minimalism, the proposition expressed can be truth-evaluable without being enriched or expanded. Along with contextualism, it is argued that an utterance's truth-value is context dependent. But, unlike contextualism and minimalism, situationalism embraces a form of relativism in so far as it maintains that semantic content must be evaluated vis-à-vis a given situation and, therefore, that a proposition cannot be said to be true/false eternally.

1. Language and context

When one indicates a red ink pen in front of someone and asks *Please pass me that pen*, one succeeds in drawing the audience's attention toward the relevant pen. If we change the context and replace the red ink pen with a blue ink one, the audience's attention would be directed toward the blue ink pen and our subject would end up writing with a blue ink pen instead of a red ink one. In short, if we change the context in which one uses one's words, we may end up changing the objects one thinks and talks about. When I call home and ask my partner whether there is some chardonnay in the fridge, I am asking about the presence or absence of chardonnay in *our* fridge: I am not concerned about the chardonnay in, say, Jane's fridge nor the chardonnay in my colleague's fridge. The identity of the fridge is never called into question.

So far so good: no one — or at least no one I know — objects to the view that when people linguistically interact, their communicative success depends on the context in which their utterances and thought episodes occur. But disagreement

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occurs about the way in which the context of utterance enters the scene. In particular, people disagree about the way in which context affects the semantics of what is said. What is said is usually taken to be a proposition (see Kaplan 1977). When singular terms are involved (e.g., proper names and indexicals) the proposition expressed is a singular (or Russellian) proposition whose constituents are the referents of the singular terms appearing in the utterance expressing it. In short, I shall assume that what is said by an utterance *u* corresponds to the proposition *p.* The latter is either true or false. Following Kaplan I also assume the distinction between the context of utterance and the circumstance of evaluation. We need context to fix the reference of context-sensitive expressions (indexicals for instance) while we need circumstances of evaluation to determine the truth-value of propositions. Although the context of utterance and the circumstance of evaluation often coincide they may differ.[1] This is particularly clear when we consider utterances such as *I do not exist*. The context of utterance gives the agent (usually the speaker or writer) as the referent of 'I'. The agent is thus a constituent of the proposition expressed. This proposition is false when the circumstance of evaluation corresponds to the context of utterance. The same proposition is true in circumstances (possible worlds) where the agent does not exist. In other words, an utterance gives us the content, i.e., the proposition expressed, while the circumstance of evaluation gives us the truth-value of the proposition and, indirectly, the truth-value of the utterance. If we assume that an utterance expresses a proposition, then, the contextualism *vs.* minimalism debate can be reformulated as a disagreement over the very nature of the proposition expressed (i.e. a disagreement about what counts as what is said).[2]

Before going further, it should be noted that everyone accepts that natural language presents expressions (so-called indexicals) that succeed in selecting an object of discourse and thought only relative to the context of utterance. No one disagrees, to take but one example, that if we change the context (the agent) the first-person pronoun 'I' changes reference.[3] Everyone tends to agree that the linguistic meaning of an indexical is invariant and operates on some contextual aspects to select an item of discourse. A similar story can be told about ambiguity, ellipsis, polysemy and vagueness: to detect, for instance, whether an utterance of 'bank' refers to the financial institution or the riverside, the audience must rely on some contextual clues.

As the terminological characterization suggests, members of the contextualist camp tend to sympathize with the view that each utterance is contextually underdetermined and that the success of the communication rests on the way the utterance gets semantically enriched or expanded and ends up expressing a truth-evaluable proposition.[4] In other words, the very same utterance of a non-indexical sentence may express different propositions depending on the context in which it

occurs.[5] Furthermore, one proposition may be true while the other is false. The relevant intuitions run as follows. In characterizing Jane, who is 175 cm tall, one can say: *Jane is tall*. If the circumstance in which this utterance occurs concerns the class of people registered to enter the gymnastic competition, this utterance may well express something true, while if it concerns the women enrolled in the university basketball team it is probably false. So, the contextualist story goes, an utterance like this is incomplete or underdetermined and, as it stands, fails to express a truth-evaluable proposition. In order to express a truth-evaluable proposition, this utterance must somehow specify the relevant comparative class. In one context it may end up expressing, say, the proposition 'that Jane is tall to register for the gym competition', while in another context it may express the proposition 'that Jane is tall to play basketball in the university team'. Furthermore, imagine a boxer who, naked, in the morning, after the sauna, and before breakfast, tips the scales at 74 kg at the official weighing-in session. He then proceeds to eat a copious breakfast; he washes it down with several orange juices and, to recuperate the liquid lost during the sauna, drinks a few pints of water. Consider now the boxer's reply — *I'm 74 kg* — to the question *What's your weight?* in two later situations — one while he is registering for the match, and the other as he is about to enter an elevator. In the situation of registering for the match, the reply is correct and what the boxer says is true regardless of the fact that he is now well fed, fully dressed, carrying his gym bag, and well in excess of 74 kg. For, to compete in the relevant category, the weight that matters is the one recorded at the official weighing-in session. In the elevator situation, though, the boxer's reply may well be inappropriate: what he says can be taken to be false and he may even be considered a liar. If the elevator has a capacity of 220 kg and already contains two people whose combined weight is 146 kg, the weight that matters is not the one officially recorded in the morning but the one he would actually carry into the lift. Hence, since the actual weight of the boxer (well fed, fully dressed and carrying the gym bag) exceeds 74 kg, his reply is not only false, it is dangerous insofar as his presence in the elevator would make the total weight exceed the 220 kg security limit. Thus the very same utterance uttered regarding the very same state of the world (i.e. the boxer's actual weight) may be either true or false. Its truth-value depends on the discourse situation in which it occurs.

Before going further it may be worth mentioning that I distinguish between context and situation. Context, as I take it, is what is needed for indexical resolution. As such it can be characterized, following Kaplan (1977) by its indexes: agent, time, and location.[6] Situations, on the other hand, are considered to be partial possible worlds. Situations thus encapsulate a lot of information surrounding a speech act. In a situation we can find, for instance, presuppositions or common beliefs about the way the world is that the speaker and the audience assume or take

for granted when they engage in a linguistic interchange. From a semantic viewpoint context can be strictly defined, whereas situations remain vague and can be defined only in a pragmatic way.

As far as I can see, there are two ways in which a given utterance can turn out to be true/false. An utterance *u* of *Jane is too tall*, for example, can be true in two main ways: (i) if it expresses the proposition 'that Jane is too tall *to be part of the gymnastic team*' or (ii) if it expresses the proposition 'that Jane is too tall' but the latter's truth-value depends on the discourse situation (or circumstance) in which it occurs. If one follows the first path, one accepts the traditional (semantic) view (cf. Frege 1918: 53) that a proposition is true/false objectively and eternally. Thus, for a proposition to be true/false eternally it must be completed or enriched — captured here by the bold addition.

If one follows the second path, by contrast, a given proposition can change truth-value with a change of the situation in which it occurs. Truth becomes, *pace* the traditional semantic position, a relativized notion. The contextualists I have in mind tend to follow the first branch of the dilemma. They thus bring on board notions such as enrichment, expansion, etc. The position I shall defend takes the second horn of the dilemma and holds that a proposition's truth-value can be relativized. I shall say more about this issue in the last section.

The friends of minimalism, on the other hand, hold that an utterance can express a proposition that is true or false regardless of the context in which it occurs. To be sure, they do not deny that some utterances (the ones with indexical expressions) express a proposition only relative to a given context. The class of these utterances, though, is rather limited; it includes only utterances containing indexicals. According to the minimalists, the truth-conditions of our boxer's utterance *I'm 74 kg* do not change with the change of circumstances. It does not express two different propositions in the two different circumstances. The boxer's utterance is true if and only if the boxer weighs 74 kg, regardless of whether he utters it in the match-registration circumstance or in the elevator one.

In what follows I shall expose the merits and defects of both camps before going on to propose a third way that, for lack of a better term, I label *situationalism*.

2. Contextualism

According to Carston (2002: 30), each utterance is intrinsically underdetermined. Since an utterance can be underdetermined in two main ways, there are two different kinds of underdeterminacy. As we have seen, an utterance can be underdetermined insofar as its truth-value may vary according to different discourse situations (this could be the case in our boxer's utterance discussed in the previous section).

The contextualists I have in mind, however, hold that in both situations the utterance's truth-value varies because it expresses *different* propositions. An example should further help us to highlight the underdeterminacy involved here. Consider that there are a few drops of beer spilled in the fridge and that Jane utters:

(1) There is some beer in the fridge.

Situation 1. Jon is thirsty and asks for some beer and Jane utters (1). Competent speaker intuition: Jane says something false.

Situation 2. Jon just finished cleaning the fridge and Jane utters (1). Competent speaker intuition: Jane says something true.

The state of the world in both situations is exactly the same: the very same fridge with the very same drops of beer in its corner. The moral seems to be that an utterance like (1) is intrinsically or essentially context-sensitive. Further examples underlining how an utterance can be intrinsically underdetermined (or incomplete) can be furnished by:

(2) Igor is not tall enough.

(3) Jane is late.

(4) Jon is too old.[7]

In principle, each of these utterances can be completed or enriched in infinitely many ways.[8] Yet nothing in the utterance itself suggests how the completion, expansion or enrichment should occur. In other words, no element in the utterance directs us toward one particular completion or another, for nothing seems to direct us toward a particular aspect of context.

One can argue that 'tall', 'late', and 'old' trigger a completion. One can also claim (e.g., Stanley 2000; Stanley and Szabo 2000) that comparative adjectives involve an implicit comparison class and, as such, must be understood as involving an argument place at the level of logical form (thus 'small', 'late' and 'too old' get represented at the logical form (LF) level as 'small *relative to x*', 'late *relative to x*', 'too old *relative to x*'). This position is labeled 'indexicalism'. The important fact here is that the truth-conditions of utterances involving these expressions would also depend on the value of this implicit argument working like a kind of hidden indexical. If this is the case, the proposition expressed would contain as constituents the comparative class selected by the hidden indexical. If one rejects this move (like, e.g., Bach 2000, Carston 2002, Recanati 2002, to name only a few), one is likely to endorse the view that when context-sensitive expressions that do not fall under the class of indexicals are involved we face a case of *free enrichment* or *expansion*. The latter is not triggered by a syntactic element present either at the

surface or logical form level of the utterance. Be that as it may, the result is that the truth-evaluable propositions that are expressed by underdetermined utterances like (2)–(4) contain the enriched content. They are thus full-fledged propositions that are eternally true/false.

One of the main questions the friends of free enrichment face is the following: how do we explain successful communication if the latter amounts to the grasping of an enriched proposition? One could claim that the success of communication merely rests on an available enriched proposition without the speaker and/or hearer having to grasp it. But I have problems understanding this position. For if what one says corresponds to an enriched proposition one needs, some way or other, to be capable of conceptualizing it, i.e. if asked one must be able to spell out the enriched content. I find it as difficult to accept the view that one could express a proposition one is not aware of expressing as the view that one could understand a proposition without being aware of (grasping) it. In a nutshell, it is hard to see how the grasping of a proposition could be a non-conceptual activity.[9] The friends of contextualism owe us an explanation here. Otherwise put, one grasps a proposition if one entertains a mode of presentation (the latter may be non-conceptual) of the constituents entering the proposition. If this is correct, then one should entertain modes of presentation of all the constituents entering the enriched proposition. The difficulty I have is that of understanding how one can entertain modes of presentations of unspoken/unheard/unmentioned constituents.

Furthermore, even if we accept the view that successful communication rests on the transmission of an enriched proposition, the proposition one expresses with an underdetermined utterance may well differ from the one the audience ends up grasping. It is possible — and even probable — that two persons never come to attach the very same proposition to a given underdetermined utterance. A way out of this problem would be to recognize that, although the utterer and the audience do not grasp the very same (enriched) proposition, they nonetheless understand each other insofar as the propositions they end up associating to the underdetermined utterance are *similar*.[10] One can defend the view that the understanding of an underdetermined utterance does not rest on the grasping of a specific proposition and that the success of communication does not require the transmission of specific propositions and/or thoughts. Simply stated, contextual exploitation need not result in the formation and/or grasping of a specific proposition. People understand each other to the extent that they grasp *similar* propositions. This position may have the advantage of explaining why communication can break down: two people do not understand each other insofar as they come to grasp rather different propositions. But the question remains: how different must the (enriched) propositions be for communication to be unsuccessful? It seems to me that if one embraces this position one is likely to assume that communication is a question

of degree. One *more or less* understands what is said by an underdetermined utterance. I do not know whether this is a good model of communication. As we shall see, the model of communication that I favor does not rest on the existence of enriched propositions and, as such, is neutral on whether understanding is a matter of degree.

Moreover, a speaker may not be aware of the very (enriched) proposition she ends up expressing/grasping. If the speaker is asked what she meant in uttering an underdetermined utterance, she may end up replying: *I mean that Igor is too old to play for the Arsenal junior team*, *I mean that Igor is too old to play in this year junior team*, *I mean that Igor is too old to play for the under–15 team*, etc. It is worth stressing that all the potential enriched propositions have the same minimal proposition in common, i.e. 'that Igor is too old'. In a word, the contextualist who appeals to the notion of free enrichment is committed to the view that understanding rests on the grasping of the minimal proposition and some extra (unspecified) content coming to enrich it (a process that may well operate at the unconscious level). The latter is likely to vary between the proposition (if any) intended by the speaker and the one (if any) grasped by the audience. Yet for understanding and communication to succeed, the enrichment must be similar enough. How similar it must be remains unspecified. This is the price the friends of free enrichment must pay. Even if we fix the discourse situation, an utterance like *Igor is too old* can still be understood in infinitely many ways and express infinitely many enriched propositions.

One could reply that since our capacity to interpret other people's utterances rests on our general ability to attribute intentions to others, all that matters for communication to succeed is that both the speaker and the audience end up drawing the same, or similar enough, conclusions. As Carston would say, our interpretative ability rests on our "capacity for forming hypotheses about the thoughts and intentions of others on the basis of their behaviour" (Carston 2002: 30). In other words, one understands the message insofar as one comes out with the right hypothesis concerning the speaker's intentions. The speaker's behaviour plays a role in helping the audience to make the right inferences.[11]

Even so, I do not think that we have to posit enriched propositions to understand successful communication. Why not simply say that people successfully communicate inasmuch as they entertain the same minimal propositions? Other factors may come into the picture to help explain the outcome of their joint venture without communicators having to entertain similar enriched propositions. In particular, the contextual elements that, according to the contextualist, contribute to enriching the minimal proposition need not be encapsulated into a proposition: they may flow free in the discourse situation without the speaker and her audience having to cognize them. If an explanation along these lines is possible, enriched propositions would lose one of their main *raisons d'être*.

When indexicals are involved, the story is different. This is because context must contribute in the expression of a specific proposition to the extent that an indexical's linguistic meaning directs us to some specific aspect of context. The latter ends up in the proposition expressed. If Igor utters *I'm 27*, Igor himself ends up in the proposition expressed, for the meaning of 'I' directly directs to the relevant contextual feature, in this case Igor.

The general lesson we can take home so far is that the motivation for contextualism is furnished by concrete examples (like the boxer's weight or Igor being too old/tall). Furthermore, these concrete, everyday situations cannot be explained away by appealing to ambiguity, polysemy, nonliterality, etc. If one adopts the contextualist standpoint, it is quite easy to figure out distinct situations in which with a given utterance one ends up saying different things and (assuming that what is said corresponds to a proposition) expressing different propositions. Yet it has been argued that, contrary to appearance, the contextualist position is empirically inadequate (see Cappelen and Lepore 2005: 87).

3. Minimalism

Minimalism can be characterized, roughly, as the view that the constituents of the proposition expressed must be triggered by syntactic elements present at the surface level of the utterance and directly conveyed by the meaning of the expressions appearing in the utterance. Semantic minimalism defends, among others, the following theses (see Cappelen and Lepore 2005: 144):

a. That there is a proposition semantically expressed is presupposed by any coherent account of linguistic communication.
b. All semantic context sensitivity is grammatically (either syntactically or morphemically) triggered, i.e., articulated by a sentential component.
c. There are only a few context sensitive expressions in natural language and they all pass the *Inter-Contextual Disquotational Indirect Report* test (ICD for short).

The ICD test is, ultimately, what should help to determine both whether an expression is context sensitive and what ends up in the proposition *semantically* expressed, i.e., the minimal proposition. The ICD test can be characterized as follows (see Cappelen and Lepore 2005: 88):

ICD: Take an utterance u of a sentence S by a speaker A in context C. An Inter-Contextual Disquotational Indirect Report of u is an utterance u^* in a context C^* (where $C^* \neq C$) of 'A said that S'.

If the occurrence of an expression *e* in an utterance blocks the disquotational indirect report (i.e., it makes the report of the relevant utterance false) then we have evidence that *e* is context sensitive (i.e., it is an indexical expression). On the other hand, if *e* does not block the disquotational indirect report it is context *in*sensitive. To illustrate, take 'I' and 'this' in (5) and (6):

(5) Jane: "I am rich".

(6) Jane: "This [pointing to a vase] is cute".

The ICD test gives us:

(7) Jane said that I am rich.

(8) Jane said that this [pointing to a picture] is cute.

Since (7) and (8) do *not* capture what Jane said (i.e., as reports of what Jane said they are false), 'I' and 'this' are context sensitive (indexical) expressions and, therefore, Jane's utterances are context sensitive insofar as context helps to determine what ends up in the proposition expressed (i.e., what is said). Consider now:

(9) Jane: "Igor is too old".

(10) Jane: "Igor weighs 74 kg".

The ICD test would give:

(11) Jane said that Igor is too old.

(12) Jane said that Igor weighs 74 kg.

'Too old' and 'weighs 74 kg' need not be changed when going from direct discourse to indirect discourse, i.e., reports (11) and (12) are accurate, or so Cappelen and Lepore claim. Hence, the minimalist story goes, 'too old' and 'weighs 74 kg' do not belong to the class of context sensitive expressions, and utterances involving these expressions are not, *pace* contextualism, context sensitive. These expressions are context insensitive.

A further criticism of contextualism can also be formulated as follows (see Cappelen and Lepore 2005: 91). If in two distinct situations, say in context C1 talking about an exam preparation and in context C2 talking about going out to a party, Jane utters *Igor is ready*, the accurate reports, following ICD, would be:

(13) Jane said that Igor is ready [said concerning C1].

(14) Jane said that Igor is ready [said concerning C2].

(15) In both C1 and C2 Jane said that Igor is ready.

Since all three reports are true (even if they occur in a radically different context from the one in which Jane's original utterances occurred), in the two contexts C1 and C2 Jane cannot have expressed different propositions as the contextualist holds. If the contextualists were right in holding that in C1 and C2 Jane expresses distinct propositions, reports (13)–(15) would not, contrary to appearance, be true. For they would not capture what Jane said, i.e., the proposition she expressed in C1 and C2. Cappelen and Lepore's moral is that since contextualism cannot account for this basic feature of linguistic communication it must be empirically incoherent.

Further examples undermining contextualism can be given by reports involving distinct agents. If Jane and Pia, in radically distinct contexts, utter the same sentence, say *Igor is ready*, a report could be:

(16) Both Jane and Pia said that Igor is ready.

Yet, if Jane and Pia expressed different propositions, a report like (16) would be false. Thus, no matter what the context of Jane's and Pia's utterance, they end up saying the same thing. Since the that-clause 'that Igor is ready' in (16) cannot express more than one proposition, it could not capture the allegedly two distinct propositions the contextualist claims that Jane and Pia originally expressed.

To be honest, I am not sure that reports like (16) contribute to the undermining of the contextualist's picture. Consider, for instance, a telephone conversation between Jane in London and Pia in Rome in which they both utter the sentence *It is raining* concerning London and Rome respectively. Would a report like *Both Jane and Pia said that it is raining* be appropriate? My intuition is that this report is, at best, incomplete. I guess that the layperson would not subscribe to the view that both Jane and Pia said the same thing, since Jane was talking about London while Pia about Rome.[12] Furthermore, what about Jane's utterance *Tully is Roman* and Pia's *Cicero is Roman*? Would we say that both Jane and Pia said the same thing? Would a report like *Both Jane and Pia said that Tully is Roman* be accurate? Examples like these seem to suggest that attitude reports are more structured than the surface grammar suggests. Hence, insofar as Cappelen and Lepore's ICD test rests on the surface grammar, it may not be as trustworthy as it first appears. In particular, since attitude reports also aim to capture the attributees' mental states, a report like *A said that p* (at least in its *de dicto* reading) conveys both what *A* said, i.e., *p*, and *A*'s mental state when he expressed *p*.[13]

It is amazing, to say the least, to claim that contextualism falls under the minimalist's attack on the ground that it proposes an empirically inadequate theory. My puzzlement or amazement is amplified if we keep in mind how the contextualist viewpoint is dictated by intuitions concerning the truth-values of some utterances. The intuitions supporting the underdeterminacy thesis proposed by the friends of

contextualism concern the way these utterances should be evaluated.[14] Take our example involving the few drops of beer in the fridge. If one utters *There is some beer in the fridge*, it seems perfectly appropriate to say that what is said is true in the cleaning situation, while it is false in the drinking situation. At least, it seems hard to hold that what one says is either true or false regardless of the situation in which the utterance occurs. The contextualist intuitions, as I understand them, do not concern the nature of the proposition expressed. They merely concern the truth-value of the utterance. If my interpretation of the contextualist intuition is on the right track, the minimalist charge loses its bite.

Before going further, it is also worth mentioning that the minimalist position put forward by Cappelen and Lepore dismisses the intuition concerning the difference in truth-value that a given utterance can have in different situations. This, it seems to me, not only undermines our intuitions; it also turns out to be empirically unconvincing insofar as every competent speaker would undeniably claim that in the drinking situation, unlike the cleaning one, Jane said something false and could be accused of lying (unless, of course, she was being ironic) in uttering *There is some beer in the fridge*.[15] If we adopt the ICD minimalist test the report of what Jane said fails to discriminate between the cleaning situation and the drinking one. For in both cases the report would be:

(17) Jane said that there is some beer in the fridge.

To undermine the power of the ICD test we can further consider the following case involving Igor, who is 20. Jim, the manager of the under–17 football team, asks Igor to play for them in the next game. Jane, without knowing that the relevant team is the under–17, hears Igor replying *I am too old*. Tim, the manager of the under–21 football team, asks Jane whether Igor could play in his team. Jane, who happens to be a minimalist and a fan of Cappelen and Lepore's ICD test, replies *Igor said that he is too old*. Jane's reply wrongly suggests that Igor is not allowed to play for the under–21 team. This example highlights the apparent fact that when a report is sensitive to the report's situation and not to the situation where the original utterance occurred, the ICD test does not work. We thus have situations where reports that pass the ICD test are inappropriate and, therefore, the ICD test cannot be applied. The general moral is that ICD may not be, *pace* Cappelen and Lepore, dependable.[16]

It goes without saying, however, that although the ICD test may not be as reliable as Cappelen and Lepore suggest, the other arguments against contextualism remain unaffected. In particular, a minimalist may focus both on the difficulties that a contextualist faces when trying to explain communication and on the plausible view that any coherent account of linguistic communication must presuppose that there is a proposition semantically expressed. Be that as it may, I now

turn to discuss an alternative view, which should accommodate the contextualist intuitions without crumbling under the minimalist charge.

4. Situationalism

As we have seen, the main question we face concerns the way in which context enters the picture to determine the truth-value of a given utterance. In considering this question, we can begin by adopting the classical Tarskian framework where a sentence's truth-conditions can be represented by means of Tarski's T-sentences ('S' is true *iff* S), as follows:

(18) *Jane is not tall enough* is true *iff* Jane is not tall enough.

(19) *Jane is late* is true *iff* Jane is late.

(20) *Jon is too old* is true *iff* Jon is too old.

When the sentence on the left hand of the bi-conditional is context sensitive, e.g., *I am tired*, we end up with either (i) *I am tired* is true *iff* EC is tired or (ii) *I am tired* is true *iff* I am tired. If (i), the T-sentence is false for the majority of the occurrences of the object sentence (e.g., when *I am tired* is uttered by, say Lepore or Cappelen). If (ii), then the T-sentence is itself context-sensitive since the object sentence contains the indexical 'I'. In order to accommodate context-sensitivity within the T-schema, the natural strategy is to quantify over utterances and contextual features:[17]

(21) If *u* is an utterance of *Jane is not tall enough*, then [*u* is true *iff* Jane is not tall enough].

(22) If *u* is an utterance of *Jane is late*, then [*u* is true *iff* Jane is late].

(23) If *u* is an utterance of *Jon is too old*, then [*u* is true *iff* Jon is too old].

An utterance containing context-sensitive expressions, say indexicals, should be evaluated following a T-schema of the form:

(24) If *u* is an utterance of "I am too old" and *x* is the agent of *u*, then [*u* is true *iff* *x* is too old].

(25) If *u* is an utterance of "He/she is too old", and the agent of *u* refers to *x* with 'he/she', then [*u* is true *iff* *x* is too old].

This representation allows us to capture the context-sensitivity of an utterance. The T-schema appears in the consequent (it is represented within the square

brackets).[18] But the T-schema is contextualized inasmuch as it is conditional on the various contextual parameters appearing in the antecedent of the conditional.

If this is the right picture, the reason why the agent of *u* in (24) and the referent of 'he' in (25) are too old does not enter the T-schema. As such, they do not seem to affect the truth-conditions of underdetermined utterances. For utterances like *I am too old* or *He is too old* do not state what the specified individual is too old for. As I understand it, we face the following three possibilities:

1. *Minimalism:* We endorse the view that (24) represents the truth-conditions of an underdetermined utterance like *He* [designating Igor] *is too old* and that *I am too old* [said by Igor] expresses the (minimal) proposition 'that Igor is too old'.
2. *Contextualism:* We reject the view that (24) can represent the truth-conditions of an underdetermined utterance like *I am too old* and endorse the view that *I am too old* [said by Igor] expresses the enriched proposition 'that Igor is too old **for such and such**' [where 'such and such' stands for some pragmatic information enriching the minimal proposition].
3. *Situationalism:* Like contextualism we reject the view that (24) can represent the truth-conditions of an underdetermined utterance like *I am too old*. Like minimalism we accept the view that *I am too old* [said by Igor] expresses the (minimal) proposition 'that Igor is too old'. Yet, unlike minimalism and contextualism, we commit ourselves to the view that the truth-value of an utterance is itself context-sensitive.

These three possibilities correspond to the various stances one can take *vis-à-vis* the nature and extent of contextual intrusion into semantics. If one chooses the first possibility, one ends up defending the view that there is no contextual intrusion. If one endorses the second possibility, one is likely to hold the view that the utterance (or the proposition it expresses) undergoes a process of completion or enrichment and that it is only once such a process is fulfilled that the utterance's truth-value can be established since context affects the proposition expressed. Both of these strategies are unsatisfactory.

As I have already suggested, the minimalist position fails to capture ordinary speakers' intuitions concerning the truth-value of an utterance. For, *pace* Cappelen and Lepore's ICD test, speakers' intuitions do not concern what is said or the proposition expressed. As the boxer's weight and the drops of beer in the fridge examples made it clear, speakers' intuitions concern the truth-value of what is said. Every competent speaker ends up saying that in one situation the utterer said something true while in the other she said something false. When questioned, a competent speaker does not reply that the utterer said different things in different

situations. She merely says that what is said changes truth-value with the change of situation.

By opting for contextualism, one finds oneself in the difficult position of having to determine how much extra information should enter the truth-evaluable proposition, i.e., how much should enter what is said. Furthermore, like the minimalist, the contextualist is incapable of capturing the real intuitions of a competent speaker, for she is forced to claim that the speaker's intuitions concern what is said rather the truth-value of what is said.

As far as I understand them, the main positions on the current market seem to endorse either the minimalist position or the contextualist one (or, to be precise, versions thereof). It should come as no surprise that I endorse the third possibility, i.e., situationalism. Following this possibility, the proposition expressed (what is said) is either true or false. But its truth or falsity must be determined in the context of the discourse or in the discourse situation. To further highlight this fact we can focus on a classical example (see Barwise and Etchemendy 1987: 121–122). Looking at a poker game, Jon says: *Claire has the three of clubs*. Jon's utterance expresses the proposition 'that Claire has the three of clubs'. This utterance concerns the situation of the game of poker being watched by Jon. For Jon's utterance to be true, it is not sufficient that the proposition it expresses be true (or the fact it expresses obtains). The proposition must be true in the relevant situation, i.e., the poker game being watched by Jon. If Jon is mistaken in identifying Claire, and Claire is not among the players of the poker game, Jon's utterance cannot be true. Furthermore, his utterance would not be true even if Claire were playing poker in another part of town and happened to have the three of clubs. Jon's utterance is true only if Claire has the three of clubs in *that poker game*, i.e., the game being watched by Jon. The notion of a situation captures the intuitive idea that our discourses and linguistic interchanges, not to mention our cognitive activity, concern given situations. If one says *Henry scored a wonderful goal* while watching the Manchester United/Arsenal match, what one says is true if and only if Henry scored a wonderful goal *during that match*. The wonderful goal Henry scored the previous Wednesday when playing for France does not make the relevant utterance true. Our utterance concerns the Manchester United/Arsenal match the utterer is watching; it does not concern another match. One's utterances, and one's thoughts, are situated. On this suggestion, the proposition expressed is *situated* as well. In other words, a given proposition gets its truth-value in a context-sensitive way. This should be the gist of situationalism. Like contextualism and unlike minimalism, situationalism assumes that the relevant situation affects the truth-value of the proposition expressed, but unlike contextualism it affects the proposition's truth-value *via* the situation against which the proposition is evaluated. It does not affect the proposition's truth-value in affecting (enriching) the proposition

expressed. In short, by opting for situationalism we can freeze the proposition and vary the situations. With contextualism, on the other hand, a change in the situation is likely to trigger a change in the proposition expressed.[19] Finally, following minimalism, we have the very same proposition (and the very same truth-value) regardless of the change of situations.

According to contextualism, as I have represented it, a proposition's (and derivatively an utterance's) truth-value is absolute. This is possible inasmuch as one allows contextual features to participate in the determination of a complete, enriched, proposition. We would thus have different propositions expressed with a switch of the situation. The question that springs to mind concerns how we can define these propositions. According to situationalism (like minimalism) the speaker expresses a minimal proposition. The audience grasps this very proposition, and speaker and audience understand each other inasmuch as they locate this proposition in the right situation. Situationalism incorporates the gist of both contextualism and minimalism insofar as the proposition expressed is minimal yet its truth-value is context sensitive.

According to situationalism, (21)–(23) should incorporate the idea that truth is relative to a situation. Their representations would thus correspond to:

(26) If *u* is an utterance of *Jane is not tall enough* and *s* is the situation in which *u* occurs, then [*u* is true *iff* Jane is not tall enough relative to *s*].

(27) If *u* is an utterance of *Jane is late* and *s* is the situation in which *u* occurs, then [*u* is true *iff* Jane is late relative to *s*].

(28) If *u* is an utterance of *Jon is too old* and *s* is the situation in which *u* occurs, then [*u* is true *iff* Jon is too old relative to *s*].

One can object that this position faces a difficulty similar to the one faced by the contextualist position. While the latter faces the problem of determining how much extra information should enter the proposition, situationalism faces the problem of determining which components of the situation in which an utterance occurs are relevant.[20] Furthermore, how does a hearer, wanting to understand what is being communicated, discern what the relevant situation is? All I can say is that this information is pragmatically furnished and constitutes the background or setting upon which the communicative interchange or thinking episode occurs. It need not be specified, let alone conceptualized.[21] As such, it does not need to enter the proposition expressed.

A word of clarification may be useful at this point. It goes without saying that some propositional content may end up in the proposition expressed without the speaker and/or hearer having a conceptual fix about it. One can utter *Armadillos are scary animals* and in so doing express the proposition 'that Armadillos are scary

animals' without holding a conception, let alone a concept, of Armadillos. One can also express the proposition 'that Plato is a Greek philosopher' without knowing who Plato was and thus without the ability to distinguish Plato from, say Socrates or Aristotle. This is not the issue about which contextualism and situationalism disagree. The disagreement enters the picture with the notion of enrichment. The position I am putting forward, unlike those that appeal to free enrichment, is not committed to the view that the cognitive apparatus engaged in our communicative exchange and thinking episodes is overstuffed with mental representations. In particular, situationalism is not committed to the view that unspoken expressions representing the relevant items in the given situation enter the speaker's and hearer's mind. It seems to me that the contextualists' appeal to enriched propositions fails to appreciate the insight of Perry's (1996) position that one's thoughts can be about something without one having to represent this very thing. One can say that it is 4:15 pm, where this concerns a relevant time zone, without one having to represent the latter. We can have thought, as Perry puts it, without representation. The notion of representation I have in mind is an intuitive one. One entertains a representation of something, say an object, a property or what have you, insofar as one comes to entertain a mode of presentation (conceptual or non-conceptual) of that very thing. Representations are crucial for an entity to be inferentially relevant. In the time zone example, no representation is needed in so far as the speaker does not engage in inferential reasoning based on the identity of the time zone.[22] The simple fact that the speaker occupies a time zone suffices for her thought to be about it. An analogous story can be told about alleged underdetermined sentences such as *Jane is too old*, *Jane is ready*, etc. One need not represent *what* Jane is ready for, say the exam, for one's thought to concern Jane's exam. The simple fact that one's thought occurs in the situation concerning Jane's exam suffices.[23]

As for communication involving non-indexical sentences, two individuals understand each other insofar as they come to entertain the same minimal proposition and, thereby, the same minimal thought. To be sure, when two people do not share the same situation misunderstandings can occur. Since communication is a dynamic process and speakers are reflective beings, misunderstandings due to the fact that the speaker and the hearer are not embedded in the same situation can quite easily be detected and corrected. Disagreement and misunderstanding are thus likely to be manifested in a joint activity, i.e., when the speaker's and her audience's behavioral output come into conflict. In a nutshell, for communication to succeed, the speaker and hearer must associate the same minimal proposition with a given utterance. This may be a sufficient condition for the success of the linguistic transaction.

But the key issue is whether the speaker and the hearer share the same situation, i.e., are co-situated. This fact is crucial to the success of communication.

When disagreement occurs we are likely to make explicit some aspect of the situation, (e.g. in a telephone conversation we may state the time zone). A simple question or expression of puzzlement is often sufficient to trigger the speaker to point to some aspect of the situation and, in so doing, to recover a shared situation. In a communicative exchange, the situation will typically change and adapt over time and the people engaged in the relevant communication will have various clues they can use to keep themselves co-situated. The recognition of a situation may not involve any conscious selection or discrimination.

I am not sure that a similar story can be told about grasping an enriched proposition. In particular, the grasping of a full-fledged proposition seems to require some cognitive effort for the speaker and hearer for them to entertain a representation (either conceptual or non-conceptual) of the enriched material. When a young child says that it is 3:00 pm, she need not represent the time zone, e.g. she need not represent that it is 3:00 pm Central European Time. Yet what she says is true only relative to a time zone. When one says that it is raining, one need not represent the location where it is raining. Yet what she says is true *iff* it is raining in the relevant location. The simple fact that one is situated in a time zone and location suffices for one's thought to be about the relevant time zone and location. The friends of free enrichment end up saying that the time zone and location pragmatically enter the proposition expressed and that the latter is universally true/false.

The friends of minimalism, on the other hand, may say that the minimal proposition expressed is true/false regardless of the time zone and/or location. But I do not see how such a proposition can be judged to be true/false without referring to the relevant time zone and/or location. From the speaker/audience's mental life viewpoint we can say that their mental states need not articulate all the information making them true/false. Just as the corresponding proposition is true/false only relative to a given situation, one's mental state is true/false insofar as it is situated. The very same mental state could be true in one situation while false in another: Jane's mental state need not represent the drops or cans of beer in the fridge. If she were to represent the cans of beer would she also represent cans of Stella Artois, Budweiser, Carling, Heineken, etc.? I take it that it is part of our cognitive makeup that we can discriminate a given situation without conscious effort. This is, I suspect, the background for language use. One can act and react in an appropriate way insofar as one is properly situated, i.e., insofar as one's behaviour rests on a given situation. One's behaviour need not be triggered by one's grasping of an enriched proposition. The simple fact that our cognitive activity and/or our communicative exchanges are situated suffices to explain our cognitive and/or communicative success.

Indeed, our contextualist friend might tell a story about how one can entertain an enriched proposition without having to conceptualize it or even to grasp it. But

I have no idea how this story might go. From a cognitive viewpoint, situationalism seems to be more parsimonious. It does not need to appeal to the idea of entertaining a situation, insofar as one can merely find oneself in a given situation whereas one cannot find oneself in a given proposition (unless one expresses it using 'I'). It may be worth saying that although one may not find oneself in a given proposition one may find oneself in the situation that makes this proposition true/false. In saying *He is to the left/back/front/…* the speaker ends up in the situation against which the proposition expressed gets evaluated. To borrow Perry's (1986) happy notion of unarticulated constituents, we can thus say that according to situationalism one can be the unarticulated constituent of the situation without being the constituent of the proposition expressed.

To summarize: the basic idea underlying situationalism is that the proposition expressed by an utterance must be determined by the syntactic elements active in the utterance; the proposition (semantically) expressed is a minimal one. In other words, the elements triggering the presence of propositional constituents must be present either at the surface level or in the underlying logical form. In terms of propositions, this amounts to saying that all the propositional constituents must be represented in the logical form of the utterance.[24]

Notes

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1. This is a two-step theory of evaluation insofar as we first fix the content of the utterance (the proposition expressed) before we determine its truth-value. Hence, the identity conditions of a proposition are not determined by the truth-value of the utterance, but by the mechanisms of reference at work and the syntactic structure of the utterance. Simply put, I take propositions to be structured entities. In the case of the utterance of a simple subject-predicate sentence, the propositional constituents are the objects and the property referred to by the NP and the VP. When indexicals are at work, the propositional constituents are fixed by the indexicals' linguistic meaning (or character, to use Kaplan's terminology).

2. The champions of contextualism are the relevance theorists (Carston 2002, Sperber and Wilson 1986, etc.), Bezuidenhout 2002, Recanati 2004, Searle 1978, 1980, Travis 1985, 1989, etc. It goes without saying that the people I am characterizing as contextualists do not always agree among themselves and that they present different forms of contextualism. A moderate contextualist like Recanati, for instance, differentiates his position from the one advocated by radical contextualists like Travis and Searle (see Recanati 2004: Chapter 6). Among the minimalists we have Borg 2005, Cappelen and Lepore 2005, etc. Indexicalists (e.g., Stanley 2000, Stanley and

Szabo 2000, etc.) also present a form of minimalism. For the sake of simplicity and brevity I shall not discuss indexicalism in this paper. Recanati goes as far as suggesting a rapprochement between moderate contextualism and indexicalism. This discussion, though interesting, transcends the scope of this paper. However, if Cappelen and Lepore are right, moderate contextualism leads to radical contextualism (see Cappelen and Lepore 2005: Part 1). Be that as it may, in what follows one can read the arguments against contextualism under whichever guise it is manifested. Roughly, one is a contextualist insofar as one appeals to the existence of enriched or expanded propositions, and the argument I propose attempts to undermine any such appeal.

3. Roughly, among indexical expressions there are personal pronouns ('my', 'you', 'she', 'his', 'we', …), demonstrative pronouns ('this', 'that'), complex demonstratives ('this pencil', 'that brunette in the corner', …), adverbs ('today', 'yesterday', 'now', 'here', …), adjectives ('actual' and 'present') and possessive adjectives ('my pencil', 'their car', …). I shall say more about this list later, in my discussion of the minimalist proposal. The list I am proposing is inspired by Kaplan (1977, 1989).

4. In what follows I shall not distinguish between expansion (Bach's favorite term) and free enrichment (the term adopted by the relevance theorists).

5. It should be stressed that the examples proposed in favor of contextualism cannot be dismissed as ambiguity, syntactic ellipsis, polysemy, nonliterality, or vagueness.

6. We may also have to incorporate *demonstrations* (or *directing intentions*) if, following Kaplan (1977, 1989) we assume that demonstratives differ from pure indexicals insofar as the value of the former, unlike the value of pure indexicals, is determined by the demonstration (or directing intention) accompanying their use.

7. The list, though, does not concern merely comparative adjectives. Contextualists often cite examples involving quantifiers (e.g., *Every bottle is empty*), weather/time reports (e.g., *It's snowing*, *It's 3:15 pm*), knowledge attributions (e.g., *Jane knows that the train leaves at 3:15 pm*), etc.

8. Bach (1994) talks about completion. According to Bach, what is strictly speaking said with an utterance of (2), (3), or (4) is not even a proposition. It is a propositional radical which needs to be completed by some pragmatic processes of expansion in order to become a fully-fledged, truth-evaluable, proposition. On Bach's view, what is said (the propositional radical) and what is communicated (the enriched or expanded proposition) differ. In short, Bach's position differs from both contextualism and minimalism insofar as it rejects the idea that an utterance expresses a complete, truth-evaluable proposition.

9. To be sure, someone can express a different proposition from the one she believes she has expressed. This would be the case with Kaplan's well-known Spiro Agnew-Carnap example, where the speaker pointing to a picture behind herself she believes to be of Carnap utters: "That's the greatest philosopher of the 20th century". Unbeknownst to the speaker, though, Carnap's picture has been changed with one of Spiro Agnew. Our speaker believes she said of Carnap that he is the greatest philosopher of the 20th century. Yet she expresses the proposition that Spiro Agnew is the greatest philosopher of the 20th century.

10. Sperber and Wilson (1986: 193) explicitly endorse this view.

11. This seems to be the communication model favored by Relevance Theorists (e.g., Sperber and Wilson, Carston), according to which once we have a minimal proposition we generate some inferences. The latter are automatically generated by virtue of their cognitive impacts. It is thus via these inferences that we come to grasp the intended message, i.e., the enriched proposition.

12. In Corazza (2004: Chapter 2) I attempted to prove that meteorological terms function like contextual expressions (e.g., 'local', 'enemy', 'national', 'foreigner') and, as such, the proposition expressed using them contains a location. The latter, though, is not determined by free enrichment, but is selected by an underlying variable operating at the level of logical form. In this respect, meteorological verbs and contextual expressions fit within the indexicalist view as it has been defended, for instance, by Stanley (2000). The position I am favoring, unlike the minimalist one proposed by Cappelen and Lepore (2005: 1, footnote 1), admits for context sensitivity to expand beyond indexicality. That is, I assume that the literal meaning of contextuals suggests that their value also depends on the context in which they occur. In Corazza and Dokic (2007) we propose some criteria allowing the distinction between contextual expression and non-contextual ones. For further criteria on this difference see also Stanley (2000) and Vallée (2003).

13. For a detailed discussion of attitude reports and their complex underlying structure aiming to capture both the proposition expressed and the mental state the attributer is in when expressing/believing/… that proposition, see Corazza (2004: Chapters 8–9).

14. For a discussion and defense of the contextualist intuitions see Predelli (2005: Chapter 4). Predelli, though, does not defend contextualism. He defends a traditional semantics viewpoint without endorsing minimalism. Although the position he defends seems to bear some resemblance to the situationalist position I shall propose in the next section, I am not sure Predelli would endorse situationalism.

15. I ran the experiment with some of my first year students and all, without exception, claimed that, whereas in the cleaning situation Jane said something true, in the drinking situation she said something false. It may be worth noting that this does not concern whether a proposition has been enriched. It merely concerns the truth value of what is said. That is to say, this answer is neutral on whether the output is true/false because of an enrichment of the minimal proposition or because the minimal proposition is evaluated *vis-à-vis* distinct situations. It may be worth mentioning that Bach (2002) seeks to undermine the power of intuitions concerning the explanation of semantic facts. In particular, he argues that people's intuitions do not campaign against semantic minimalism and in favor of contextualism: "It is the central aim of semantics to account for semantic facts, not intuitions. People's spontaneous judgments or 'intuitions' provide data for semantics, but it is an open question to what extent they reveal semantic facts and should therefore be explained rather than explained away" (Bach 2002: 23). Since the position I defend, unlike contextualism, does not rely on speakers' intuitions about the (minimal) proposition expressed, Bach's criticism does not apply to situationalism. As will become clear, the intuitions that situationalism relies on concern not what is said (the proposition expressed) but the truth-values of the latter. For recent empirical studies attempting to capture speakers' intuitions and how pragmatic processes can affect what is said, see Gibbs and Moise (1997) and Nicolle and Clark (1999), who favor the view that speakers always enrich minimal propositions when questioned about what someone said.

16. Cappelen and Lepore (2005: 93–94) recognize cases in which the narrator is ignorant or mistaken about the original context of the reported utterance. Yet they argue that the report is correct regardless of the ignorance and/or mistake of the context of the reported utterance. This is not a bullet many are willing to bite. As the example I mentioned makes clear, when the report is sensitive to the context of the report the ICD tests may not be satisfactory. This should further undermine Cappelen and Lepore's (2005: 114 ff) view that contextualists are committed to what they call *Contextual Salience Absorption*, i.e., the view that the relevant context automatically triggered is the context of the reported utterance (what they characterize as the target context) and not the context of the report (what they characterize as the story telling context). The Contextual Salience Absorption which should ultimately campaign in favor of ICD and, therefore, minimalism is not, *pace* Cappelen and Lepore, a reliable and empirically sound principle.

17. This formulation is borrowed from Higginbotham (1988). For a detailed discussion of it see Carston (2002: 50ff).

18. A word of clarification may be useful. So far I have talked of propositions being the bearers of truth-value. The T-schema, though, assigns truth-value to utterances. Following the (Frege-inspired) tradition we can say that an utterance *u* is true in a derivative way, i.e., if the proposition it expresses is true. For simplicity sake henceforth I shall assign truth-value directly to utterances.

19. This is the claim defended by Barwise and Etchemendy (1987). They argue that the situations enter what they characterize as Austinian propositions. For a defense of this view see Recanati (2004: Chapter 8).

20. Robyn Carston expressed this worry (personal communication).

21. It seems to me that the relevant situation against which a (minimal) proposition gets evaluated can contain variegated information. As such, the notion of situation I have in mind comes close to Stalnaker's pragmatic presupposition (cf. Stalnaker 1974).

22. For further details, see Dokic (2006b).

23. This does not preclude the idea that sometimes one entertains some mental representations of aspects of the relevant situation. Imagine a situation in which the television is showing a program about Roger Federer's 2005 Wimbledon win, while on the coffee table in front of the television there is a tennis review with a picture of Federer celebrating his 2004 Wimbledon win. If Jane says *What a wonderful game*, one needs to know whether she's referring to the 2004 or the 2005 game in order to understand what she says. Hence even if Jane and her audience are immersed in the same situation, i.e., they are both in presence of the tennis review and the television, the audience must to some extent conceptualize the review (or the television) in order to understand whether Jane was talking about the 2004 or 2005 match. There are cases where conflicting interpretations can arise from a shared situation and the audience must conceptualize aspects of the situation. Such cases are rare, however, and thus do not campaign in favor of free enrichment.

24. In this respect situationalism in on a par with indexicalism (e.g., Stanley 2000), i.e., the view that underdetermined sentences present at the LF level an hidden argument working like an hidden indexical picking out the relevant aspect entering the proposition. In short, situationalism, like indexicalism (and minimalism), assumes that all the propositional constituents must rep-

resented at the LF level. Yet, like minimalism and unlike indexicalism, situationalism does not assume the existence of hidden indexicals when so-called underdetermined sentences occur.

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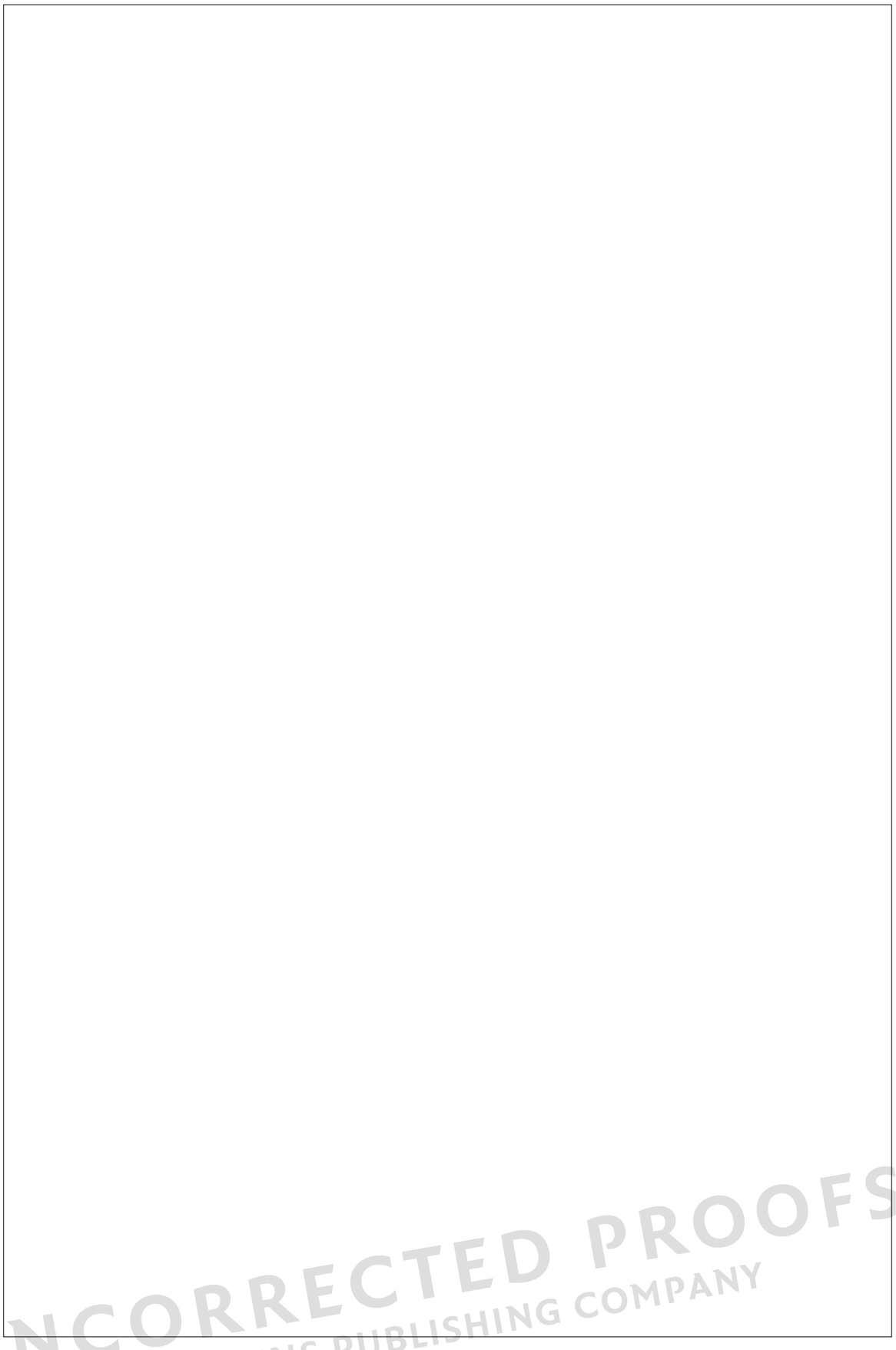

Procedural pragmatics and the study of discourse*

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The term *discourse* is generally used either as a technical equivalent for 'verbal communication' or as referring to a particular scientific notion, where discourses are spans of texts or of utterances obeying specific principles of organisation. The aim of this paper is to suggest that an account of discourse is possible, in both cases, only through a theory of utterance-meaning construction. If *discourse* stands for verbal communication, then it can be explained only with regard to speaker's intended meaning. If *discourse* stands for organised spans of texts or utterances, then they must be meaningful spans of texts or meaningful utterances. Yet it is argued that a pragmatic explanation of meaning provides all the elements that discourse analysis describes. In the end, the paper claims that a theory of context combined with a theory on the semantic-pragmatic interface should prove sufficient to explain discourse, in whichever sense, along the idea that discourse should be viewed as a *process*, not as a *whole*, following the claims of a number of scholars in the field. A possibility to tackle this process is proposed in terms of procedures through the approach of *procedural pragmatics*.

0. Introduction

Two completely different philosophical attitudes are represented in the field of pragmatics (reflecting of course older and deeper differences). Roughly: on the one hand, *pragma-semantics*, or, as it is sometimes labelled, *radical pragmatics*, pursued by the inheritors of Paul Grice and many scholars of the referential-logical tradition, with various degrees of commitment to truth-conditionality, which is interested in the construction of meaning trough cognitive or artificial (formal) models; and, on the other, the trend represented by the inheritors of speech act theorists and of discourse analysts in a wide sense, who pay close attention to social determinations of linguistic behaviour. Still roughly — since the subfields of 'pragmatics' are in fact countless, representing a great variety of orientations —, the first one focuses on the theory of human language understanding, assuming

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a 'bottom-up' view (where global — discursive — issues are explainable by local semantic and pragmatic phenomena), while the second one focuses on a theory of speaker's productions of utterances and on structural patterns of discourse and interaction, assuming a 'top-down' view (where issues concerning single utterances are explained by global discursive or social constraints). My way of entering the *pragmatic interfaces* debate will be to defend the necessity of a bottom-up view of discourse explanation as taking precedence over a top-down approach, but with some nuances; namely, that a bottom-up explanation of pragmatic understanding is a (necessary) *input* for top-down models of discourse.

I will argue that discourse is better analysed not as a *structured entity* but as a *process* (following Chafe, Sperber and Wilson, Carston, Recanati, *inter alia*). I will in particular focus on some basic assumptions of cognitive pragmatics, which form the ground of the kind of pragmatics I am trying to develop, *procedural pragmatics*, which aims at bringing cognitive pragmatics (in particular Sperber and Wilson's *Relevance theory*) to a higher level of operability for proper analysis.[1] In the second part of the paper, I will take advantage of some of these fundamental assumptions, notably about *contextualization*, and argue in favour of an early integration of contextual parameters in human understanding of linguistic forms, an idea widely acknowledged already by the literature in psycholinguistics and experimental pragmatics. I assume that procedural pragmatics can provide a model for tracking step-by-step processes of contextualization starting at the level of the logical form, through an ongoing parallel (but not necessarily strictly speaking connectionist) process of assumption-formation, confirmation and contradiction, at different levels of representation, including explicit and implicit meaning. As a conclusion, I will turn back to the notion of discourse and suggest some ways to see what a discourse can be according to such a perspective.

1. Discourses as wholes, discourses as processes

One of the most controversial questions among scholars in pragmatics and discourse analysis is the very nature of the object we call *discourse*, and about the correct way to investigate discourse scientifically. As for the definition of discourse, we probably all agree at least on the idea that a discourse is an organized set of utterances reflecting or in relation with an organized set of thoughts. Discourse analysis assumes in general that discourses bear properties of their own, which are not the properties of single utterances. The consequence of this assumption is a very common idea: a discourse is *more* than the sum of the utterances composing it, an idea however not shared by post- or neo-Gricean pragmatics, or, better, which is differently understood and approached in these trends.

Throughout approaches of discourse, the properties that discourse bears used to be very strongly associated with the notions of *coherence* and (informational or hierarchical) *structure*. However, it is now well acknowledged that pure formal linguistic features of utterances in discourse ('cohesion markers') don't suffice to establish coherence, so that it is necessary to include various contextual devices, typically the inference of discourse relations or rhetoric relations, in order to see what the 'deep' structure of the considered discourse looks like; on the other hand, it is also likely that some spans of text with all necessary cohesion markers and clear rhetorical relations may well be incoherent according to a commonsensical intuition of the notion of coherence (see Reboul and Moeschler 1998 for a few examples). As for *structure*, there is a heavy literature talking of discourse as an organisation of arguments, speech acts or even actions bearing functional relations of various kinds with each-other (van Eemeren and Grootendorst 1992 and 2004, Mann and Thompson 1980, Lascarides and Asher 1993), as a coordinated negotiation in the sense of goffmanian praxeological sociology (Roulet *et al.* 2001) and as, more simply, a structure in a syntax-like sense as old-style *Textlinguistik* views it. To make the picture more complicated, Conversational Analysis brought together conversation as an organisation of speech acts with the psychosocial notion of *action* to address the underlying structure of discourse, in line with Sacks 1992, Sacks, Schegloff and Jefferson 1974 (see also Pekarek Doehler 2005 for the current discussion on the influence of interactive practices on grammar itself).

If it's a scientific object in itself, bearing specific structural properties, then a given discourse gains in being studied as such, that is as a complex but singular object. If on the contrary discourse is in fact nothing more than the dynamic modification of representations achieved sequentially by the succession of single utterances, or even by non-linguistic communicative eventualities, then a given discourse is studied as a process; in the latter case, the meaning of a discourse is reducible to the meaning of the last utterance composing it, with regard to the initial and final cognitive environments of the interlocutor(s). This view is held by a number of scholars in radical pragmatics[2] who, in the end, will simply not take anything like a 'discourse' into consideration.

A way to address the problem of discourse from a cognitive pragmatic standpoint is to hypothesize that there exists a *higher level of representation* of information than the structural and propositional ones we attach to single utterances in context. Such higher-level representations would be 'discursive representations'. Pragmaticists deal with a finite set of representations: formal representations (typically the syntactic, or logical, form), semantic representations, propositional representations of explicit meaning (typically Sperber and Wilson's *propositional form* or Grice's *what is said*), and representations of implicit meaning (*implicatures*). A problem is then to evaluate whether we get things like 'discursive representations'

which happen only in organised sets of utterances, or not. The answer seems obvious: we certainly are capable of attributing to the speaker complex thoughts that are only expressible with more than one utterance, i.e., discourses ('reasoning', following ancient philosophy, which is the combination of judgements in order to produce new judgements). This means that most pragmaticists would, I suppose, agree that there are things that deserve to be called discourses and which deserve scientific description. Such a viewpoint is presupposed in a wide number of approaches from Antiquity to Port-Royal Grammar and to contemporary theories of argumentation, not to mention many approaches of language within social science, sociolinguistics, social psychology of language, and of course, within literature studies and even critical discourse analysis.

Yet, even though discourses do exist, it does not entail that the best explanation for discourses must consider anything else than contextual utterance interpretation. In other words, it's not clear *a priori* whether we should speculate or not that there is anything at the level of discourse interpretation that is not explained by utterance interpretation procedures. This is the standpoint I am going to explore here, taking seriously the idea that discourse is best explained as a *process unfolding through time*, to quote Chafe (1987: 48); an idea also expressed by D. Blakemore (2002: 150), who says — rather straightforwardly — that "a theory of verbal communication must not be built upon the study of discourse". In fact, what nowadays more and more people call 'discourse' is taken as an equivalent of 'verbal communication', although the precise sense of 'discourse' gets then unclear with regard to the *single-utterance* vs. *span of utterances* dichotomy as far as the *unit* tackled is concerned.

A view such as Blakemore's is also the consequence of a particular theoretical background. But before I can go into more detail on this, a few other points of comparison between these two trends must be stressed. Let me call the approaches that view discourses as finite spans of utterances *Discursive* approaches, that I will oppose to *Utterances* approaches, which aim to explain the whole of verbal communication by addressing single utterances understanding together with context.

First, a number of *Discourse* approaches anchor on speech-act theory and assume that the key to a scientific understanding of discourse-structure and conversation resides in social psychology, while most *Utterances* approaches focus on human individual cognition, following Fodorian methodological solipsism and the epistemology of naturalistic mechanism dear to both Bloomfield and Chomsky (each in his way), and aim at providing model-theoretic accounts, assuming that social conventions can be reduced to elements of the (mutually) manifest cognitive environment — although not consciously (cf. Saussure 2005a).

Second, some *Discourse* trends suggest that parts of discourse are distributed non-sequentially; in other words spans of discourse can attach to spans other than the directly preceding one, through a particular rhetoric relation (typically in

Mann and Thompson's Rhetorical Structure Theory, in Roulet's modular approach of discourse, in Lascarides and Asher's Segmented Discourse Representation Theory). On the contrary, *Utterances* trends will say that these are not relations between *spans of discourse* but relations between the current utterance and parts of the environment available, as representations, for contextualization. All this may be a dispute of words, though, since what *Utterances* trends call 'context' incorporates what comes out from the understanding of preceding utterances, therefore of parts of the preceding 'discourse', and since *Discourse* trends have to take single utterance meaning into account for anything 'discursive' to emerge.

More importantly, in many *Discourse* approaches, such as Critical Discourse Analysis (van Dijk 1998, Fairclough 1999, Wodak this volume) and in some other trends (Roulet *et al.* 2001), the study of discourse is not only a scientific attempt at understanding discursive phenomena. It is also an attempt at calling attention to the 'hidden' properties of 'discourses' that go unnoticed by ordinary hearers and which are potentially misleading, with the idea that ordinary hearers are somehow 'victims' of 'discourses' that are manipulating their commitment to the speaker's ideas. There is here a similarity with continental and other trends in philosophy that see discourse, language and speech as means of power — or as being a form of power itself. On the other hand, *Utterances* approaches have also showed that semantic and pragmatic features of the utterance itself are a key to manipulative uses of language (see Allott 2005, Choi and Nisbett and Smith 1997, Saussure 2005b), still without commitment to the notion of 'discourse' as a structured whole, and without the generalization that discourse or language is always in relation with power, as claimed by trends in continental philosophy.[3]

This last point is important since *Discourse* approaches are more like *tools for the analyst* than *explanation of natural language understanding procedures*, although some theories aim at bridging the gap between the two, following the pioneering work of Searle when he, so to speak, made the Austin-Grice interface through the architecture of *illocutionary force* applied to a *propositional content* that could take into account intentional implicit meaning.[4] The pursued outcome of a number of *Discourse* approaches, notably within Critical Discourse Analysis, is that ordinary individuals should in the end become *analysts* in a weaker sense. There is no such ambition in most *Utterance* approaches, although a number of works might open to similar objectives if appropriately communicated to the greater public.

In short, *Discourse* approaches tend to see discourse as having organisational properties of its own and to assume that there are rules that allow for the description of these properties, while in *Utterances* approaches a discourse is simply a sequential production of changes in the interlocutor's beliefs, discourse being, then, a by-product of human communication, itself being basically the result of cognitive systems at work.

An argument has been opposed to a number of theories of discourse structures, in particular to the Rhetorical Structure Theory (RST, Mann and Thompson 1980): its rules allow for the generation of several equivalently plausible structures for a given discourse. In other words, there is, within the theory, no way to say what the *actual* structure of a text span is. That happened since not much was speculated within the theory about the fact that the properties of the interlocutors themselves are generally taken into account in verbal communication in order to avoid indefinitely many possible interpretations. *Discourse* approaches facing these problems fail to achieve the explicative and predictive objective of deterministic theories that aim at (and restrict themselves to) identifying clear relations of causes and consequences (another reason for cross-theoretical epistemological disputes). Mann and Thompson however didn't use the word *theory* with this particular background; in a recent paper, Taboda and Mann (in press) stress how RST is a descriptive tool rather than a theory in the strongest sense, and the paper clarifies a number of issues raised by their approach.

If RST, just like most *Discourse* models, is not a theory in the strong sense, then, what is it? At first, it seems difficult to deny that these approaches provide highly valuable *heuristics*. They are heuristic first for the analyst who uses them and who will end up with potential findings, which must be further validated according to the methodology he considers better. Second, they are heuristic for scholars outside the theory, since the data found and the explanations suggested can often be interpreted and evaluated within one's home framework. Less trivial is the fact that there is also a higher level where an approach can serve as a heuristics for other approaches of verbal communication: this is what happens when the original approach can be exploited, fine-tuned, somehow translated, into an approach initially working with very different concepts and still using a very different methodology. This is what happened when Lascarides and Asher (1993) founded SDRT, merging strong assumptions from Kamp's DRT (see for example Kamp and Reyle 1993) and, precisely, the convincing intuitions from Mann and Thompson lying at the basis of their approach, RST. That way, through SDRT, DRT become aware of discourse structures while RST became aware of meaning computation and representation. SDRT accounted for them through a dynamic semantic model. Probably nothing else that well-thought was ever done in the domain of theoretical cross-fertilization in the crossroads of semantics, pragmatics and discourse analysis.

However it remains true that most scholars in *Discourse* theories use non-deterministic approaches and prefer to use informal heuristics rather than formal tools. A possible reason for this is that if we don't use a formal model, we are able to focus on much more complex concerns, leaving aside the complex and time-consuming details of consistent micro-analysis, which is somehow provided

'intuitively'. Instead of worrying about pragmatic accommodation of semantic forms, or about the semantic or pragmatic nature of existential presupposition, we can have scope over complex networks of human negotiation, and address, through observation of discourse, things like the underlying set of assumptions of the considered discourse, its coherence, its structural effects on social matters, dismantle the way a speaker organises his speech in order to influence others, etc. On one hand, things like *meaning* need not, in such perspectives, be technically explained since meaning is an obvious and given data to deal with. On the other hand, it is no surprise that the conclusions obtained through *Discourse* approaches are qualitatively more speculative than what is obtained through formal models that don't accept an unidentified number of possible outputs for a given input, and that these conclusions can be redundant with the ones we can get from semantic and pragmatic analysis.

Purely formal models admit — e.g., DRT, SDRT and Ter Meulen's (1995) Discourse Aspect Trees — that they provide a *model* of discursive reality and organization, and that they do not worry about the complexity of cognitive reality. This position is wise as much as all model-theoretic positions can be: a picture of reality is not reality but a picture; a road map has not the size of the actual land it descibes (otherwise it would be of no use) but a useful — though approximate thus false — picture of that land. But this position also seems wise if we suppose, as Saussure did in his third course of general linguistics, that we don't have access to the "folders of the mind".[5] Along this line of thought, cognition is a black box and the best way to account for human natural information processing is to build an ideal model of it, no matter the cognitive plausibility of it. Some will use, for example, automatic non-monotonic (default) logics, or another type of rationality (other approaches will prefer to avoid, or correct, the model-theoretic bias through a focus on 'external' observation in the line of behaviourism or through various types of non reductionist, or less reductionist standpoints). As a matter of fact, formal theories of dynamic natural language processing, in general, boil down to computational models of natural language processing. It's no surprise then that the model gets validated by appropriate coding for computer implementation. Yet such a way of modelling human understanding looks like building airplanes in order to address how birds fly. In the end, by doing so, we indeed end up with the ability to fly, while the ornithologist, should he speak about birds for ages, won't see wings grow on his back. Of course, beyond these theoretical perspectives lie significantly different aims.

Yet the crucial question regarding model-theoretic approaches — to which procedural pragmatics belongs — is in fact the one of appropriateness to reality. A good model of communication, or discourse, is not some complex machinery that provides procedures for a computer (which is not the human mind), but a

plausible representation of specific aspects of cognitive processes, i.e., procedures plausibly followed by a human mind given its cognitive properties. An abundant literature on human reasoning within cognitive psychology — notably within connectionist psycholinguistics — emphasizes the fact that human reasoning does not share much with canonical 'hard' logic (which is used in computational modelling).[6] It's particularly visible when thinking of logical fallacies and inconsistencies, on the one hand, and the procedures that allow for a belief to be fixated in the mind, on the other hand: our mind can easily break the laws of logic and fix beliefs on the basis of inconsistent information (as when worrying where to bury the survivors of the crashed airplane in the famous joke, or when people start wondering about the problems raised by New Year's Eve taking place on a Friday the 13th that particular year). A computational model has therefore little chance of being be the picture of human verbal communication-as-a-process that we are looking for, if taking into account that research in experimental pragmatics and philosophy of mind converges towards a non-computational rationality of the human mind.

2. Procedural pragmatics: Early context integration and parallel assumption formation

It's now a widespread view in psycholinguistics that syntactic disambiguation is an early process: we certainly don't need to develop parallel competing structures before we actually start contextualization, reference assignment and other logical and propositional form construction, at least as hypotheses. We do bet, at an early stage of linguistic information processing, on a contextually relevant structure and on its likelihood to be the one intended by the speaker. In *Flying planes can be dangerous*, we try to assign straight away, 'online', a value to the expressions, one after the other, following the order in which they arrive to the pragmatic system; we do so with regard to salient contextual information. In a context where it's clear that the topic of conversation is about the possibility of making an aeroplane fly, we would get the early assumption that *Flying planes* corresponds to *making a plane fly* and not to a complex NP (planes that fly); on the contrary, if contextual features are about dangers of aeroplanes, the early preferred structure will be about planes that fly.

The hypotheses that we form 'online' about the actual structure of the linguistic string as well as its meaning have two important pragmatic properties. First, they are pragmatic in the sense that they are context-dependant. Second, they are pragmatic in the sense that they have to do with rationality and beliefs: in particular, they are assumed with a certain degree of plausibiliy. If that degree is too low, then the hearer waits for more reliable information before he places a (new) bet.

This happens when the hypothesis cannot be exploited when confronted with the hearer's cognitive environment in order to make new relevant information emerge (in other words, when no cognitive effect is generated by the hypothesis).

Similarly, but at a higher representational level, the literature admits more and more that the classical separation between 'what is said' and 'what is implicated' does not entail a clear timeline staging. In other words, it may well be the case that we start betting on implicatures as soon as (i) we have available information on the propositional content at the level of explicatures, and (ii) an implicit meaning is likely to be intended. Among scholars who would pursue this line of thought, Gibbs (1989, 2002, 2003) needs to be mentioned, as well as Carston (2002), although we still lack a comprehensive model in order to account for the actual procedure going on at this level of semantic-pragmatic interfacing (or syntactic-pragmatic interfacing, since a significant number of scholars in assume direct interfacing of syntactic structures with pragmatic interpretive procedures, see in particular Pollock 1997 and Kempson, Meyer-Viol and Gabbay 2000).

In a recent paper (Saussure 2005c) I have examined a case where, I suggested, an implicit information was necessarily recovered for the full explicit content to be constructed; this leads to the conclusion that the 'modules' dealing with explicit and implicit information (or with different types of implicit meanings if considering unarticulated constituents as *implicitures*, Bach 1994) need to work 'together', in parallel, under the control of some other device. I was suggesting that we hold early beliefs about the potential intended contents, that these beliefs were awaiting further confirmation, and that such confirmation can come from the confrontation of the various levels of representation at the same time. In other words, I suggested that there is a point of synchronization where a syntactic, or *logical*, form, i.e., a structure of concepts, a propositional explicit content, and potential implicit meanings, are automatically evaluated all together. I was suggesting that when all these representations make sense together, that is, *confirm* or *are congruent* with one another, then the hearer considers that the intended meaning is found — provided there is some relevance in that meaning, that is, provided the effort of processing information is compensated by sufficient cognitive effect (such as new information, changes in the presupposed assumptions, etc.). I suggested naming this confirmation, or congruence, *coherence at the level of utterance processing*.

What is assumed in such a model is (i) that we make interpretive bets, (ii) that these bets are about forms as well as about meanings, and (iii) that they are automatically compared together until they form a unit of 'interpreted utterance' so that they can join the contextual level (so that they can join memory). Plus: the inferences that we make in order to enrich the underspecified semantic meaning to a full meaning (including implicatures) are risky (we make early guesses based on more or less reliable information, but we may fail).

Now, much is also controversial, of course, about the very nature of what deserves to be called *explicit meaning* and about the operative criteria used to delimit this level of representations, in particular because the ordinary case of conversation implies sophisticated strategies of meaning reconstruction even in order to build up that part of meaning usually called explicit, or *what is said*. Carston (2002), in line with Relevance theory, assumes that the explicit content is that part of meaning about which the speaker overtly communicates his commitment. Carston (2002) and Recanati (2002), following well-known examples from Perry (recalled in Perry 2000), have suggested various processes of pragmatic enrichment at the level of explicit meaning construction. For example, cases like *Paracetamol is better* (Carston 2002), with a PRO- or elliptic syntactic component, or the usual *It's raining* where 'hidden' indexicals would be recovered through a necessary enrichment procedure (Recanati 2002, Carston 2002, although Recanati finds it now controversial[7]). The kind of enrichment that goes on at the lexical level in the increasingly interesting domain of 'lexical pragmatics' (which wonders about the conceptual specification of lexical items depending on contextual features and collocations, such as in *red apple* as opposed to *pink grapefruit*, or as *open* in *open a door* and *open a restaurant*), is also currently much debated.

These various processes of enrichment, going on at the levels of syntactic-logical form, explicit-propositional form and implicatures, also going on at the level of phonological-prosodic recognition, do not develop arbitrarily, as I said before. At the level of propositional contents — explicit and implicit — Diane Blakemore (1987) made a crucial move in integrating an idea from the French linguist Oswald Ducrot (1980) into her model of natural language understanding and significantly elaborating on it. The idea is that some particular linguistic expressions are dedicated to facilitate the process of meaning reconstruction, either at the level of explicatures or at the level of implicatures. In other words, besides conceptual expressions — like, for instance, *horse*, *red*, *eat*, *frankly* etc. — there are expressions dedicated to providing an easier recovery of the conceptual structure, that she calls *procedural expressions*. The mind can thus benefit from more help than just from the syntactic arrangement in order to achieve this reconstruction. In particular, when dealing with more than one proposition, as in (1), the recourse to context often needs to be facilitated in order to make elements of meaning clearer — even explicit. In order to do so, claims Blakemore, there are expressions that encode procedures, that is, step-by-step instructions on what to do with the concepts presented.

The basic example is *but* in sequences like this one (Blakemore 1987):

(1) Paul is not an economist, but he's a businessman.
context: evaluation of whether we can ask Paul for financial advice

In (1), *but* forces a specific scheme of inference, which is non-truth-conditional (since truth-conditionally *but* is equivalent to *and*), which goes like this (my formulation): take an implicature I1 from the first conjoined utterance (here: *we should not ask Paul*), take contradictory implicature I2 from the second utterance (here: *we should ask Paul*) and retain I2 while eliminating I1. A number of other communicational features can be added to this 'meaning', and much refinement can be of course obtained (Iten 2005). Generally, procedural expressions are grammatical, that is, expressions that encode grammatical features, not conceptual information. In Saussure (2003) I made a few propositions with regard to these fundamental assumptions.

First, I suggested that conceptual expressions also trigger interpretive procedures for loosening or narrowing their referential domain (following Sperber and Wilson's (1997) ideas on lexical pragmatics), so that there is a way to explain contextual determination of conceptual representations according to collocations and encyclopaedic entries, as in the example of *open a door* as opposed to *open a restaurant*. There are specific procedures, for the particular expressions Blakemore calls 'procedural expressions', and one generic procedure of interpretation for conceptual expressions.

Second, I took seriously the idea that natural language understanding as a whole is a procedure of a certain type with a certain organization which in turn generates full utterance understanding. When looking at the temporal interpretation of utterances, it was necessary to get to an organised way of handling and balancing information coming from very different sources (linguistic expressions of different kinds: temporal connectives, duration adverbs, tense, etc., and non-linguistic information like situational assumptions and world knowledge). This work ended up with a *procedure* explicating how, starting from a linguistic input, the hearer checks some contextual feature, extracts an instruction from a procedural expression like the tense, evaluates the presence of a rule from world knowledge or context, etc., and, more importantly, at what stage these operations are performed. The output was provided as a set of instructions applying classical Reichenbachian temporal coordinates; of course, there was a device in the procedure evaluating relevance-satisfaction at a point during interpretation, but its role was merely to decide whether the procedure should be followed again with new parameters or not, according to an effort-effect balance. A procedure, in this view, is a classical algorithm, explicitly expressing conditions, choices and variable assignations leading to an output, with a cognitive decision device saying when to stop.

I am thus considering that natural language interpretation is a complex procedure dealing with various types of representations and with sub-systems — modules, so to say — exchanging pieces of information. There is a procedure for syntactic form construction, there is a procedure for explicitness, and there is a procedure for implicatures. The next step was to raise a few hypotheses about

how these representational processes work together and exchange information; in Saussure (2005c), I defend a parallel handling of information at these different levels, with sub-procedures, and a device checking what beforehand I called *coherence at the level of utterance processing*.

At the level of semantic and pragmatic ambiguity, Sperber and Wilson (1997) have already convincingly argued that the mapping between the lexicon and the concepts repository is not one-to-one but one-to-many, a lexical item being therefore underspecified with regard to the actual conceptual meaning. Pragmatic meaning narrowing at the lexical level entails that pragmatic accommodation is already necessary at the level of propositional form (roughly: 'what is said'). This implies that the procedure of human language understanding uses contextual information not only to generate assumptions on implicatures (which is trivial), on the syntactic form as I suggested above, but also at the level of explicit meaning.

All this does certainly not entail that we mix up different levels of meaning representation. The hypothesis that different cognitive processes are exploited at the level of phonological identification, syntactic construction, propositional explicit meaning elaboration and implicit meaning recovery is maintainable and plausible, although certainly refinable. Maybe non-demonstrative deduction is at stake during implicature recovery while semantic elaboration uses other procedures at the level of explicatures; no doubt these processes are very complex. What I am saying is that the procedures exploited in order to establish these representations do collaborate and exchange information, the whole process being controlled by a specific device, searching for relevance on the one hand, and searching for the most plausible intentional meaning attributable to the speaker on the other hand.

In other words, specific devices are granting the respect of principles: an effort-effect balance and plausible attribution of thoughts to the speaker. Other aspects, of course, are also taking part in this global process: the utterance can be meta-representational, metaphorical, etc.; these aspects are managed through either extra-processing effort or direct conceptual loosening. That is not my concern here. What seems important to me is that there may be a module controlling what the plausible speaker's intention is. First, the recovery of the speaker's intention(s) in order to understand an utterance is trivially mandatory if one assumes that *meaning* is a particular kind of *intention*, which is not much disputed within Gricean and post-Gricean works. Second, finding out the speaker's meaning intention (as well as other intentions), requires not (only) logical calculus; for example, the assignment of reference to pronouns seems to require an ability to metarepresent other individuals' mental activity — hence the hypothesis of a cognitive module dedicated to intentionality attribution, distinct from general pragmatic rationality. This hypothesis is defended in depth by Baron-Cohen (1995), who experimentally showed the difference between pragmatic rationality as such and the cognitive

ability to attribute thoughts and intentions to others on the basis of factual information. Following his work on autism, this module is sometimes named *mind-reading module* (e.g., by Relevance theorists); several cognitive approaches assume that a perturbation of the module, whatever its name and its specific properties, entails a perturbation of the capacity to interpret utterances, in particular meta-representational ones (observed in autism).[8] It makes sense that this module also controls relevance searching, since the target of relevance searching is a mental state corresponding to an intention: the speaker communicates that his utterance is optimally relevant; for this to make sense, it implies the possibility of self-representing the plausible speaker's assumptions about the relevance of this utterance.

This mindreading module controls the mechanistic algorithms — the procedure — of utterance understanding. And it is cognitive, not logical, nor is it conventional (but we could call it 'social' as soon as it concerns the abilities of the human mind to organize activity in interpersonal relationship). In a procedural approach, it would be conceived of as being a controlling device for the procedure, establishing the likelihood of the obtained result to be the one that corresponds best to the informative intention of the speaker. Again, notwithstanding controversies about the nature of this device — is it really the mindreading module posited by these approaches, is it an ability based on rationality, etc. — it is at least clear that if we think of natural language interpretation as a procedure handling elements of several kinds and making them produce meaning all together, and if we think that only seldom is one meaning alone possible for a given utterance even in a given context, then we need a device that tells us when to stop elaborating meaning reconstruction. It is more likely that this 'mindreading' device is a cognitive ability than a simple consequence of the rational calculus ability, or of the Fodorian 'central' system, since some pathologies show that subjects having standard (or particularly efficient) rational abilities but strong mindreading perturbations at the same time (Baron-Cohen 1995). In other words, the mind can control 'full meaning construction' thanks to a metarepresentational ability.

Current research in pragmatics, in particular in lexical pragmatics, shows to what extent procedural as well as metarepresentational abilities for natural language understanding are required (see Noveck and Sperber 2004). There still lacks a big picture of what a model of the mind, organised in that way, is really going to look like, but it should certainly imply both early contextualization and exchange of information between various modules of information treatment. Jaszczolt (2005) endorses for example a view of this kind through an elaborated theory of 'default semantics'. The aim of procedural pragmatics is to account for natural language understanding as a procedure of information processing that takes these very concerns seriously. The next section deals with the notion of *discourse* with regard to this global picture of pragmatics.

3. Discourse issues

Some consideration still needs be given to discourse considered as a span of utterances, or as a text, within this general pragmatic perspective. The idea that a given discourse conveys 'more than the utterances composing it' because of the 'rhetorical relations' that hold between the considered segments, must be addressed. This is a crucial issue to be resolved in order to see whether cognitive pragmatics can address what scholars in discourse analysis usually call *discourse* or not. In other words: is there a possible interface between pragmatics understood as the theory of human comprehension, and pragmatics understood as the theory of discourse?

The key point to be made with regard to this general question is that *discourse* should not stand for an equivalent for *communication* despite the fact that the term 'discourse' is very often informally used as an equivalent of verbal communication. Yet communication is about (generally intended) flows of information while discourse is about ordered sets of phrases or utterances. It turns out that discourse can be thought of in very different ways.

First, discourses can be thought of as formally autonomous objects of study, delimited by macrostructural aspects considered from the outside, 'externally' (a book, a speech, a given conversation intuitively or materially identified as closed) and belonging to a particular type (narrative, deliberative, commentative, etc.). Discourses can thus be addressed as autonomous objects 'internally' determined: a discourse is a span of utterances that obeys structural parameters, such as *coherence / cohesion*, or has an autonomous semantic structure, with a homogeneous domain of reference, within a particular type imposing formal features (it is a commonplace, for example, to recall that many approaches would rigidly assume, for example, that temporal and spatial indexicals are theoretically incompatible with fictitious past narratives).

A discourse can also be seen as a set of organised representations held within a cultural community, appearing in specific texts. This is assumed for instance by both postmodernist continental approaches (Foucault or Bourdieu would assume something like this) and 'dialogism', the trend initiated by Bakhtin (1981), for whom any given text or conversation 'polyphonically' evokes and echoes dialectically other texts and conversations.[9]

Second, discourses can be tackled as *meaningful* units. 'Meaningful' means 'corresponding to a speaker's intention to pass on a given message' and therefore implies, for the interpreter, speculations on not only the local meaning of individual sentences, but the global meaning of some given span of speech or text; local and global meanings are in fact local and global *intentions* to make assumptions manifest.[10]

Whatever the best definition of discourse may be in the end, the central issue in its study is, in my view, the following: by studying the abstract structure of dis-

courses, their types, their internal organisation, will we better understand human communication? Opinions regarding this point diverge, but it's easy to notice that discourses, if they are not seen as a by-product of semantic and pragmatic understanding procedures, are abstract objects, which have little relation to what actually happens during the communicative action. Let me briefly elaborate on this point.

Looking at the relations that utterances bear with one another within a given span of text or of conversation, it is a commonplace to assume that the content of this span is richer than the contents of the utterances it contains. This magical result, where the set ends up being quantitatively more than its exhaustive parts, was and still is one of the main arguments used to justify the need for a linguistics that escapes from the limits imposed by the syntactic-semantic structures and finds out more about global structures of meanings. It is sometimes believed that the contribution of linguistics to communication science is to be found — if any at all — in the fact that linguists are well equipped to address larger items than simple clauses.

Certainly, discourses do bear structures: they are not arbitrary productions (as Reboul and Moeschler 1998 rightly underline). But the question is: what causes these structures to appear? Many scholars assume that the individuals are engaged, when exposed to a discourse, in 'discursive' operations of coherence-tracking or of recovery of organisational properties, or through the identification of the discourse type. In this line of thought, there would therefore be specific 'discursive operations' taking place when interpreting more-than-one-utterance segments, which should entail that the hearer / reader has something like a 'discursive competence', just like he / she has a linguistic competence. This view entails a division of the interpretive tasks: the hearer, on one side, interprets single utterances — or speech acts —, and on the other side, processes these utterances and acts with regard to their discursive function, with some awareness of what a discourse formally looks like. However this is intuitively sound, I want to stress that the question of discourse is basically a question of *meaning* rather than one of *structure*, since there is no point thinking of structures of meaningless items. As a matter of fact, the hearer / reader can spontaneously form hypotheses regarding the meaning of a discourse, but he/she does not naturally end-up with hypotheses regarding the structure of the discourse. 'Discursive structures' could therefore be seen as an artefact elaborated by the analyst.

An alternative is to say that discourse structures do actually exist, but that they are the *result* of meaning construction, thus of interpretation, as I will now argue; only the *meaning* level is easily accessible to a hearer / reader, while the *structure* of discourse appears only with cautious analysis. Recovery of discourse structures is not a spontaneous and automatic cognitive operation; conversely, meaning recovery is. Nonetheless, studying discourse structures can be the key to backtrack the main problem, that is, how meaningful information is recovered through related

utterances. Yet I take it for granted that no discursive structure can ever be dismantled without a model of how its elements come to become meaningful.

Rhetorical relations, or discursive connections, are not, for instance, independent from meaning construction. In fact, these relations must be viewed as a result of the semantic-pragmatic processing: the hearer seeks to link the currently processed utterance to other representations in order to make the most of it; these other representations come typically — but not always — from the previously achieved processing of previous utterances. It is intuitively sound that a rhetorical relation, such as *justification, cause, result, explanation, elaboration*, is a cognitive object, and there is no other way than to see it as springing from pragmatic cognitive processing. These relations are therefore performed through a bottom-up procedure, they are not predictable from general rules of discourse organisation (but they are of course *constrained* by unconsciously known conventions of conversation and discourse, which is another question). A text is, in this perspective, an empirical document for these relations to be analysed.

Therefore, many current models of Gricean and post-Gricean pragmatics, as well as models in dynamic semantics, simply don't need to ascribe discursive functions to utterances: they would rather consider that these functions are about communication as a dynamic process. Discourse structure studies, in the end, should boil down to full utterance interpretation studies, since they are by-products of individual utterances' meaning attribution, which is always considered with regard to the context, which in turn contains a number of salient previously verbalized propositions. This implies that coherence, in the broad sense, as an intuitive notion, is a by-product of interpretation: in classical Relevance-theoretic terms, an utterance U1 within a discourse has the function of preparing the appropriate contextualization of the next utterance U2; the function of U1 is to be easily combined as a contextual premise with U2. It is simple to see that if a set of representations coming from the previous utterances correspond to, say, (P & Q), and that the current utterance U corresponds to a proposition presented as implied by (P & Q), (P & Q) count as a contextual premise for the conclusion U; there is nothing here that cannot be explained through online utterance processing; even the argumentative structure can be reconstructed on the basis of utterance processing. Here the full-fledged meaning M derived from U corresponds to something like this: $M = U \,\&\, [(P \,\&\, Q) \rightarrow U]$, which is a structure bearing not only the relevance of U with regard to the premises, but also satisfies the intuition of coherence.

Again, this does not imply that there is nothing like discourse structures, nor that it would be meaningless to study discourse structures according to the analysts' intuitions. Certainly, some pragmaticists would say, elaborating on Blakemore's claim that communication should not be studied in relation with the notion of discourse, that discourse structures are simply irrelevant. But this is far

too abrupt. When considering argumentation in particular, it is clear that only discourse structures can help us understand the role of utterance sequence production with regard to things like belief-acquisition. Studying discourse as bearing structures of functional items thus means tracing back to the cognitive operations that are driven by a typical sequence of types of utterances. That way, discourse studies combine, or interface potentially well, with semantic-pragmatic analysis. And when it comes to generalization, discourse structure studies are technically allowing for tracing back possible interpretations, and therefore tracing back potential belief inculcation and other changes of the cognitive environment of the hearer/reader (reason for which many discourse approach focus on discourses with a generic audience like media and political discourses, with a concern on how discourses are produced, rather than interpreted).

However, since communication is an ongoing 'online' process, it is better explained by a procedural modelling of information processing with regard to contextual features. As for discursive *meaning*, Reboul and Moeschler (1998) suggest that the hearer/reader attributes to the speaker not only local, utterance-triggered, intentional meaning, but that they combine these meanings together in the process of tracking some higher-level, global, meaning for an organized set of utterances. But whatever the solution to the problem of discourse meaning ends up being, for semanticists and pragmaticists of the post-Gricean tradition, it is clear that the meaning of a given discourse is equivalent to the meaning of the last utterance of the considered discourse. This is expected from these approaches, since they consider discourses as processes unfolding though time.

Communication, in this view, is, as mentioned before, a process of continuous hypotheses formation, validation and refutation, with comparison to background assumptions and to other contextual features, including previous discourse. I claimed earlier that this ongoing process already takes place at all levels of *logical form*, *propositional form* and *implicatures*. At this stage, it became important to evaluate whether things like 'discursive representations' were relevant or not for pragmatics. Assuming that all these hypotheses are, in fact, hypotheses about the speaker's representations (conscious or non conscious, actual or mistakenly speculated by the hearer/reader), in particular about the speaker's intentions, it makes definitely sense that pragmatics can indeed worry about global intentionality, even if this is not clearly acknowledged in a number of radical traditions of pragmatics.

4. Concluding remarks

In the view I exposed above, a discourse is an ordered set of representations which are outputs of the interpretive procedure, a set of representations corresponding

to various intentions of the speaker. What remains to be clearly explored within neo- and post-Gricean pragmatics is that a discourse conveys a series of hierarchized components. But this hierarchy can't be adequately tackled through rhetorical relations, although they can help reconstructing it. The hierarchy of the information conveyed by a discourse is the result of a very pragmatic process, and finding out about this hierarchy is probably not the work of linguists themselves but rather that of communication scientists and psychologists, who help us see which information is extracted and considered as more relevant by the hearers. In a recent study (Rubinelli, Nakamoto, Schulz and Saussure forthcoming) we discovered with some surprise that a panel of people exposed to an advertisement for a medicine, when afterwards asked about the key elements in the advertisement's text tended to mention elements that were only implicitly communicated, sometimes far remote from the literality of the text. The hierarchy of information, in such a case, would have been predicted by rhetorical relations very differently than what actually happens in message reception; we assumed on the contrary that this hierarchy of information, or salience of interpreted elements, was the result of a pragmatic cognitive process where completely extra-discursive notions played a crucial role, such as beliefs about what is importantly communicated by the writer and what is not, the hearer's own concerns, etc.

In my view, this kind of studies, where appropriate theories of implicit meaning and experimental studies on information reception are lead to work together, announce fruitful new directions of research in the field of pragmatic interfaces and discourse analysis.

Notes

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1. A first attempt, dealing with the analysis of the interpretive procedure that handles temporal information, is to be found in Saussure 2003.

2. Carston, personal communication; Blakemore 2002.

3. For example, French philosopher Roland Barthes said in his inaugural lecture at the College de France that *language is fascist* (January 1977).

4. Van Eemeren and Grootendorst's Pragma-dialectical approach is another example of how Searle's early ideas can be exploited in a way that articulates natural language understanding procedures with issues regarding utterances' interconnections in a given conversation or discourse.

5. Saussure says in his 'third course': "About the folders inside our mind, we can't explore them" (Komatsu and Harris 1993: 80; translation mine).

6. I refer here to Noveck and Sperber (2004), and, in psycholinguistics proper, to MacDonald, Pearlmutter and Seidenberg (1994), Trueswell and Tanenhaus (1994), Labelle (2001), Faust and Gernsbacher (1996), and the numerous works of Gibbs, to name a few. Their position does not entail, though, that computers cannot *model* how the mind works, of course; they presuppose however the difference of actual human parallel processing and computer sequential processing.

7. Personal communication, Nov. 2005. See Recanati (in progress), "It is raining somewhere".

8. See also Smith and Tsimpli (1995), who showed the lower metarepresentational capacities of autists by testing the understanding of double negation and of metalinguistic negation; Smith and Tsimpli, as recalls Larrivée (2006), hypothesized a defective theory of mind of the tested subjects.

9. I will not comment these interesting but barely operative intuitions here. On polyphony *vs.* metarepresentation, see Saussure (forthcoming).

10. On local and global intentions, see Reboul and Moeschler (1998).

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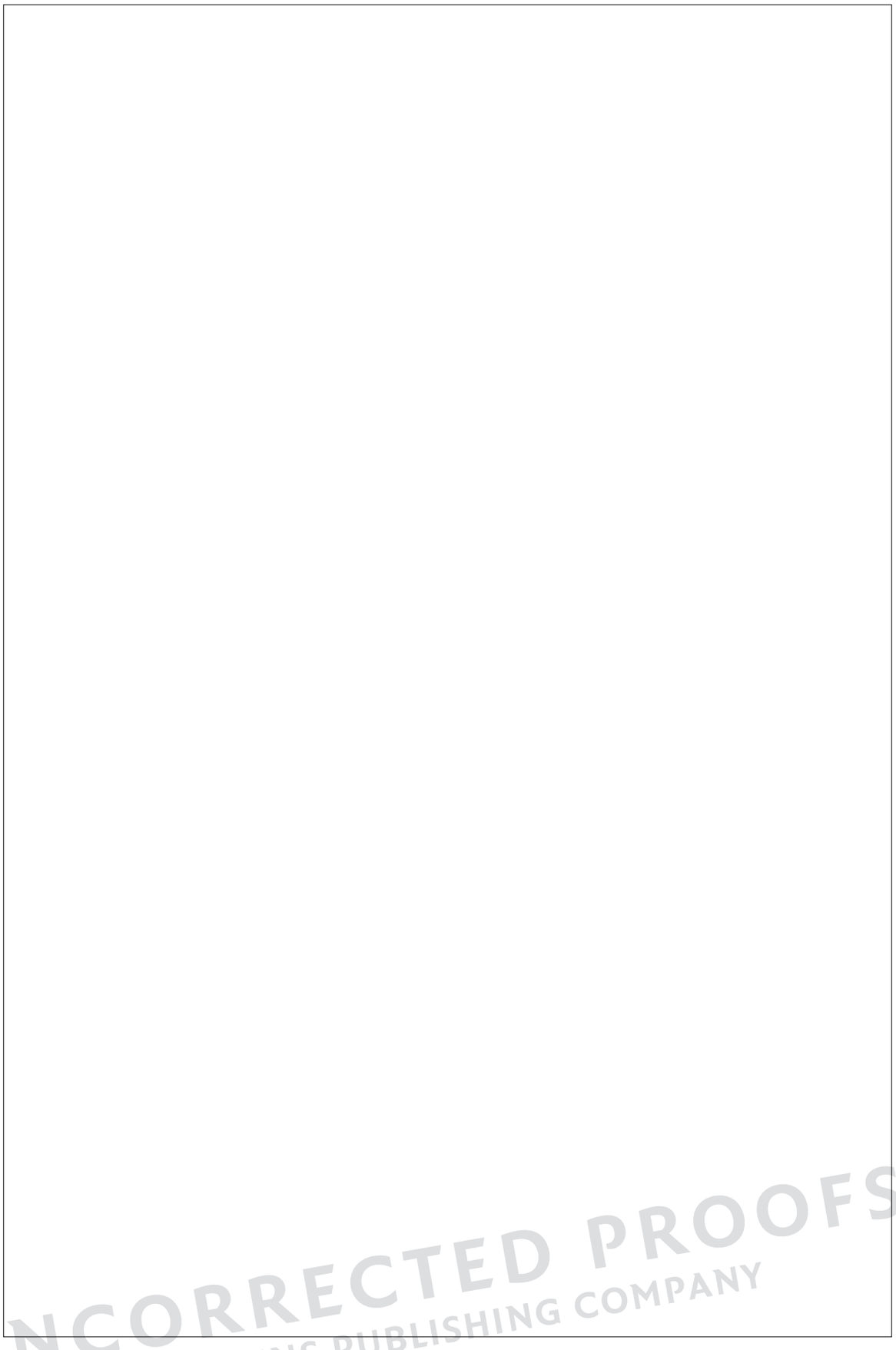

The study of argumentation as normative pragmatics

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In the study of argumentation there is a sharp and ideological separation between dialectical and rhetorical approaches, which needs to be remedied. The authors show how the pragma-dialectical theory of argumentation can be instrumental in bridging the gap. By adopting a research programme that involves engaging in 'normative pragmatics', not only the critical normative and the empirical descriptive dimensions of the study of argumentation can be brought together, but also the dialectical and the rhetorical perspectives. In the research programme, which includes philosophical, theoretical, analytical, empirical and practical components, dialectical and rhetorical perspectives are articulated in each component. The authors make clear that the two perspectives can be reconciled with the help of the notion of 'strategic manoeuvring'. Strategic manoeuvring, which is inherent in argumentative discourse, is aimed at reconciling the simultaneous pursuit of dialectical and rhetorical aims.

1. Rhetorical and dialectical perspectives on argumentation

Apart from a shared interest in the study of argumentation, in their academic work students of argumentation with a rhetorical outlook and students of argumentation with a dialectical outlook have not much in common. Although Aristotle, who may be regarded as the intellectual father of both rhetoric and dialectic as full-fledged academic disciplines, considered rhetoric to be the 'counterpart' (*antistrophos*) of dialectic, so that the distinction reflects primarily a division of labour among students of argumentation, the two intellectual enterprises have over time and by irregular stages grown apart. According to Toulmin (2001: 12–13), since the mid-seventeenth century rhetoric and dialectic have developed into mutually independent disciplines that are at the same time mutually isolated. Currently the dialecticians are more or less stowed away in the exact sciences, logic and philosophy, whereas the rhetoricians have found their home in the humanities among scholars of communication, language and literature. In spite of some recent strong

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signs of new overtures, it is only fair to say that at the moment there is in the study of argumentation still a *yawning gap* in conceptual approach and mutual understanding between those who favour a dialectical perspective and those who favour a rhetorical perspective. Not only do they take on their studies of argumentation in entirely different ways, but also they do not pay a great deal of attention to each other's intellectual achievements. In practice, they largely belong to different academic communities that are mutually isolated and have their own disciplinary infrastructures, with their own associations, journals, book series, and conferences. In fact, they seem first and foremost not to contest each other's views because they are insufficiently aware of what the others are asserting and why this would matter to their own endeavour. A sharp and ideological separation between dialectic and rhetoric has come into being, which in our view needs to be remedied. In this article, we intend to show how the pragma-dialectical theory of argumentation can be instrumental to bridging the gap.

2. The pragma-dialectical theory of argumentation

In the last decades of the twentieth century, van Eemeren and Grootendorst have developed a 'pragmatic' variant of a dialectical perspective on argumentative discourse that has become known as the *pragma-dialectical theory of argumentation* (1984, 2004). Unlike 'formal' dialectical perspectives on argumentation, such as those developed by Hamblin (1970) and Barth and Krabbe (1982), our 'pragmatic' dialectical perspective combines a dialectical view of argumentation as part of a critical discussion with a pragmatic view of the moves that are made in this discussion as speech acts that play a part in resolving a difference of opinion. In our pragma-dialectical perspective, the dialectical dimension of the study of argumentation is not given a formal logical shape but dealt with as a pragmatic format for carrying out argumentative discourse in a communicative context.[1]

In the pragma-dialectical approach to argumentative discourse, argumentation is studied as a complex of linguistic (and sometimes also non-linguistic) acts with a specific communicative function in a discursive context (*functionalisation*). The focus is on the public commitments that arguers undertake by their performance of argumentative speech acts and on the consequences of these commitments for the argumentative process (*externalisation*). Argumentative speech acts are in the pragma-dialectical approach studied as being performed between two or more parties who are having a disagreement and interact with each other in an attempt to resolve this disagreement (*socialisation*). To transcend a merely descriptive stance, pragma-dialectics explicates the critical standards to which reasonable arguers appeal and to which they hold each other

accountable when engaging in a regulated process of resolving a difference on the merits (*dialectification*).

The pragma-dialectical theory of argumentation consists in the first place of a procedure for testing the acceptability of standpoints critically in the light of the commitments the parties have assumed in the empirical reality of argumentative discourse. The theoretical device that defines such a procedure is the ideal model of 'critical discussion'. This model provides a description of what argumentative discourse would be like if it were optimally and solely aimed at methodically resolving a difference of opinion about the acceptability of a standpoint on the merits.

In the *confrontation* stage of a critical discussion, the objective is to achieve clarity concerning the issues that are at stake in the difference of opinion and the positions that the parties assume. The objective of the *opening* stage is to establish an unambiguous point of departure for the discussion. This point of departure consists of inter-subjectively accepted procedural and material starting points — the mutual 'concessions', as they are called in dialectic — and also includes an agreement about the division of the burden of proof. In the *argumentation* stage, the objective is to test the tenability of the standpoints that shaped the difference of opinion in the confrontation stage, starting from the point of departure established in the opening stage. The objective of the *concluding* stage is to establish the result of the critical testing procedure and to decide whether the protagonist can maintain his standpoint in the light of the criticisms advanced by the antagonist or whether the antagonist can maintain his position of doubt even considering the arguments advanced by the protagonist. Thus the model of a critical discussion specifies the resolution process and the stages that can analytically be distinguished in this process. In addition, it specifies the types of speech acts that are instrumental in resolving the difference in each particular stage. The speech acts that are performed in the discourse have to be in agreement with the dialectical rules for critical discussion that are instrumental to resolving a difference of opinion in all stages of the resolution process. Any move made in the discourse that does not comply with the rules can be seen as an obstruction to achieving the aim of the discussion and may therefore (and in this particular sense) be considered fallacious.[2]

To prepare for a well-considered evaluation of argumentative discourse, in which all the fallacious moves that occur in the discourse are identified, a careful analysis is required in which, starting from the ideal model of a critical discussion, the discourse is *methodically reconstructed* as an attempt to resolve a difference of opinion. This reconstruction excludes all elements from consideration that are not relevant for the aim of dispute resolution, but includes all elements that do serve this aim but are implicit in the discourse, such as so-called 'virtual standpoints'

and 'unexpressed premises'. In the reconstruction, a resolution-oriented order is imposed on the discourse where this is called for because the sequential order does not mirror the course of the resolution process. Uniformity is secured in the verbal descriptions that are given of all moves that fulfill the same function in the resolution process. The reconstruction results in an 'analytic overview' of the resolution process.[3]

3. A research programme for the study of argumentation

Among the students of pragmatics, students of argumentative discourse are in a very special position.[4] They are not just interested in learning more about the way in which argumentative discourse is used to persuade people of a certain viewpoint, but also in finding out whether the discourse agrees with the critical standards that have to be complied with in order to make the argumentation *sound*. They are oriented towards the analysis and evaluation of actual cases of argumentative discourse in the light of critical standards for argumentative conduct. For many of them, the 'critical analysis' of argumentative discourse is even the *raison d'être* of the study of argumentation.

In order to serve both their analytic and their critical purposes, students of argumentative discourse have to carry out a research programme that has not only an empirical, descriptive dimension, but also a critical, normative dimension. In this programme, a systematic link has to be established between, on the one hand, insights expressed in normative models of regimented argumentative discourse that are similar to those developed by logicians for the proper conduct of reasoning, and, on the other hand, insights in the actual conduct of argumentative discourse that are based on similar empirical observations as made by conversation analysts and other students of language use. In our opinion, the desired combination of empirical insight into the descriptive characteristics of argumentative reality and the normative standards for sound argumentative discourse can best be achieved by developing a comprehensive research programme in which the study of argumentation is put in the broader enterprise that van Eemeren has earlier called *normative pragmatics* (1990).

The research programme that we propagate consists of five, inter-related components: a philosophical, a theoretical, an empirical, an analytical, and a practical component (van Eemeren and Grootendorst 2004: 9–41). On the normative side, a philosophical ideal of reasonableness must be developed and, starting from this ideal, a theoretical model for acceptable argumentation. On the pragmatic side, argumentative reality must be investigated empirically and it must be determined where, in the practice of argumentative discourse, problems occur. Next,

the normative and the pragmatic levels of the study of argumentation must be systematically linked together by utilizing analytical instruments for viewing argumentative reality in the light of the favoured ideal of reasonableness.

The systematic linkage of the normative and the descriptive dimensions of the study of argumentation aimed for in carrying out the various types of research that are connected with the five components of the research programme can only be achieved if the research starts from a general and coherent perspective on argumentative discourse. The most important perspectives on argumentative discourse that we have at our disposal are the *dialectical* and the *rhetorical* perspective.[5] They were developed in Antiquity but are still current in amended forms.[6] Basically, in the rhetorical perspective argumentation is treated as a means of persuading an audience of the acceptability of a standpoint, and in the dialectical perspective as the quintessential part of a critical discussion aimed at testing the tenability of the standpoint. In illustrating the five components of the research programme we would like to endorse we shall refer to these two perspectives. This gives us at the same time the opportunity to point at some fundamental differences between the two perspectives.

3.1 Philosophical research: Argumentation and conceptions of reasonableness

On the philosophical level, students of argumentation reflect upon the basis of the study of argumentation by taking up the question of what it means for a rational judge to be reasonable. As it happens, the conceptions of reasonableness that are favoured by students of argumentation may diverge from the outset. Following Toulmin (1976: vi–vii), we can roughly distinguish between a formal or 'geometrical' conception of reasonableness, an 'anthropological' conception, and a 'critical' conception. The adoption of either one of these philosophical conceptions of reasonableness influences the way in which the acceptability of argumentation is judged. For characterizing the rhetorical and the dialectical perspectives on argumentative discourse we only need the anthropological and the critical conception.

Rhetoricians generally favour an anthropological outlook and equate reasonableness with the standards for judging argumentation that prevail in a certain community or culture. Argumentation is then regarded as acceptable if the audience that it is aimed at approves of it. Because of this linking of the ideal of reasonableness with a particular group of people at a certain place and time, the rhetorical perspective is always to a greater or lesser extent relative and can be charaterized as philosophically *anthropological*. Dialecticians, on the other hand, maintain a critical outlook. Their starting point is that we cannot be certain of anything and should be sceptical with regard to any claim to acceptability. Dialecticians favour

the systematic submission of the one party's standpoints to the other party's critical doubts. In their view, reasonableness is not solely determined 'internally' by using the norm of 'inter-subjective validity', which amounts to requiring inter-subjective agreement, but also by applying the 'external' norm of 'problem validity', which requires this agreement to be reached in a manner that solves the problem at issue. Because dialecticians regard all argumentation as part of a critical discussion between two parties trying to resolve a difference of opinion, their main criterion for problem validity is whether an argumentation fits in with a discourse procedure that is instrumental to achieving this goal. Because of this linking of the ideal of reasonableness to the methodical conduct of a critical resolution procedure, the dialectical perspective can be philosophically characterized as *critical*.[7]

3.2 Theoretical research: Models of argumentation in discourse

On the theoretical level, students of argumentation give shape to their ideal of reasonableness by designing models of what is involved in acting reasonably in argumentative discourse. Such ideal models aim to provide an adequate grasp on argumentative discourse by specifying which modes of arguing are acceptable to a judge who is reasonable in the light of a certain philosophical conception of reasonableness. In such models, terms referring to properties and relations that are crucial to a theory of argumentation, such as 'acceptable' and 'unacceptable', and 'justification' and 'refutation', are given a specific meaning. Thus, the model constitutes a theoretical framework that can fulfil heuristic as well as analytical and critical functions in dealing with argumentative discourse.

In a rhetorical ideal model, the argumentation techniques are listed that are considered to be effective in view of the knowledge and beliefs of the audience or readership. Because the acceptability of argumentation is in this way linked to the specific cultural background of the people that are to be swayed by the argumentation, this theoretical perspective can be labelled *proto-rhetorical*. Dialecticians, on the other hand, opt for a *proto-dialectical* perspective and regard every argumentation to be part of an explicit or implicit critical discussion aimed at resolving a difference of opinion by putting the standpoints at issue to the test. The dialectical ideal model specifies which moves, in the various stages of a critical discussion, can contribute to achieving this critical goal and sums up the procedural rules that must be observed. Though the consequences of violating a rule may vary in their seriousness, every violation is a potential threat to a problem valid conclusion of the discussion. Such dialectically incorrect moves correspond roughly with the kind of defects traditionally referred to as *fallacies*.

3.3 Empirical research: Properties of argumentative reality

Students of argumentation carry out empirical research to gain a better insight into the properties of argumentative reality. They attempt to describe the actual processes of producing, identifying and evaluating argumentative discourse and the factors that influence their outcome. Their research may vary from qualitative studies of patterns of interaction in argumentation to pencil and paper tests and other quantitative measuring of skills and attitudes regarding argumentative discourse. The research focuses always on that which is relevant in the light of a certain theoretical perspective. This means that the descriptions that are given concentrate on properties of argumentative discourse that will be of consequence to a specific type of analysis and evaluation.

In a rhetorical perspective, the emphasis is on the effectiveness that certain argumentative patterns have with different kinds of audiences. The investigation focuses on the stylistic and other phenomena, in a certain context, contribute to changing people's minds. Empirical research that starts from this kind of interest concentrates on *persuasion processes*. In a dialectical perspective, the emphasis in empirical research is on the ways in which various argumentative moves contribute to resolving a difference of opinion in a critical exchange. What is examined is which linguistic and non-linguistic factors play a part in the process of getting a point of view accepted or rejected in a rational and reasonable way. The primary interest of the empirical research in these studies is in *procedural convincingness*.

3.4 Analytical research: Reconstruction of argumentative discourse

In their analytic research, students of argumentation, in a similar fashion to Freudian analysts, try to link the exterior appearance systematically with their ideal model by 'seeing through' the discourse as it manifests itself in practice and bring out properties that lay underneath and that are pertinent to the kind of analysis aimed for. On the analytical level, the central question is how argumentative discourse can be reconstructed in such a way that all those, and only those, aspects are highlighted that are relevant in view of the ideal model that is chosen as a theoretical starting point. Such a reconstruction aims at a calculated merger of the ideal and the real that satisfies both the normative requirements exemplified in the ideal model and the descriptive data of empirical reality. Carrying out certain theoretically motivated and empirically justified transformations of deletion, permutation, addition and substitution in the analysis often makes the things the analyst is looking for more clearly visible. Especially when he is dealing with complex argumentative discourse, a careful reconstruction can have great advantages.

Whether a rhetorical model is used in which argumentation is viewed as a means of gaining approval, or a dialectical model in which argumentation is a means of testing the acceptability of a standpoint, in both cases argumentative discourse has to undergo some analytic transformations to bring theoretical insight to bear in practical situations. In a rhetorical analysis, it is attempted to provide more insight into those aspects of an argumentative discourse that may have an effect on the audience by reconstructing the discourse as an attempt to win the audience over to a standpoint. Because of its emphasis on the effectiveness of certain argumentative moves with respect to the people who have to be persuaded, a rhetorical reconstruction is *audience-oriented*. In a dialectical analysis, an attempt is made to provide insight into the aspects of an argumentative discourse that are relevant to the resolution of a difference of opinion by reconstructing the discourse as an attempt to counter doubt regarding the acceptability of a standpoint. Because of its emphasis on the function of argumentation in bringing differences of opinion to an adequate conclusion, a dialectical reconstruction is characteristically *resolution-oriented*.

3.5 Practical research: Ways of improving argumentative practices

On the practical level, students of argumentation try to put their philosophical, theoretical, analytical and empirical insight to good use in developing ways of improving argumentative reality that systematically take into account the diversity of practices. They examine argumentation in its diverse institutionalised and non-institutionalised contexts, ranging from the formal context of law to the informal context of an ordinary conversation at home. Often their final aim is to find out how argumentative procedures in various kinds of practices can be improved and people's argumentative skills and abilities in the production of argumentative discourse and its analysis and evaluation can be methodically increased. Because argumentative competence is a disposition that people can have in different degrees and that is relative to specific goals, their mastery of this competence can only be measured by standards relating to these goals. Students of argumentation who aim for the improvement of argumentative reality by way of education need to take due account of this need for 'contextualization'.

Irrespective of whether they are inspired dialectically by a critical-rationalist or rhetorically by an anthropological-relativist philosophy, that is, irrespective of whether they are attuned to resolving a difference on the merits or to gaining approval for one's positions, the ways of improving argumentative practices that are proposed must be designed for bringing about the desired practical effects. In a rhetorical perspective, this amounts that they must, first and foremost, provide effective directions for successful argumentation. Usually an attempt is made to teach

people how to argue successfully by sampling shining examples and enforcing imitative training. This is why the rhetorical perspective on the practical component of the research programme can be characterized as interested in *persuasive success*. When ways of improving argumentative reality are developed from a dialectical perspective, among the basic ingredients are furthering a discussion-minded attitude and promoting a full awareness of the procedural prerequisites of resolving differences of opinion and the various types of obstacles that may interfere. Dialecticians typically aim for achieving such an awareness by treating their students as active discussion partners who are capable of responding critically and offering them a better understanding of the problems involved in producing, analysing and evaluating argumentative discourse. Because of its emphasis on stimulating independent thinking, such a dialectical approach of the practical component can be characterized as directed at *critical reflection*.

4. The incompatibility of the rhetorical and the dialectical perspective

Our sketch of a research programme for the study of argumentation makes clear that a connected set of different types of research projects must be carried out to integrate the descriptive and the normative dimensions of the study of argumentation in a systematic way. It also makes clear that such an integration can be achieved in different ways, depending on one's perspective on argumentative discourse. Two prominent alternatives have been mentioned in the explanation of all components of the programme: the rhetorical option and the dialectical option.

As Kienpointner (1995: 453) has pointed out, *rhetoric* is seen by many modern scholars as "a rather narrow subject, dealing with the techniques of persuasion and/or stylistic devices", while others conceive of rhetoric as "a general theory of argumentation and communication" — and still others deny that it is a discipline at all. According to Simons (1990), rhetoric can most neutrally be described as *the study and the practice of persuasion*. Using the label 'rhetoric' in this way does not necessarily imply a conception of rhetoric that equates rhetoric without any ado with 'winning', let alone with 'winning at all cost' or a similar goal often ascribed to rhetoric by its enemies (see, e.g., Biro and Siegel 1992: 88). It *does* mean, however, that rhetoric is in the end always, and undeniably, associated with getting your point across to the audience.

Dialectic is nowadays often defined as truth finding by way of the Socratic method of 'elenchus' (where *elenchus* is a method for testing the tenability of certain propositions against critical doubt). In our opinion, this emphasis on 'truth' is an undesirable, and even a-historic, simplification, which ignores the possibility of using dialectic to deal with non-factual issues in testing the acceptability of

standpoints. If rhetoric is to be given a general description as the study of audience persuasion, then, in the same vein, dialectic should be given a general description that leaves room for various further interpretations. The most suitable general description of dialectic seems to be that of *the study of discussion aimed at critically scrutinizing the acceptability of views in light of possible inconsistencies with the starting points that may be regarded as the 'concessions' made by the other party in the difference of opinion*. If an inconsistency is exposed in the discussion, the discussion has come to a conclusion and the typical dialectical closure is *Ipse dixisti!* (Barth and Krabbe 1982).

In most of the literature rhetoric and dialectic are contrasted, more often than not to the point that they are suggested to be incompatible, if not bluntly contradictory. The question, however, is whether this is correct. Unlike what our earlier contrasting characterizations may seem to have suggested, the relationship between dialectic and rhetoric is at any rate not simply that dialectic represents the *normative* dimension of the study of argumentation, dealing with the critical aspect of systematically testing the acceptability of viewpoints, whereas rhetoric represents the *descriptive* dimension, dealing purely with the empirical aspect of effective persuasion. As regards dialectic, it has been clear from the beginning that its relation with empirical reality is essential. As regards rhetoric, from classical Antiquity onwards, starting with Aristotle, all rhetoricians worth mentioning have always claimed that there is a normative 'value dimension' inherent in any good and non-trivial rhetoric. Persuasion is then not just equated with practical effectiveness, but connected with the fulfilment of certain other conditions, often of an ethical nature. In such approaches, rather than an empirical fact, effectiveness is conceived as a 'right' a certain argumentative discourse or text is entitled to claim on the basis of its merits. But how exactly is the relationship between dialectic and rhetoric then to be conceived? Before going into this question, we would first like to introduce the theoretical perspective on argumentation from which this question will be answered.

5. Reconciling dialectical and rhetorical insight into the analysis

In the past five years, we published a series of articles that show how the pragmatic reconstruction of argumentative discourse, and more particularly its justification, can be considerably strengthened by incorporating rhetorical insight into the analysis (van Eemeren and Houtlosser 1998, 2002a, 2002b). In these papers, we proposed a systematic integration of rhetorical considerations in the pragma-dialectical framework of analysis starting from the view that dialectical and rhetorical insights can be complementary and can be constructively combined if rhetoric is interpreted pragmatically as the study of skilful — perhaps even artful

— persuasion by means of argumentative discourse.[8] Our point of departure is that there is no reason to assume *a priori* that the rhetorical norm of skilful persuasion is necessarily incompatible with, or even contradictory to, the critical ideal of reasonableness that lies at the heart of pragma-dialectics. Why after all would it be impossible to comply with critical standards for argumentative discourse when attempting to shape one's case to one's best advantage? In practice, it is more likely than not that the situation is quite the reverse, and that argumentative moves that a critical audience considers rhetorically strong will also be in accordance with the dialectical norms applying to the discussion stage concerned.

Whether an argumentative discourse is part of a dialogue or of a speech, it is generally not the arguers' sole aim to 'win' in the sense of having things their way, but also to conduct the discourse in a way that may be considered reasonable or is at least perceived as reasonable. As a consequence, the arguers' rhetorical attempts to conclude the discourse in their own favour can be viewed dialectically as being incorporated in an effort to resolve the difference of opinion in accordance with proper standards for a critical discussion. People engaged in argumentative discourse are characteristically oriented towards resolving a difference of opinion and may be regarded as committed to norms instrumental in achieving this purpose — maintaining certain standards of reasonableness and expecting others to comply with the same critical standards. This means that, pragmatically, the parties engaged in an argumentative discourse may at every stage of the resolution process be presumed to hold to the dialectical objective of the discussion stage concerned while also being out for the optimal rhetorical result at that point in the discussion. In their efforts to reconcile the simultaneous pursuit of these two different aims the arguers make use of a communicative tool that we have termed pragmatically as *strategic manoeuvring*. Strategic manoeuvring is aimed at diminishing the potential tension arising from pursuing a dialectical and a rhetorical aim at the same time.

An understanding of the role of strategic manoeuvring in argumentative discourse can be gained by examining how the opportunities that are available in a certain dialectical situation are used to handle that situation in a way that is most favourable for a certain party. Each of the stages in the resolution process is characterized by a specific dialectical aim. Because the parties involved want to realize this aim to their best advantage, they can be expected to make the strategic moves that serve their interest best. In this way, the dialectical objective of a particular discussion stage always has a rhetorical analogue and the presumed rhetorical objectives of the participants must be specified according to stage: it depends on the dialectical stage one is in what kind of advantages can be gained.[9]

Strategic manoeuvring can take place at several levels of an argumentative move. The basic aspects of strategic manoeuvring are, in our view, making an expedient selection from the 'topical potential' available at a certain discussion stage,

adapting one's contribution optimally to the specific expectations and demands of the audience, and using the most effective presentational devices. Both parties may be expected to select the material they can handle well, or suits them best, develop the perspective most agreeable to their audience, and present their contributions in the most effective way. In each of these three respects, by themselves or combined, both parties have an opportunity to influence the result of the discourse in their own favour.[10]

Although our starting point is that the pursuit of dialectical and rhetorical objectives can well go together, there may nevertheless be tensions that strategic manoeuvring cannot satisfactorily resolve. This predicament explains the occurrence of certain *derailments* of strategic manoeuvring that are to a large extent similar to the wrong moves in argumentative discourse that are known as fallacies. How to distinguish between sound and fallacious argumentative discourse is one of the central problems in the study of argumentation. It is only possible to determine systematically for all stages of the resolution process whether or not a certain argumentative move is fallacious if there are clear *criteria* for deciding when exactly a discussion move violates a particular discussion rule. Establishing these criteria often meets with considerable problems. Our conception of strategic manoeuvring can be of help in solving these problems. As soon as we can rely on an adequate classification of the diverse modes of strategic manoeuvring and a specification of their soundness conditions the criteria for determining whether or not a certain argumentative move is fallacious can be more fully and systematically developed.

The model of a critical discussion provides a good starting point for identifying such modes of strategic manoeuvring. Although the model specifies only the critical objectives of the parties in the various stages of resolving a difference of opinion, each of these dialectical objectives has, as we have just argued, its rhetorical complement. This means that both parties can try to exploit all the room that is left to them for attempting to realize the critical objectives to their own persuasive intent and make the moves that further their own case optimally. Starting from such a view enables us to examine more precisely the soundness conditions applying to a particular mode of strategic manoeuvring and to identify the criteria that have to be taken into account in deciding whether or not the strategic manoeuvring has got derailed and a particular fallacy has been committed. In this way the fundamental problem of how to distinguish between sound and fallacious moves in argumentative discourse can be tackled more effectively with the help of insight into the strategic design of the discourse.

Insight into the strategic design of the discourse gained by making use of the pragmatic concept of 'strategic manoeuvring' can be of added value to the analysis and evaluation of argumentative discourse in at least three ways. First, it provides a clearer view of how argumentative reality can be more accurately reconstructed

dialectically. Second, it strengthens the justification of the analysis by enabling a justification that is more comprehensive and better informed. Third, it provides a helpful pointer to the situated conditions that must be satisfied for not overstepping the boundaries between sound moves and fallacious moves. All in all, a more sophisticated and insightful critical analysis of argumentative discourse can thus be achieved.

6. Conclusion

Let us end this paper by propounding the bold claim that conceiving the research programme as normative pragmatics not only enables us to overcome the absolute division between the professedly irreconcilable normative and descriptive dimensions of the study of argumentation, but also the absolute division between the professedly incompatible dialectical and rhetorical perspectives. For the analytical component of the research programme we have just shown that adopting this approach involves a more specific interpretation of the rhetorical perspective on reconstruction as not merely audience-oriented but oriented towards the skilful way in which the persuasive power of the argumentation is crafted in the discourse. The emphasis is then on how the resolution-oriented analysis of the critical potential of the discourse is enriched by an analysis of its persuasive potential.

The other components of the research programme are similarly affected by the integration of insight from the rhetorical perspective in the pragma-dialectical approach. In each component, specific aspects of the rhetorical perspective on the study of argumentation are highlighted and this results in specific emphases in the conceptions of the rhetorical as well as the dialectical perspective on the research concerned. In the philosophical component of the pragma-dialectical research programme, a convention-seeking interpretation of the anthropological reasonableness conception prevailing in the rhetorical perspective is associated with a pragma-critical philosophy of reasonableness. In the theoretical component, a quality-minded interpretation of the rhetorical model of persuasion is systematically connected with a pragma-dialectical model of a critical testing procedure by means of a critical discussion. In the empirical component, technique-centred rhetorical descriptions of persuasion processes supplement the rule-centred empirical knowledge gained in dialectical research of procedural convincingness. In the practical component, rhetorical interest in empathic ways of understanding successful persuasive practices and stimulating an effective pursuit of such practices goes together with a critical reflection-minded dialectical interest in procedural ways of enhancing the quality of argumentative practices by improving existing discussion formats and teaching methods.

The goals that are to be achieved in the various components of the research programme call in each particular component for special relationships with other disciplines. In the philosophical component, for instance, the reflection on the regimentation of argumentative discourse needs to be connected with thinking about reasonableness and rationality in analytic philosophy, logic and action theory. In the theoretical component, the quality of the model that is designed can benefit from linguistic pragmatics based on speech act theory and Gricean theories of rational exchanges and from dialectical insights developed in formal and informal logic. In the empirical component, a strong overlap exists between the study of argumentative processes and certain activities in discourse analysis and reception and persuasion research in psychology. In the analytical component, insight from discourse analysis and rhetorical criticism can be brought to bear to gain a better understanding of both the 'critical' and the 'strategic' design of argumentative discourse and texts. Finally, in the practical component, insights from disciplines varying from law and political science to pedagogy can be helpful in examining argumentative procedures in more or less institutional contexts and developing methods for improving competence in analysis, evaluation and presentation.

Notes

1. In our view, the possibilities for formalization are dependent on the stage of development a theory has reached; in some instances formalization is premature while in others refraining from formalization prevents a theory from developing. In practice, it may of course be the case that some parts of a theory are ready for formal treatment while others can only be formalized at the expense of harmful reductions that are an impediment to gaining real insight. Although pragma-dialectics is primarily a theory of argumentative discourse, formalization is by no means excluded. Dialectic is in our approach regarded as a method of regimented opposition that amounts to the pragmatic application of logic — a collaborative way of putting logic into use so as to move from conjecture and opinion to more secure belief.

2. Inherent in this approach is an alternative to the so-called *standard treatment* of the fallacies that was so severely criticized by Charles Hamblin (1970). Instead of viewing the fallacies, as they are viewed in the standard approach, as arguments that seem valid but are not valid, the fallacies are now defined more broadly as discussion moves that violate a particular rule for critical discussion. In judging the fallaciousness of argumentative discourse, the single norm of logical validity is thus replaced by a collection of different norms that argumentative discourse has to comply with and that are expressed in the discussion rules. In this way, many of the traditional fallacies can be characterized more clearly and consistently, while fallacies that went earlier unnoticed are now detected.

3. For the pragma-dialectical reconstruction of argumentative discourse, see van Eemeren, Grootendorst, Jackson and Jacobs (1993) and van Eemeren and Grootendorst (2004: Chapter 5).

4. We use the term *argumentative discourse* to refer both to oral communication in argumentative discussions and to written communication in argumentative texts.

5. Rather than as different kinds of discourse practices, such as public speeches, dialogues or debates, in our view, for academic purposes dialectic and rhetoric are to be primarily viewed as different theoretical perspectives on argumentative discourse. These theoretical perspectives can, of course, be easiest illustrated by referring to specific types of communication, but this should not mean that the two are automatically identified with their most prototypical manifestations.

6. Leading modern protagonists of a rhetorical perspective on argumentation are Chaïm Perelman and Lucie Olbrechts-Tyteca. Among the more recent rhetoricians are David Zarefsky, Thomas Goodnight, and Michael Leff. The modern protagonists of a dialectical perspective include Charles Hamblin, Paul Lorenzen and his Erlangen School, Arne Naess, Nicholas Rescher, Else Barth and Erik Krabbe, Frans van Eemeren and Rob Grootendorst, and more recently also Douglas Walton.

7. For 'critical rationalism', one of the most important modern philosophical approaches promoting this critical conception of reasonableness, see Popper (1963/1974) and Albert (1967/1975).

8. Likeminded other authors who make a connection between rhetoric and pragmatics are Dascal and Gross (1999) and Jacobs (2002).

9. In the confrontation stage of a critical discussion, the strategic manoeuvring of each of the parties will be aimed at achieving a definition of the disagreement that favours the issues this party wants to discuss and the position this party would like to assume. In the opening stage, the manoeuvring will be aimed at establishing the most workable starting points, for instance by calling to mind, or eliciting, helpful concessions from the other party, and establishing the most opportune allocation of the burden of proof. In the argumentation stage, the parties will aim to make the strongest case and to launch the most effective attack. In the concluding stage, each party's strategic manoeuvring will be designed to reach the most favourable outcome of the discussion.

10. Integrating rhetorical considerations in this way in a dialectical framework of a pragmatic nature can be instrumental to achieving a satisfactory analysis and evaluation of argumentative discourse. At the same time, it should be apparent that a satisfactory rhetorical reconstruction can only be achieved if dialectical considerations are taken into account because the rhetorical function of speech acts can be determined systematically only if they are first put in a well-defined dialectical perspective of what is at stake in the stage of the discourse concerned.

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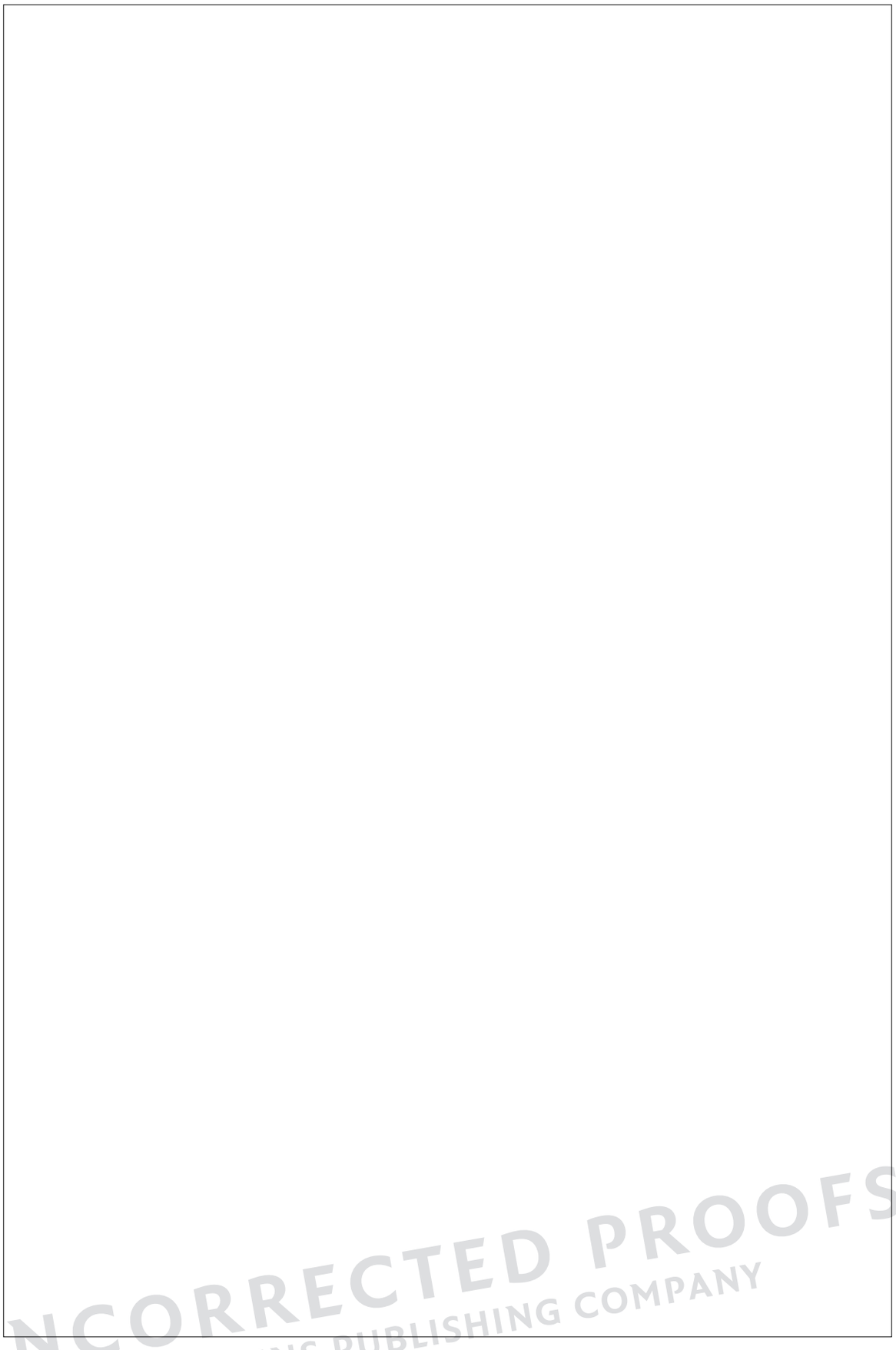

Towards an interface between Pragma-Dialectics and Relevance Theory*

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This paper investigates the tentative compatibility of two pragmatic approaches, Pragma-Dialectics (*PD*) and Relevance Theory (*RT*). The development of pragmatics historically led to conceptions of communication that supplied answers formal logic approaches had trouble capturing. Within argumentation studies, *PD* took this pragmatic turn while at the same time pursuing a normative agenda. This gives evidence of an *external* approach to language (in that argumentation follows norms imposed by the theorist) excluding, though not closing the door to cognitive insights. The purpose of this paper is to discuss the extent to which *PD* can operate from an *internal* cognitive perspective — i.e., with explicit ambitions of dealing with cognitive mechanisms of meaning construction and belief fixation.

0. Introduction

Today, van Eemeren and Grootendorst's 'Pragma-dialectics' (1984, 1992, 1996, and 2004) (henceforth *PD*) is probably one of the most influential paradigms in argumentation studies. This is perhaps because its designers have surveyed and critically evaluated virtually all the studies of argumentation known since Greek Antiquity, but also — and, in my opinion, mainly — because they integrate *pragmatic* and *dialectical* insights. It is indeed commonly accepted today that arguing is more than merely 'doing logic' and that a solid theory of argumentation is one which addresses not only the question of the conceptual structure of arguments but also that of the argumentative *usage* of language.

Across history, the appropriate way to study argumentation has been debated by numerous philosophical traditions. One of the most ancient of these is logic, which confines the assessment of argument validity to formal conceptual considerations based on natural logic. Rhetorical theories of argumentation, such as Perelman and Olbrechts-Tyteca's *Nouvelle rhétorique* (1958), stress the importance

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of rhetorical factors in arguing and convincing people by putting forth the reliance of argument's effectiveness on audience-centred factors. Toulmin's (1958) model of *practical arguments* tries to focus more on justificatory than inferential functions of argumentation, via the notion of *warrant*. Informal logic (see Johnson 2000 and Pinto 2001, for example) is a relatively recent approach that focuses on 'real-life' arguments, in contrast "with the *a prioristic* application of deductive calculi to the contrived arguments typical of some applications of formal logic to natural language" (van Eemeren and Grootendorst 1996: 164). *PD* identifies and tries to make up for the problems these approaches face by undertaking a 'pragma-dialectic turn'.[1]

The first objective of this paper is to bring forward the role of a pragmatic component in argumentation studies. Section 1 will therefore focus on the problems (formal) logic faces when addressing argumentation, defend the necessity of pragmatic insights and consequently acknowledge *PD*'s contribution in this respect.

Section 2 will evoke two issues raised by *PD* if we choose to adopt a cognitive perspective, namely its approach to meaning construction and its avoidance of belief fixation matters (argumentation's 'perlocutionary' effects). It is in relation to these two issues that I will try to discuss a few possible connections with cognitive studies. It should already be noted that these two issues are quite distinct: one relates to what communicators do *before* engaging in procedures of argument checking (*upstream* issue, Section 2.1.), and the other to what communicators do *after* they have assessed the argument in question (*downstream* issue, Section 2.2.). While I try to assess a possible way of approaching these questions, my intention is of course not to submit here a full-fledged model of argumentation able to supply a comprehensive answer to both interrogations. This would (evidently) require thorough and systematic research, both on a theoretical and empirical level. I consequently assume the inherently programmatic nature of this contribution.

My ambition is to investigate if cognitive accounts of communication can be relevant to the study of argumentation. With respect to this idea, van Eemeren and Grootendorst state that:

> There is no need to have detailed knowledge of all the cognitive processes that play a role in the interpretation of a discourse of text in order to be able to carry out an analysis based on externalized textual characteristics, but some insight into these processes can, of course, deepen the analysis (van Eemeren and Grootendorst 2004: 74).

In an attempt to see whether the analysis can indeed be 'deepened', I explore the implications of adding to *PD* some insights of a cognitive approach such as Sperber and Wilson's Relevance theory. Of course, this does not exclude the potential

utility or appropriateness of neo-Gricean approaches such as Levinson's (2000), Horn's (2004), or Bach and Harnish's (1979) in the analysis.[2] Rather, I take *RT* as one paradigm of *cognitive pragmatics* among others. Section 3 will introduce *RT* and discuss if its integration with *PD* into a cognitive account of argumentation is in principle possible and fruitful. As a conclusion, I will consider the global framework in which argumentation studies develop today. This will lead me to point out two tendencies of pragmatic studies and to evoke their convergence.

1. Argumentation: between logic and pragmatics

1.1 (Formal) logic and argumentation

Argumentation has traditionally been studied by formal logic. Truth-conditional semantics, as an extension of formal logic dealing with natural language matters, assumes that sentence meaning representation is possible through an abstraction designed to explicate language structure and its internal dependencies. Since they are considered abstractly, sentences are conceived as meaningful entities *per se*. This is roughly what Cann has in mind in the following definition:

> semantics is the study of meaning abstracted away from those aspects that are derived from the intentions of speakers, their psychological states and the socio-cultural aspects of the context in which their utterances are made (Cann 1993: 1).

This is true for single sentences, but also for sequences of sentences, for instance when they are combined into an argumentative scheme. Within this framework, dealing with sound argumentation implies dealing with truth, which is assessed by looking at truth conditions. Assessing the validity of an argument hence consists in making sure that the truth of its conclusion follows from the truth of its premises, according to a finite set of inferential schemes.

The aspect of formal logic approaches to argumentation I want to stress here is the fact that their system applies to abstract and *non-contextualised* representations. As a matter of fact, their application to 'real-life' argumentation raises certain issues. This might be a consequence of what some call the *underspecification of semantic meaning*, namely the fact that a proposition does not linguistically encode its full meaning. Unarticulated constituents of meaning (see Perry 1986) as well, of course, as implicit material, play a decisive role in interpretation; formal logic experiences nevertheless some trouble capturing all these kinds of inputs.

Indeed, it must first be noted that we seldom use canonical forms of deductive rules of propositional logic (for instance the *modus ponens*) when we argue. Even if the underlying form of an argument can match one of the conceptual schemes

identified by logicians, the actual utterance often differs from it, sometimes to an extent that makes its reconstruction quite difficult, although our mind is usually pretty good at dealing with it. The discrepancy between the abstract structure and its actual use in argumentation, among other reasons, shows the need for an import from pragmatics.

Second, it is a fact that we can argue without using specifically argumentative connectives, and still communicate causal justification. This tends to prove that interpretation also relies on decisive elements found outside the sentence. Take for instance (1) and (2):

(1) Winston fell unconscious. The burglar hid his bludgeon back into his coat.

(2) Let's take an umbrella, or did you want to get wet? (van Eemeren and Grootendorst 1992: 47)

Even if no linguistic argumentative pointer directs us to understand the second sentence as representing the cause of the event represented in the first one, (1) is perfectly unproblematic, since we can interpret that Winston fell unconscious *because* the burglar hit him with a bludgeon. We are able to infer this kind of relation because of background knowledge and contextual information, which are not linguistically nor conceptually encoded into the stimulus, and thanks to our automatic and spontaneous ability to draw inferences on the basis of incomplete information.

In (2), the proposal is followed by a question that clearly has to be interpreted as an argument meant to sustain the claim that the speaker and the hearer should take an umbrella. However, no explicit argumentative pointer favours this interpretation (the linguistic connective 'or' does not semantically encode causality, but disjunction). Van Eemeren and Grootendorst explain the causal relationship by arguing that the first clause, although it is not literally a standpoint (you cannot answer "I disagree" to "let's take an umbrella"), functions as one, and that the second is not just a yes/no question. I would add that the alternative offered in the second clause is somewhat ridiculous (most people would not at first glance be inclined to get wet); as such, it is easily disposable, and reinforces the initial proposal. Moreover, from a strictly semantic point of view, we cannot even decide whether (2) carries argumentative force or not. What if the speaker considered that the hearer had reasons to get wet (because s/he likes it, or for any other possible reason)? In this case, (2) would not be argumentative, but strictly interrogative. The point is that we cannot explain why (2) can be argumentative by virtue of its semantic or logical properties, without calling upon the context. Just as in (1), it is only *pragmatically* that we can infer argumentative force from the utterance.

Similar problems can occur in utterances with explicit argumentative connectives, such as in (3), but whose second clause displays a lack of information that must be pragmatically resolved:

(3) I don't support Bush, because Bush is Bush.

In (3), "Bush is Bush" is a tautology. However, when processing (3), we are led to presume a more substantial, or relevant, meaning. *Bush is Bush* being introduced as an argument by the connective *because*, we will try to find an interpretation that satisfies its argumentative function. And we can perfectly well come up with a plausible conclusion, even if logically, — or semantically — such a conclusion about the second clause's interpretation is not encoded.

As Dascal notes, "our 'natural reasoning' often deviates from the norms of correct reasoning". We should consequently be out for an account of "a wide range of ways of extending our knowledge that cannot be handled by formal logic alone" (Dascal 2005: 5). One of the consequences of these observations is quite straightforward: formal logic should be interfaced with other approaches, such as a pragmatic theory of argumentation. This is precisely how van Eemeren and Grootendorst envisage their model. They started from — though they did not limit themselves to — a pragmatic perspective, shaped by the idea that language is a social practice, and that communication is about doing things in addition to saying things. From a cognitive pragmatic viewpoint, pragmatic meaning is even more: it's about retrieving intentional information, and not, or not only, social patterns of action (see Sperber and Wilson 1995).

Accordingly, I will discuss argumentation under the scope of pragmatics, and more precisely I will address which pragmatic orientations argumentation studies might take. In what follows, I begin by taking a closer look at the pragmatic foundations of *PD*.

1.2 Pragma-dialectics: Argumentation as a social practice

The overarching contribution of *PD* is to consider argumentation as a phenomenon of actual interaction, in addition to a matter of abstract conceptual structures. This benefits the theory by adding contextual data as parameters of crucial importance. As van Eemeren and Grootendorst conceive it:

> argumentation is a verbal, social, and rational activity aimed at convincing a reasonable critic of the acceptability of a standpoint by putting forward a constellation of propositions justifying or refuting the proposition expressed in the standpoint (van Eemeren and Grootendorst 2004: 1).

Arguing is resolving a difference of opinion by advancing propositions sustaining the claim whose acceptability is being questioned. This presupposes first that there are two participants, one of them casting doubt on the acceptability of the other's standpoint.[3] As a result, argumentation is a dialectical process: not only does it involve the participation of two individuals working out the resolution of a dispute, but it also requires systematically submitting of statements to doubt, therefore forcing their proponents to defend them.

One feature of *PD* is the model's ambivalence, in that argumentation is conceived of both as a process and as a product: "The term *argumentation* refers at the same time to the process of arguing ('I am about to complete my argumentation') and to its product ('This argumentation is not sound')" (van Eemeren and Grootendorst 2004: 1). Being a process, it is conceived as a goal-oriented activity realised by the speaker's performance of speech acts. As a product, argumentation is the result of this process, i.e., the performance of argumentative speech acts. These considerations pertain to the point of view of argumentative 'production'.

However, *PD* also envisages the perspective of reception through its analytical application. It provides in effect a model for argument evaluation that aims at assessing whether an argumentative sequence can be deemed acceptable:

> Using the [critical discussion] model as a guide, the reconstruction aims to produce an *analytic overview* of all components of a discourse or text that are pertinent to the resolution of a difference of opinion. Pursuing this aim involves examining exactly which points are at issue, which procedural and material points of departure are chosen, which explicit, implicit, indirect, and unexpressed arguments are advanced, which argument schemes are used in each single argumentation, and how the argumentation that is formed by combining single argumentations is structured (van Eemeren and Grootendorst 2004: 96).

This allows researchers to deal with both the production and the reception of discourses. From a linguistic perspective, it definitely constitutes an advantage, since in principle *PD* can address issues relative to the speaker *and* the hearer.

From an epistemological point of view, *PD* is based on Speech Act theory (following Austin (1962) and Searle (1969)) and on Gricean pragmatics, in the sense that the interaction in which argumentation is embedded follows conventions and complies with an elaborate version of Grice's Cooperation Principle, the "Communication Principle" (See van Eemeren and Grootendorst 2004: 76–77). *PD* regards argumentation as a social practice that observes certain conventional rules. In this respect, it belongs to the field of discourse analysis, where discourses are seen as 'corpus wholes' and studied from the outside, in terms of their structure and the dependence relations their constituents have with each other.

1.3 The pragmatic model of critical discussion (PD)

The conceptual core of *PD* is the ideal model of the *critical discussion*. It is defined as follows:

> By a *critical discussion* we mean a discussion between a protagonist and an antagonist of a particular standpoint in respect of an expressed opinion, the purpose of the discussion being to establish whether the protagonist's standpoint is defensible against the critical reactions of the antagonist (van Eemeren and Grootendorst 1984: 17).[4]

Through a critical discussion, which is the ideal format an argumentative discussion should embrace, participants (protagonist and antagonist) exchange views in order to arrive at a resolution of the dispute by agreeing on the acceptability or unacceptability of the standpoint called into question. This procedure unfolds following — in its most recent version (see van Eemeren and Grootendorst 2004: 136–157) — a set of fifteen rules "intended to enable language users to conduct themselves as rational discussants". These are also "calculated to prevent anything that might hinder or obstruct the resolution of a dispute" (van Eemeren and Grootendorst 1984: 151). In parallel, there are also ten commandments (see van Eemeren and Grootendorst 2004: 190–196) listing the prohibited moves that would be detrimental to the resolution of the dispute and which simplify the fifteen rules by focusing on prohibitions. Summing up, successful argumentation requires the observance of critical rationalistic standards set by the theorist, which underlie the rules for a critical discussion.

As for the analysis of argumentation, it is achieved by reconstructing the argumentative path undertaken by the participants and by evaluating it with regard to the aforementioned rules and principles. However, this approach to argument validity differs from formal or logical approaches to argumentation, mainly because it is pragmatic (where *pragmatics* denotes, via Speech Act theory, a shift from propositional concerns to illocutionary ones, thus proposing a way of dealing with semantic underspecification and integrating contextual considerations) and *dialectic*, since argumentation is thought of as a social activity involving a discussion procedure regulated according to standards of critical rationality (see van Eemeren and Grootendorst 2004: 59 for a detailed discussion of dialectic developments of argumentation studies since the 1950s). In this respect, fallacies are no longer merely conceived as conceptual faults or logical mistakes, but rather as inadequate or forbidden pragmatic moves performed in argumentative discourse by a participant. Classical logic assesses validity relatively to the conceptual structure of argumentation, independently from utterance production, whereas *PD* does so relatively to the very *performance* of argumentation. In fact, *PD* extends the

conception of fallaciousness to matters of illocutionary inappropriateness, thus avoiding a restriction of its scope to propositional content.

Those speech acts that do not go by the rules of the critical discussion will be discarded as valid arguments insofar as they do not contribute to the resolution of the dispute and thus considered to be fallacious. In other words, fallacies are speech acts that violate the rules (i.e., the rules for a critical discussion, though it can be the case that these match speech act felicity conditions[5]). Let's take an example to illustrate this strong claim of *PD*.

(4) Winston's arguments are nonsensical; everybody knows he spent some time in a mental institution some months ago.

This example can illustrate a violation of Commandment # 6 ("Discussants may not falsely present something as an accepted starting point or falsely deny that something is an accepted starting point" (van Eemeren and Grootendorst 2004: 193)) as follows:[6] if the fact that Winston was admitted in a mental institution has not clearly been established beforehand as an accepted premise by the participants, then (4) is fallacious in that it asserts that this has been the case. As we can see, here, the problem does not lie with the content of the utterance nor in its logical internal articulation; but within what the speaker *did* by uttering (4).[7]

One of the advantages of *PD*'s agenda for argumentation studies lies in the fact that it tries to capture what formal logic and semantics could not account for. Since this is also one of the goals of cognitive pragmatics regarding a theory of communication, in the next section I will try to evoke its possible interface with *PD*.

2. Is the study of argumentation compatible with a cognitive approach to meaning and belief fixation?

2.1 Upstream issues

The first point I'd like to introduce relates to what an individual (not the analyst) is supposed to do *before* being able to evaluate the soundness of the argumentation (hence the label *upstream* issue). In order to evaluate any piece of information we first need to make sense of it. This makes interpretation a necessary condition for evaluation. So, intuitively, a full-fledged theory of argumentation should address the question of *interpretation*, or at least include some module on which it can rely to deal with the question of meaning construction. This is an issue that *PD* addresses via its reliance both on Speech Act theory and on an elaborate version of Grice's framework. However, as Dascal points out:

> Current debates about the 'foundations' of Speech Act theory (…) and its critique (…) and of pragmatics in general (…), about how to develop an action-based dynamic and dialogical grounding of the study of language use (…), about the universality or culture-specific character of communicative competence and practice (…), about the 'correct' number of the conversational maxims (…) and the (in)sufficiency of the principle of cooperation (…) — all this shows that the field of research created by the pioneers is far from having secured sound philosophical foundations. Progress towards this aim requires further dialogue between dialogue researchers and philosophers (Dascal 1998: 17).

Speech Act theory holds that an addressee is able to fully understand a speech act if s/he is able to grasp its illocutionary force, i.e., when s/he is able to know what kind of speech act is at stake (assertion, promise, request, order, and so forth). In order to identify the speech act that has just been performed by the speaker — and thus to understand it — s/he will need to fit it into the right category. To do this, a hearer must recognise the speaker's *intention* (in the Gricean sense); the means by which s/he does so are assumed to be conventional, i.e., it is because we know by convention that specific verbal expressions are used to achieve specific effects (such as understanding which speech act has just been performed) that we are able to recognise the speech act. According to Searle, communication will be successful "if the hearer understands the sentence, i.e., knows its meaning, i.e., knows the rules governing its elements" (Searle 1969: 48), these rules being conventional. Sperber and Wilson (1995) exposed a few issues raised by this approach. Since *PD* elaborates on Speech Act theory in order to define argumentation as a complex speech act (also referred to as a 'speech act complex' in Chapter 2 of van Eemeren and Grootendorst 1984), this debate is also of importance to the pragma-dialectical model.

First of all, one and the same sentence can correspond to different speech acts. Nevertheless, the answer provided by Speech Act theory does not go into detail to explain how and why this can be the case. Take for instance (5):

(5) We wouldn't want this subject to be mentioned in Laszlo's presence.

Depending on the context, (5) could either be a simple request, an assertion, an order, an advice or even a threat. In cases where no linguistic or prosodic features favour one interpretation over another, pragmatic approaches will usually say that contextual information takes over and helps us inferring the right meaning. In particular, Searle would probably say that such is the case for (5), provided the "utterance in a context can indicate the satisfaction of an essential condition without the use of the explicit illocutionary force-indicating device for that essential condition" (Searle 1969: 68). This tells us what happens (namely, that the context can make up for the lack of explicit illocutionary force markers and allow to satisfy

the speech act's essential conditions); yet it does not tell us concretely the procedure followed by the hearer for this to happen. This is probably why Searle called upon the Gricean framework to address the question when discussing indirect speech acts.

Sperber and Wilson discussed both Speech Act theory and the Gricean approach. Their arguments regarding Speech Act theory come down to the fact that it lacks explanatory adequacy:

> It is one thing to invent, for one's own theoretical purposes, a set of categories to use in classifying the utterances of native speakers, or to try to discover the set of categories that native speakers use in classifying their own utterances. It is quite another to claim that such a classification plays a necessary role in communication and comprehension (Sperber and Wilson 1995: 244).

Their point is that there are no clear or solid reasons to believe that the fact that the hearer fits a speech act into a category plays a role in comprehension. Stating that we are able to classify a speech act as an advice does not say much as to why or how, but mainly whether we are able to do it. Sperber and Wilson take the example of a tennis player and make the following comparison: it is not because a tennis player is unable to recognise a lob, a volley, a backhand or a smash that he cannot perform one. From a cognitive point of view, speech act classification and identification by the hearer may well constitute an additional and unnecessary layer of information. All in all, *RT* would probably claim that calling upon conventional reasons and establishing a classification without explaining how we use it does not, from a cognitive perspective, shed enough light on the question of the role and the construction of context in the mechanisms of interpretation.

Sperber and Wilson (1995) also discuss the foundational works of H.P. Grice. His breakthroughs on meaning and communication allowed pragmatics studies to develop a model of inferential communication postulating the cooperation between communicators and the idea that they follow and exploit certain communicative standards and maxims when they verbally interact. The strong assumption of this paradigm is the idea that explicit and implicit meaning is *calculated*. The hearer does this by following a rational step-by-step procedure known as the *working-out schema*.[8] Wilson (2000 and 2003) recalls however that this explanation of meaning construction faces serious problems of cognitive plausibility. Notably, it seems unlikely that small children, which seem pretty good with implicature derivation, go through such procedures.[9] Moreover, it fails to explain exactly how an implicature is retrieved — the conversational maxims suppose norms according to which implicatures are derived, but these norms are not *justified* in any way — and thus merely shows how "once constructed, it [the implicature] might be confirmed as part of the speaker's meaning" (Wilson 2000: 419). As a matter of fact, it is partly

in reaction to the issues faced by Speech Act theory and by Grice's framework that *RT*'s model was built.

These are examples of the kind of arguments used against early pragmatic theories. Nevertheless, my intention is not to get into the details of these debates. I only wish to stress that consensus has not been achieved regarding the vast issue of meaning construction. Since this is the case, and van Eemeren and Grootendorst themselves leave the door open to cognitive insights,[10] I would like to see whether cognitive pragmatics can propose an alternative to other pragmatic accounts of interpretation; in this respect, I will consider if a cognitive account such as *RT* can be beneficial to the meaning construction procedures brought forth by *PD*, which in turn may provide the critical module in charge of argument evaluation that *RT* simply lacks.

2.2 Downstream issues

The second issue I would like to bring up regarding the scope of argumentation studies concerns what happens *after* an argument has been understood and evaluated. In other words, I am interested in the effects (i.e., the 'perlocutionary' effects) of argumentation, hence the label of *downstream* issues.

PD does not focus on such an issue. Its posture will certainly explain how argumentation unfolds, list the parameters that have an influence on the argumentative interaction, and specify under which conditions a critical discussion is deemed valid. But it explicitly rejects investigation on perlocutionary effects. The fact that argumentation in *PD* is not conceived as an *online* cognitive process gives evidence of an external approach to language, where language is construed from without (as opposed to from within) the individual, as a social construct whose regulating principles govern people's behaviour in communication. My intention is to see whether this type of approach can host *internal* cognitive insights, by exploring the posture stating that argumentation studies should also explain the effects of argumentation on people's beliefs as cognitive representations. In line with the ambitions a theory such as *RT* nourishes, I am interested here in investigating if *PD* would be able to make an incursion into matters of belief fixation. This interrogation follows from the consideration that *arguing is generally undertaken to convince*, and hence to make people entertain the communicated representations as true beliefs.

Now, intuition would make us expect sound arguments to convince (leading *ipso facto* to belief fixation) and fallacies to fail to do so. But things are far more complicated. As a matter of fact, experience shows us that sound arguments may fail to convince, while fallacies may succeed. Consider the following examples:

(6) Winston: "Why are you washing the potatoes if you are going to peel them anyway?"
Laszlo: "Let me do things my way".

(7) Four million Japanese people cannot be wrong. That was the number of people that rushed to purchase Dragon Quest on its release in Japan. (BBC)[11]

Reconstructing (6), it appears that Winston's standpoint is that Laszlo should not wash the potatoes. This statement is sustained by the argument that dirt comes off the potatoes when peeling them, and therefore follows the conclusion that it is unnecessary to wash the potatoes before peeling them. At first glance, this argument is sound, and could be pretty convincing. But what if Laszlo wants to deal with potatoes the way he was taught to by his parents (i.e., washing them first)? What if he considers that it is more pleasant to peel clean potatoes than potatoes covered with dirt? There is a possibility that these different potentialities could overtake sound argumentation and lead Laszlo to reject the representation yielded by Winston's statement, even though the supporting argument was valid. More generally, it is quite obvious that belief fixation does not necessarily follow from valid argumentation — simply because many other parameters enter belief fixation/rejection processes — and therefore that there are important nuances to add to the intuitive idea that sound argumentation makes its conclusion convincing.

Conversely, (7) may well not be ruled out as non-convincing, though it exploits the fallacy known as the *bandwagon fallacy*, or *Argumentum ad Populum*. The context is the release of an awaited videogame in Japan. By uttering (7), the journalist is actually communicating positive attitudes as to the game's quality. I can easily imagine that despite being fallacious, this type of argument can weigh in someone's decision to buy the game ("If everyone does, it must be good, so why not buy it too?"). Intuitively at least, it could very well be the case that the mind actually manages these kinds of 'fallacious' arguments as acceptable information, i.e., as somehow valid in the given context. This coincides with the rather trivial idea that the mind does not always follow critical and logical pathways when coming to entertain a belief as true; psychological and sociological studies, such as Milgram's famous experiments on obedience (Milgram 2004 [1974]), or Festinger's work on the notion of *cognitive dissonance* (Festinger 1957) have indeed showed that other parameters can influence people's rational beliefs and behaviour.

This is not to say that *PD* does not *explain* things; in fact *PD* has two distinct levels of explanation, *micro* and *macro*, in its model of argumentation. *Micro* explanations rest on the norms governing speech act performance and recognition. They are *internal* in the sense that they are supposed to reflect what language users do when communicating, but they are not internal in a *cognitive* sense, since they do not deal with cognitive mechanisms of interpretation. *Macro* explanations (i.e.,

the rules of the critical discussion) are *external* to language, since they reflect the theorist's regulation of an activity, according to certain philosophical standards. In this sense, the model specifies what argumentation *should be*. Of course, one could claim that knowing the rules that determine sound argumentation should allow us to perform argumentation properly. But establishing a set of rules without reliance on cognitive evidence, as supplied today by numerous studies within the field of experimental pragmatics (see for instance Noveck and Sperber 2004), does not guarantee that these rules reflect what our mind does.

The main difference between both approaches points to one of the principles I wish to link to argumentation studies: addressing cognition entails addressing dynamic aspects of *online* as-we-speak interaction. In addition to dealing with properties of arguments and properties inherent to the procedure of arguing, this would allow for predictions on real-time argumentation to be made, which would be based on *internal* insights. Such is the purpose of a tentative interface between *PD* and *RT*.

3. Interfacing PD and RT: Towards a cognitive account of argumentation

3.1 RT

Before I begin to discuss the lines along which an interface could be thought of, let me first say a few words about *RT*.

RT is a naturalistic mechanistic theory of communication that describes and attempts to explain how meaning is constructed on the basis of contextualised linguistic stimuli. It is naturalistic in the sense that it addresses natural cognitive mechanisms that we humans deploy when processing communicated information. Relevance theorists try to explain the phenomenon of meaning construction, by detailing the processes (contextualisation, enrichment with information the stimulus does not carry itself) that a communicative stimulus goes through in order to achieve its communicative function, that is, the conveyance of speaker meaning. One of the assumptions of this naturalistic approach is that it addresses *actual* phenomena, i.e., mechanisms intervening as we process information.

Communication in *RT* is conceived as a process presupposing an input stage (where the communicative physical stimulus is produced by the speaker and made available to the hearer) and an output stage (where the mental representation is arrived at after the stimulus has been processed). The hearer derives first the logical form of the stimulus, which is a structured sequence of concepts corresponding to its syntactic and semantic structure. A propositional form and other 'explicatures' are then derived, mainly through the disambiguation of the logical form. The

mind then takes those conceptual representations as an input, and processes them together with retrievable contextual information, in order to produce implicatures and derive the fully-fledged speaker's intentional meaning. Figure 1 shows how meaning construction works according to *RT*:

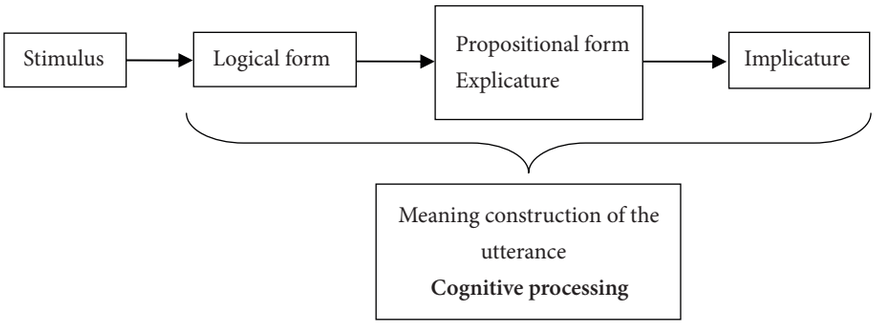

Figure 1. RT's model of meaning construction (simplified).

RT's model treats mental representations almost like material objects that interact with each other according to a step-by-step procedure,[12] thus providing a model of *how* meaning is constructed. Such an account of contextualisation of utterances overcomes the difficulties that a simple code model would have explaining implicit components of information.

In addition to describing *how* communication works, taking into account the underspecification of semantic meaning, *RT* postulates the existence of a relevance engine ruled by an economy principle that explains *why* an output solution, in a given context, is preferred over another. The goal of *RT* is to account for how and why a particular interpretation is derived. According to Sperber and Wilson (1995), the human mind pursues efficiency; whenever confronted with some kind of processing, the hypothesis is that it will privilege, among several possible options, the option that yields the largest quantity of effects for the lowest amount of allocated efforts. In other words, the path the mind will take in processing information is the one that fits best the ratio between the effort required and the anticipated effect. *RT*'s definition of relevance rests on the idea that speaker's intention and speaker's meaning are the same thing, since any utterance carries an *informative intention*, i.e., roughly a propositional content, and a *communicative intention*, i.e., the intention of making the informative intention manifest.

This idea applied to communication leads to the following assumptions: the less effort it takes to derive a representation, the more it is relevant, and therefore the more it is likely to match the speaker's intentional meaning. In parallel, the more contextual effects a representation produces in context, the more it will be relevant, and therefore, the more it will be likely to match the speaker's intentional

meaning. Both options evidently convey the idea that the representation with the best ratio between cognitive effort and contextual effect is the one which corresponds best to the speaker's original intention. Sperber and Wilson consider the mind to be "geared towards the maximisation of relevance" (Sperber and Wilson 1995: 266), that is, towards seeking equilibrium to optimise processing.

3.2 Interfacing PD and RT

We have seen that *PD* does not nourish cognitive preoccupations of online processing. My proposal is to explore the possible integration of *PD* and *RT* into a global model of argumentation that accounts for the interpretation, the evaluation and the tentative effectiveness of arguments. Before I proceed, I must set forth that I take *RT*'s architecture as one possible pragmatic candidate– among other pragmatic approaches[13] — for an interface.

One of the problems we might face in this endeavour is that *PD* and *RT* do not address exactly the same minimal units. The first addresses — though in different fashions — both discourses as wholes and single speech acts while the second only deals with single utterances. In effect, we saw in Section 3.1. that *RT* looks at things from a *micro* perspective. In order to jump to *macro* considerations, it is assumed that every meaning output of the processing of utterances adds to the context and that it becomes available, as part of the context, for the next representation to be processed, somehow building the *macro* picture progressively (see Reboul and Moeschler (1998) for a discussion on that very point). Even if *RT* cannot at once assess the whole discourse sequence other than through the construction of context (which reflects how communicators proceed as they speak, since they have no access to the whole picture before communication has finished — although this does not mean that they cannot make assumptions about it), this solution could nevertheless be envisaged under the condition that the role and the type of intervention of each theory are well defined. I consequently suggest that an interface could be possible along the following lines:

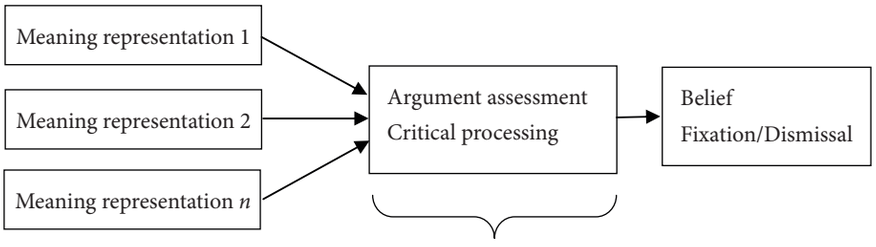

Figure 2. Interfacing PD and RT.

This figure illustrates that *PD* could take *RT*'s outputs as an input for further processing. In such a model, utterance meaning(s), as part of a broader context, become available to be processed by a module of argument assessment. The first consequence of this tentative interface would lead us to add to worries about argument validity in interactive situations more general considerations regarding online discourse processing, while conceiving *PD* as a continuation of the meaning construction process, as shown in Figure 2. The main point here is the insertion of *PD* in a causal chain that models natural speech processing from the perspective of the mental representations an individual can make about the argumentation s/he is dealing with.

Consequently, the upstream issue we expounded earlier, concerning *PD*'s account of interpretation, could thus be thought of differently, by making *PD* exploit the output of meaning construction as detailed by *RT*, or by any other cognitive pragmatic approach to interpretation, as an input for the evaluation of arguments. The assumption underlying this proposal is that individuals, even if they engage in social practices — which function in particular ways, that still ought to be described —, rely on their minds to behave and adapt their conduct in and to the situation. Regardless of its origin, any piece of information is handled by the mind as a mental representation. An account that explicitly deals with cognitive objects is one that provides insights on how one actually manages information, which is (in part) what we are looking for when theorising a critical discussion or any other type of interaction.

The second issue, related to the effects of argumentation, could be addressed by assigning *PD* a central role in what could be called a *critical module* (in line with Chilton (2005)), whose intervention would determine if an input representation (i.e., the output of the meaning construction process) is worth integrating the hearer's cognitive environment or not. Examples (6) and (7) illustrated that argument soundness did not necessarily entail belief fixation. The idea is therefore to regard processes of argument validity checking as competitors to other cognitive mechanisms of belief fixation.[14] I suggest that a cognitive account of argumentation should keep in mind two essential questions:

– There is the question of the way the mind processes the information (either critically or some other way). In order to work out the outcome of this confrontation, i.e. an 'arms race' between the critical module and other cognitive options, the relevance engine could in principle be envisaged, for depending on the features of the representation and the contextual cues available, I assume cognitive processing could be different. These considerations can call upon cognitive models such as Petty and Cacioppo's *Elaboration Likelihood Model* (1986), which suggests that the mind can process information either by

following a 'central route' that involves careful scrutiny of the communicative stimulus, or a 'peripheral route' that focuses on aspects of the message that are distinct from its subject matter. This is also in line with the notion of 'shallow processing' discussed for instance by Allott (2005).

– Then there is the question of the functioning of the critical module *per se*. For this purpose, we need to postulate some kind of calculus supported by governing principles determining whether the argumentative chain is valid or not. This is required to resolve the integration/dismissal of the new representation as a serious candidate for belief fixation. In this respect, there is no reason not to make the criteria used to carry out such a procedure rely on critical rationalist standards (just as the rules of a critical discussion). Argument validity could still be assessed in terms of soundness — with logic *and* situational implications, just as *PD* envisages it. However, the model would gain an additional layer of explanation, since the output of argument evaluation (acceptability/unacceptability) is made available to be confronted to other representations that are already fixed in the hearer's cognitive environment in order to resolve belief fixation/rejection in cognitive terms.

In any case, I should think that the interface of *PD* and *RT* in a dynamic frame of online information processing may provide explanations of the adoption of a representation as a true belief.

This, by the way, would also settle the third issue, that of making possible a cognitive account of argumentation, by integrating *PD* as part of a chain of causal cognitive operations.

4. Conclusion: Pragmatics$_1$ vs. Pragmatics$_2$

One of the most salient oddities that emerged as I tried to compare *PD* and *RT* can be summarised in the following question: how can it be that two approaches claim to be *pragmatic*, while they somehow do not talk about the same thing? Before I try to give a partial answer to this question, it is noteworthy to underline that nuances have to be added to this dichotomy, even if there certainly are strong differences between both approaches.

PD, in its latest developments (e.g., van Eemeren and Houtlosser's (2005) "Strategic manoeuvring"), has tried to soften the rigidity of the normative agenda of their model in order to make room for considerations about the preferences of communicators and the fact that these can also play a role in 'shaping' the critical discussion on a rhetorical level and in accordance to the speaker's personal interests. This tends to illustrate that the 'critical' vocation of *PD* (in a 'hard' or 'formal'

sense) tends to open up to a 'softer', more pragmatic conception of rationality — to take Dascal's (2005) ideas. On the other hand, cognitive pragmatic approaches such as *RT* have also had to move towards 'soft rationality', in the sense that cognitive models, if only by virtue of the insufficiency of rational criteria regarding prediction of human behaviour, sometimes have to limit themselves to providing justifications of tendencies, and fork from the road to 'philosophical' certainty. Taking this into consideration, it must therefore be said that the boundaries between approaches such as *PD* and *RT* today seem less strict than they were before, perhaps because both theories tend to converge towards a less ideal and rigid conception of rationality.

Be it as it may, the two theories whose interplay I tried to address stand far from a total convergence. One of the reasons of this difference, in all probability, stems from the fact that *PD*'s focus is to an important extent *analytical* and *external* and *RT*'s is *interpretive* and *internal* (see Section 2.2. above). This discrepancy has traditionally been characteristic of the tensions observed between pragmatic theories. For discourse analysis accounts that branch out from sociolinguistic traditions and study discourse as a social activity outside the individual, what matters is the structure of discourse and above all the relationships that can be uncovered between its constituents — which range from micro elements such as linguistic entities to macro elements like social practices or power relations between social agents. On the other hand, cognitive pragmatics views discourse as the product of individual mental processes exploiting the stimuli the outside world brings to the awareness of the individual. The reason why this kind of approach is often referred to as positivistic probably follows from the fact that it postulates at a very concrete level that cognition too exploits a causal chain between *events* (or material phenomena) and that it conceives the mind as an input/output processing machine whose functioning can be modelled and, to a certain ideal extent, known.

The social sciences usually consider this type of approach to exclude any type of consideration about social phenomena, precisely because these are not believed to be *material*, in that they easily escape full describability by virtue of their ineffability: you cannot hold a social construct in your hand and describe it like you could describe any physical object. Therefore, according to this view, these objects cannot be known the same way physical phenomena can. However, as things stand, if such social phenomena exist (as I think they do, if only on a representational level), then we can make mental representations and communicate about them. Therefore, why couldn't these representations (or social constructs) take part in cognitive processes — as inputs or outputs — the same way other types of representations do? This is how cognitive pragmatics would probably tackle the problem: social phenomena would be construed as mental representations, not as underlying — and at the same time determining — principles of social interaction.

Even if I may oversimplify the epistemological panorama, the difference I see between Pragmatics$_1$ (discourse analysis/sociolinguistics) and Pragmatics$_2$ (cognitive pragmatics) can be expressed with a simple metaphor: the study of language as a picture. Discourse analysis would be something like a still picture, where you are able to make observations, describe the objects in the picture, and make assumptions on the basis of a state of affairs abstracted from its unfolding in time. This state of affairs is the result of other phenomena that cannot be 'pictured'. Cognitive pragmatics would rather be like a motion picture: it allows looking, upstream, at the causes of a certain state of affairs at a certain time, and, downstream, to make assumptions about the consequences of this state, on the basis of the causal chain that can be witnessed between states.

I am well aware that this kind of metaphor implies several difficulties due to epistemological and methodological preoccupations, and that, as mentioned above, both traditions tend to converge on certain issues, such as their conception of a 'softer' rationality. Of course, resolving this would require further research. For the time being, I shall limit myself to pointing out the fact that the principle of the complementarity between approaches looks fairly addressable. In the case of *PD* and *RT* — and bearing in mind the prospective agenda of a cognitive account of argumentation — I believe part of the solution begins by extending the conception of argumentation as a social practice to a conception of argumentation as a social practice that exploits the participants' *cognitive abilities*, which, due to the present development of experimental research, should not be overlooked.

Notes

* I would like to thank Louis de Saussure, Frans van Eemeren, Peter Houtlosser and anonymous reviewers for decisively helpful comments on a first version of this paper. Patrick Morency also needs to be thanked for proof-reading. I am of course solely responsible for the final version.

1. See van Eemeren and Grootendorst (1996: Chapters 4, 5, 6) for a detailed discussion of these different traditions in argumentation studies.

2. All these approaches, including *RT*, share the assumption that meaning is *calculated* according to rational cognitive principles.

3. There need not be two *actual* participants, since one can argue by oneself in order to judge the acceptability of a proposition by casting doubt on it and deciding upon reflection whether it is valid or not. However, casting doubt presupposes both a standpoint and its being called into question, and, by extension, it involves two participants (the one holding the standpoint, and the one calling it into question) — even if one of them remains *virtual*.

4. The critical discussion produces an *analytic overview* of the discourse, which is a global picture of the argumentation that took place, divided in four stages: *confrontation* (making the

standpoint explicit and accepted as a questionable standpoint), *opening* (the participants manifest themselves as parties — protagonist and antagonist — and determine whether there is a common ground to conduct a meaningful exchange), *argumentation* (participants advance arguments in order to overcome doubts regarding the standpoints), and *concluding* stage (the participants establish whether the standpoint has been successfully defended or not). It must be noted that these stages, except the argumentation stage, can remain implicit, but they have to be made explicit afterwards in the critical discussion in order to assess the resolution of the difference of opinion. See also van Eemeren and Grootendorst (2004: 57–62).

5. For a discussion of the conditions that have to meet for argumentative speech acts to be felicitous, see Chapter 3 of van Eemeren and Grootendorst (1992, especially p. 26).

6. It should be also noted that in some contexts, (4) can be purported to carry a fallacy known as *ad hominem attack*. This consists in introducing irrelevant premises about the proponent, in order to make him, and as a consequence his arguments as well, untrustworthy. This amounts to distract the hearer from validity checking of the arguments, which is a also fallacious move.

7. One could object that classical logic already addressed these issues, notably when dealing with fallacies shifting or reversing the burden of proof (that is, making your opponent prove that your own statement is wrong instead of proving yourself that it is right). The contribution of *PD*, however, is to be sought on the discursive level, to the extent that their study of argumentation broadens its scope to sociological considerations. Argumentation, as a social practice, is analysed as an *event* with social conditions of production, and therefore in relation to its context.

8. Grice's "working out schema" for conversational implicatures:

(a) He has said that p.
(b) There is no reason to suppose that he is not observing the maxims, or at least the CP [= Co-operative Principle].
(c) He could not be doing this unless he thought that q.
(d) He knows (and knows that I know that he knows) that I can see that the supposition that he thinks that q is required.
(e) He has done nothing to stop me thinking that q.
(f) He intends me to think, or is at least willing to allow me to think, that q.
(g) And so he has implicated that q.

(Taken from Wilson (2000: 416). Also found in van Eemeren and Grootendorst (1984: 120)).

9. See Wilson (2000 and 2003) for a discussion based on evidence from psychological experimentation involving children. Wilson quotes, among others, Bretherton (1991), Newcombe and Zaslow (1981), Tomasello, Farrar and Dines (1983), O'Neill (1996).

10. See above, Introduction.

11. Taken from "Dragon Quest fires up gamers", article by Seth Goolnik, April 14, 2006. Found at http://news.bbc.co.uk/1/hi/technology/4907668.stm.

12. This brief summary of *RT*'s conception of communication and meaning construction leaves room for two remarks that the scope and purpose of this paper will not let us develop extensively, but that deserve to be mentioned. First, it must be said that these processes are not believed to be necessary reflexive — or to a certain extent conscious — by RT theorists, because they refer to what we actually do every time we communicate with someone, without even thinking about

it (it would not be plausible to claim that we process all utterances by, for instance, literally asking ourselves the question of disambiguation; we just know how to disambiguate an expression, without necessarily having to do it step by step). So these can be unconscious processes, unlike cases where we consciously use our cognitive resources to process information, for instance when we hesitate between two decisions and we list the advantages and disadvantages of each in order to pick the most suitable one.

Second, when we describe a step-by-step procedure that unfolds over time, such as the one depicted in Figure 1, the question of the temporal order of the stages comes up. In other words, when dealing with a multi-stage process, we should ask ourselves if these stages are consecutive in time, or if they can be partly parallel, if not simultaneous. According to Saussure (2005), the different levels of interpretation could be deployed in parallel, aiming at a coherent set of representations which reinforce each other mutually. As he points out, "a strong implicature strengthens the hypothesis that the propositional form and other derived explicatures are correct, and in turn these strengthen the assumption according to which the 'syntactical' interpretation, i.e. the construction of the logical form, indeed corresponds to the speaker's meaning" (Saussure 2005: 114; my translation).

13. See the Introduction of this paper.

14. Here it should be noted that this idea leaves open the question of the status of the critical module. It surely constitutes one way for the mind to decide whether to fix a representation as a stable belief, but does not seem to be the only one: people can believe, among other reasons, because they trust the speaker, because they have some kind of dogmas, or even because they don't think it's worth spending much effort in critically evaluating the information they are confronted to, whatever the reason.

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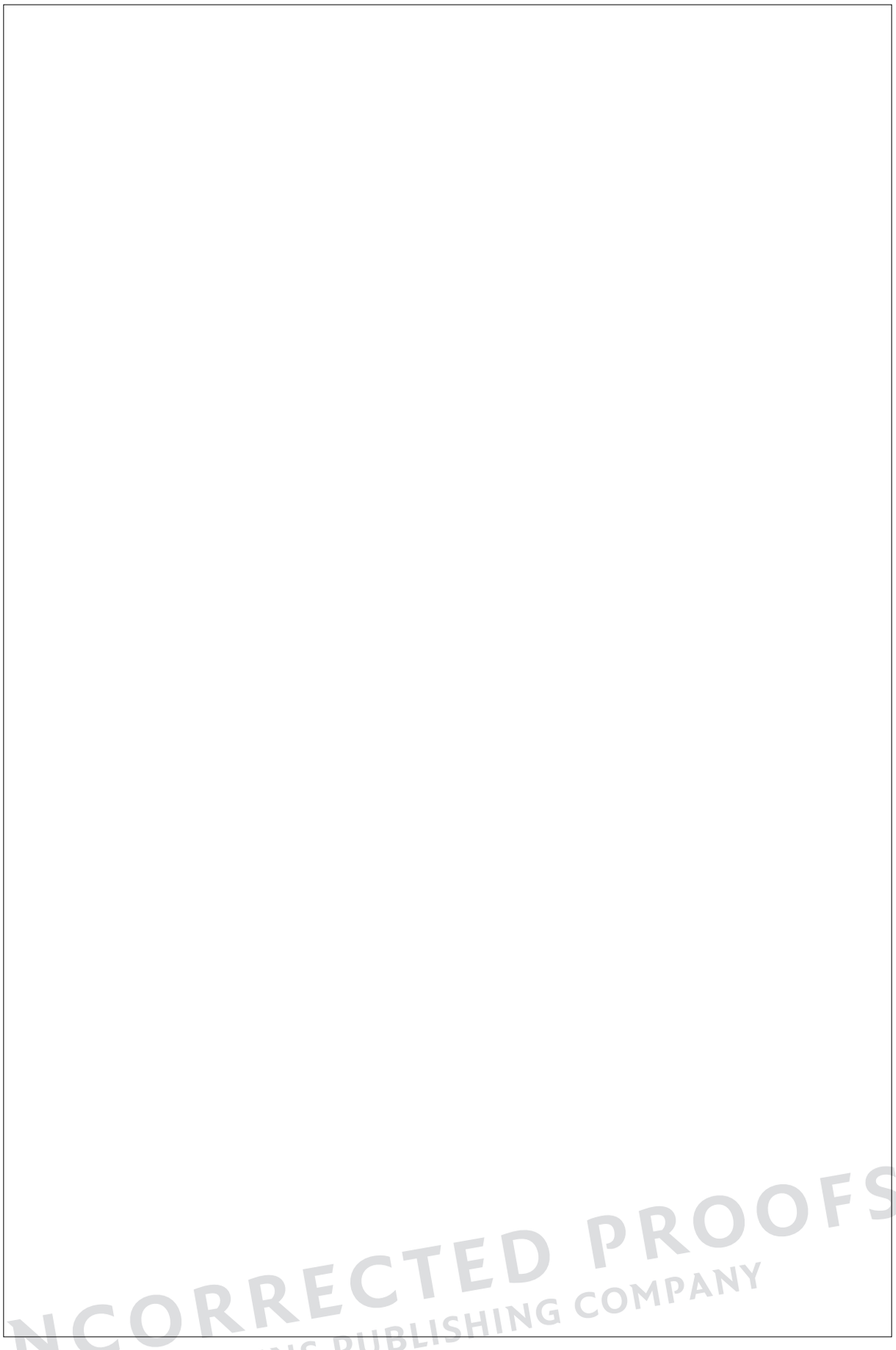

Pragmatics and Critical Discourse Analysis

A cross-disciplinary inquiry*

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This paper discusses important and fruitful links between (Critical) Discourse Analysis and Pragmatics. In a detailed analysis of three utterances of an election speech by the Austrian rightwing politician Jörg Haider, it is illustrated in which ways a discourse-analytical and pragmatic approach grasps the intricacy of anti-Semitic meanings, directed towards the President of the Viennese Jewish Community. The necessity of in-depth context-analysis in multiple layers (from the socio-political context up to the co-text of each utterance) moreover emphasizes the importance of interdisciplinary approaches when investigating such complex issues as racism and anti-Semitism as produced and reproduced in discourse. More specifically, the relevance of pragmatic devices such as insinuations, presuppositions and implicatures, is discussed when analyzing instances of 'coded language', i.e., utterances with indirect and latent racist and anti-Semitic meanings as common in official discourses in Western Europe.

0. Introduction: Stating the problem

This paper addresses some important dimensions of recent pragmatic theories and methodologies which can be fruitfully applied in contemporary CDA research on racism, xenophobia and anti-Semitism; I will illustrate this application and cross-disciplinary fertilisation through a brief case-study on Austrian recent political discourse.

Pragmatic devices such as insinuations/allusions, wordplay, presuppositions and implicatures will be analyzed in their multiple functions in political rhetoric where they frequently serve to intentionally convey anti-Semitic prejudices in post-war Austria.[1] I will investigate some propaganda slogans and rhetoric in the regional election campaign in Vienna 2001.

In this campaign, Dr. Jörg Haider, then leader of the Austrian Freedom Party (FPÖ), employed a coded discourse which many considered to include anti-Semitic and racist meanings and connotations. However, because of the implicit,

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coded character of these prejudiced utterances, Haider was able at first to successfully deny having had such intentions; thus, he negated the indirect and implied meanings and — instead — emphasized the literal meanings of the respective linguistic units. Such discursive strategies are, of course, not new in the Austrian (or other national) context(s); they have a discursive history since the end of World War II, due to the consensual taboo on explicit anti-Semitic prejudice in the public sphere.

Hence, the in-depth critical discourse analysis which de-constructs the inferred and indirect linguistic devices as well as explicit prejudiced utterances has to turn to theories in Pragmatics and to the 'pragmatic toolbox' to be able to systematically detect and analyze the anti-Semitic traces, the hidden and coded meanings which often appear as conversational cues in the text.

Due to space restrictions, I will have to neglect recent research in Cognitive Linguistics into anti-Semitic language behaviour: I can only very briefly point to the functions of conceptual metaphors (Chilton 2005; Musloff 2006). This research analyzes very explicit anti-Semitic writing in Hitler's *Mein Kampf* and deconstructs the conceptual metaphors contained in Hitler's anti-Semitic ideology. Moreover, Chilton (2005) emphasizes that his cognitive approach, which is based on much work by neuro-linguists and cognitive linguists, would prove that a CDA approach becomes obsolete.

However, such a purely cognitive approach is not able to explain the emotional and affective components of anti-Semitic rhetoric nor the wide range and contextual factors necessary for its mass-psychological impact at a specific time in a specific context (Why are some people affected and others not? Why do some people believe in anti-Semitic/racist ideologies at certain times? Why do these ideologies trigger specific actions which have led, for example, to the extermination of millions?). Moreover, the cognitive approach does not (and can not) consider indirect or latent anti-Semitic meanings and connotations.

This paper proposes a different argument: precisely because of the indirectness and context-dependency of the anti-Semitic post-war rhetoric in Austria, an integrative interdisciplinary theory as well as methodology is needed, combining Pragmatics, CDA, Socio-Cognition, History, Socio-Psychology, Political Science, and so forth.

In the following, I will focus on three utterances by Jörg Haider in detail, uttered during the election campaign 2001:[2]

(1) Der Häupl hat einen Wahlkampfstrategen, der heißt Greenberg (lautes Lachen im Saal). Den hat er sich von der Ostküste einfliegen lassen! Liebe Freunde, ihr habt die Wahl, zwischen Spindoctor Greenberg von der Ostküste, oder dem Wienerherz zu entscheiden

Mr. Häupl has an election strategist: he's called Greenberg (loud laughter in the hall). He had him flown in from the East Coast. My friends, you have a choice: you can vote for Spin Doctor Greenberg from the East Coast, or for the Heart of Vienna! (translation mine).

(2) Wir brauchen keine Zurufe von der Ostküste. Jetzt ist es einmal genug. Jetzt geht es um einen anderen Teil der Geschichte, die Wiedergutmachung für die Heimatvertriebenen.
We don't need any proclamations from the East Coast. Now we've had enough. Now we're concerned with another part of our history, reparations to those driven from their homes (translation mine).

(3) Der Herr Muzicant: I versteh überhaupt net, wie ana, der Ariel haßt, so viel Dreck am Steckn haben kann…des versteh i überhaupt net, aber i man…das wird er schon morgen kommentieren, nicht… aber ich bin da nicht sehr schreckhaft, in diesen Fragen.
Mr. Muzicant: What I don't understand is how someone called Ariel can have so much dirty linen… I don't understand that at all, but I mean…he will certainly comment this tomorrow, won't he… but I am not frightened in these questions (Haider on 28th February, Ash Wednesday Speech, my translation).

To be able to understand, analyze and explain these latently anti-Semitic utterances, it is necessary to propose the following theoretical claims:

- In order to capture the multidimensional nature of racism/anti-Semitism, the concept of *syncretic racism/anti-Semitism* lends itself; it encompasses everyday racism, xeno-racism and other concepts of exclusion (such as racialisation, otherism, discrimination, etc.). By *syncretic anti-Semitism* I mean the construction of 'differences', which serve ideological, political and/or practical discrimination on all levels of society. Old and new stereotypes form a mixed bag of exclusionary practices; they are used whenever seen to be politically expedient — such as in gaining votes. It is a 'racism without races' in which the discourse of exclusion has become de-referentialized, i.e., removed from any direct relation with a specific constructed racial subject (Jews, Blacks, Roma), and has become a 'floating discourse' (almost an 'empty signifier' in the view of Ernesto Laclau and Chantal Mouffe 1985) in which anti-Semitic/racist/xenophobic attitudes are combined with specific negative stereotypes.
- The discursive construction of 'US' and 'THEM' is the foundation of prejudiced, anti-Semitic and racist perceptions and discourses. This discursive construction starts with the labelling of social actors, proceeds to the generalization of negative attributions and then elaborates arguments to justify the exclusion of many and inclusion of some. The discursive realizations can be

more or less intensified or mitigated, more or less implicit or explicit, due to historical conventions, public levels of tolerance, political correctness, and the specific context and public sphere.

- Hence, the concepts of 'text, discourse, context and co-text' have to be clarified and theorized in an interdisciplinary framework combining and integrating CDA and Pragmatics. Although Pragmatics has always clearly seen itself as complementary to Semantics, as Paul Chilton has clearly illustrated in his book *Analysing Political Discourse* (2004), and research in Pragmatics has attempted to distinguish important features of the immediate context (speakers, hearers, settings, expectations, intentions etc.), these and other relevant dimensions have frequently been left vague or sometimes simply to the researcher's subjective intuition (see Reisigl 2004). On the other hand, much research in CDA has often neglected the subtle and intricate analysis of latent meanings and has left the interpretation of implicit, presupposed and inferred meanings to the intuition of the researcher and/or the readership.
- Moreover, an integrative pragmatic and discourse-analytic approach has to be further complemented with a range of other linguistic theoretical concepts as well as with theories from neighbouring disciplines. Such a theoretical framework should not only exist as an 'abstract umbrella or general framework', unrelated to the explicit and concrete analysis; such a framework would rather be necessary to be able to choose and justify the relevant categories for the analysis itself (see van Dijk 2003; Wodak 2000 a, b).

The linguistic analysis of pragmatic devices in a particular setting — in our example political discourse expressing anti-Semitic prejudice (speeches and media) — would thus have to draw on a range of analytical tools selected for that specific purpose. In the concrete case I am addressing here, I suggest the following procedures and stages for analysis:

- *Historical analysis* of anti-Semitism and its verbal expressions (i.e., 'coded language');
- *Socio-cognitive analysis* of collective memories and frames guiding the acquisition of specific knowledge to be able to understand the 'coded language';
- *Socio-political analysis* of the election campaign, the on-going debates and the political parties taking part; these three dimensions form the *broader context*;
- *Genre theory*; the functions of political speeches (persuasive strategies, positive self-presentation/negative other-presentation, populist rhetoric, etc.);
- The *setting,* speakers etc. of the concrete utterances; this is the more *narrow context*;
- The *co-text* of each utterance;

– Finally, the verbal expressions have to be analyzed with regard to *linguistic pragmatic*/grammatical approaches (presuppositions, insinuations, implicatures, etc. as relevant characteristics of the specific 'coded anti-Semitism').

Such devices are embedded in *discursive macro-strategies* of *positive self* and *negative other* presentation; these strategies employ various other linguistic features, rhetorical tropes and argumentation/legitimization patterns. In our case, moreover, we have to contextualize this election campaign into other discourses on foreigners, Jews, minorities, marginalized groups in Austria and Europe, in order to be able to grasp the interdiscursivity, intertextuality and recontextualization of certain *topoi*[3] and arguments throughout many genres and public spheres.[4]

In sum, my aim throughout this paper is to illustrate the wide and systematic range of methodological instruments needed to achieve an explicit, retroductable and valid linguistic analysis. At this point, it is also important to emphasize that — even though my primary research focus as a (critical) discourse analyst is directed towards the investigation of a 'social problem', such as racism or anti-Semitism — this epistemological perspective does not imply that the detailed linguistic analysis and linguistic theorizing would be of lesser importance. Quite on the contrary: the schools in the CDA framework all define explaining/understanding 'social problems' as their main research goal; but at the same time, all the different schools in CDA tend to embrace very precise linguistic analysis.[5]

In the following, I will first present some very brief historical/political information (the broader context) regarding my case-study; secondly the most important linguistic concepts and the discourse-historical approach in CDA applied for this analysis have to be elaborated. Finally, the detailed analysis of the above mentioned examples of the election campaign and Jörg Haider's speeches illustrates the integrative theoretical framework of Pragmatics and CDA.

1. The broad context: 'Discourses of silence/coded language'

The first stage of the analysis consists in addressing the broad context of the election campaign discourse 2001. More specifically, we need to ask the question why anti-Semitic meanings are expressed in a 'coded way'; the relevant historical background of post-war Austria provides first answers.

Because of Nazi atrocities and the involvement of many Austrians in the Shoah, explicit anti-Semitic utterances were tabooed in official contexts after 1945. Nevertheless, many empirical quantitative and qualitative studies have illustrated that anti-Semitism continued to exist, with the same stereotypes and prejudices as during the Nazi period as well as before 1938. Moreover, several new stereotypes were created in relation to compensation issues, which primarily accused Jews of 'being

rich anyway' and 'exploiting a population which was itself a victim' (see Marin 2000). The conflicts in the Middle East since the Second Intifada and the Iraq War 2003 have also triggered more resentment. It is — of course — impossible to recapitulate the history of anti-Semitic prejudice in Austria in this paper (but see Mitten 1997, Pelinka and Wodak 2002); nevertheless, it is important to state that anti-Semitism and anti-Semitic prejudices and stereotypes have been and still are functionalized for political reasons in the Second Austrian Republic. We are dealing with *syncretic anti-Semitism*: whenever necessary to gain voters, old and new stereotypes are intentionally used in political debates (see above).

However, because of the taboo on explicit anti-Semitic utterances in public domains, specifically in official political discourses, a different — coded — mode of expressing anti-Semitic prejudices and stereotypes was created after 1945, which was analyzed in detail elsewhere (Wodak 2004a) and labelled as 'discourses of silence'. This means that anti-Semitic contents can only be *inferred* by listeners/viewers/readers who know the background and also the genesis of such allusions/insinuations or presuppositions. The listeners/viewers/readers have acquired the necessary *knowledge through collective memories or narratives handed down through generations (*Heer *et al*. 2003; Welzer 2002; van Dijk 1984; Lutz and Wodak 1987). *They were thus socialized into specific cognitive frames (event models, metaphor scenarios) and discourses* (see Wodak 2006a).[6] If accused, the speaker can always justify himself — or herself — by stating that s/he did not 'mean' what others imply that they had said. This fact — *inter alia* — makes the explicit analysis of such prejudiced discourse a real challenge for linguists, discourse analysts and scholars of Pragmatics, because the broad and narrow contexts and co-text of the respective utterance have to be systematically integrated into the analysis.

Moreover, certain argumentative *topoi* are recontextualized from one public domain to the next, and realized through different linguistic devices (Iedema 1999, Wodak 2000b, Wodak and Iedema 2005). I will highlight only those which help understand and explain the specific case-study in this paper, which deals with the recent manifestation of anti-Semitic prejudice in political discourse in Austria 2001: the utterances by Jörg Haider against the president of the Jewish community in Vienna, Ariel Muzicant, during the Vienna election campaign 2001.

2. Theorizing context — the discourse-historical approach in CDA

2.1 Some relevant concepts in CDA

The terms Critical Linguistics (CL) and Critical Discourse Analysis (CDA) are often used interchangeably. In fact, in recent research it seems that the term CDA is

preferred and is used to denote the theory formerly identified as CL. CDA sees language as 'social practice' (Fairclough and Wodak 1997), and considers the context of language use to be crucial (Weiss and Wodak 2003; Wodak and Weiss 2004a, 2004b; Wodak 2004b). CL and CDA may be defined as fundamentally interested in analyzing opaque as well as transparent structural relationships of dominance, discrimination, power and control, as they are manifested in language.

Four concepts figure indispensably in all CDA: the concepts of *critique, power, history,* and *ideology.* Let me elaborate these briefly in turn:

'Critique' carries very different meanings: some adhere to the Frankfurt School, others to a notion of literary criticism, some to Marx's notions (Reisigl and Wodak 2001; Sayer 2006 — for overviews). Basically, 'critical' could be understood as having distance to the data, embedding the data in the social, making the respective political stance explicit, and having a focus on self-reflection as scholars undertaking research. For all those concerned with CDA, application of the results is important, be it in practical seminars for teachers, doctors and bureaucrats, in the writing of expert opinions, or devising schoolbooks.

Thompson (1990) discusses the concepts of ideology and culture and the relations between these concepts and certain aspects of mass communication. He points out that the concept of ideology first appeared in late 18th century France and has thus been in use for about two centuries. The term has been given a range of functions and meanings at different times. For Thompson, ideology refers to social forms and processes within which, and by means of which, symbolic forms circulate in the social world. Ideology, for CDA, is seen as an important means of establishing and maintaining unequal power relations. CDA takes a particular interest in the ways in which language mediates ideology in a variety of social institutions.

Critical theories, thus also CDA, are afforded special standing as guides for human action. They are aimed at producing enlightenment and support emancipation. Such theories seek not only to describe and explain, but also to root out a particular kind of delusion. Even with differing concepts of ideology, critical theory seeks to create awareness in agents of how they are deceived about their own needs and interests. This was, of course, also taken up by Pierre Bourdieu's concepts of 'violence symbolique' and 'méconnaissance' (Bourdieu 1989). One of the aims of CDA is to 'demystify' discourses by deciphering ideologies.

For CDA, language is not powerful on its own — it gains power by the use powerful people make of it. In agreement with its Critical Theory predecessors, CDA emphasizes the need for interdisciplinary work in order to gain a proper understanding of how language functions in constituting and transmitting knowledge, in organizing social institutions or in exercising power.

An important perspective in CDA, related to the notion of 'power', is that it is very rare that a text is the work of any one person. In texts, discursive differences are negotiated; they are governed by differences in power which are in part encoded in and determined by discourse and by genre. Therefore texts are often sites of struggle in that they show traces of differing discourses and ideologies contending and struggling for dominance. Language provides a finely articulated vehicle for differences of power in hierarchical social structures. Very few linguistic forms have not at some stage been pressed into the service of the expression of power by a process of syntactic or textual metaphor. CDA takes an interest in the ways in which linguistic forms are used in various expressions and manipulations of power. Power is signalled not only by grammatical forms within a text, but also by a person's control of a social occasion by means of the genre of a text, or by access to certain public spheres. It is often exactly within the genres associated with given social occasions that power is exercised or challenged.

2.2 Text and context

One methodical way for critical discourse analysts to minimize the risk of critical bias and to avoid politicizing, instead of analyzing, is to follow the principle of 'triangulation' (Cicourel 1969). One of the most salient features of the *discourse-historical approach* is its endeavour to work interdisciplinarily, multi-methodically and on the basis of a variety of different empirical data as well as context theories (see Wodak 2001). Depending on the object of investigation, this approach attempts to transcend the pure linguistic dimension and to include more or less systematically the historical, political, sociological and/or psychological dimension in the analysis and interpretation of a specific discursive occasion.

Critical research in the field of language, politics and discrimination has expanded enormously in recent years.[7] According to the underlying specific theoretical approach the notion of 'discourse' is frequently defined in different ways.[8] In the analysis of discourse and politics, the meaning of 'discourse' is therefore closely linked to the respective research context and theoretical approach. Possible definitions range from a 'promiscuous use of *text* and *discourse*', as it may be found predominantly in Anglo-Saxon approaches, to a strict definition from the perspective of linguistic pragmatics (see Titscher, Meyer, Wodak, and Vetter 2000).

The notion of 'politics' is also defined in many different ways depending on the respective theoretical framework. It ranges from a wide extension of the concept according to which every social utterance or practice of the human as a *zoon politikon* is 'political', to a notion of politics referring only to the use of language by politicians in various settings and in political institutions:

> On the one hand, politics is viewed as a struggle for power, between those who seek to assert their power and those, who seek to resist it. On the other hand, politics is viewed as cooperation, as the practices and institutions that a society has for resolving clashes of interest over money, influence, liberty, and the like (Chilton 2004: 3).

Chilton (2004) embraces an interactive view of politics, which cuts through both of the above-mentioned dimensions. This is also the perspective endorsed in this paper.

Furthermore, it is important to define the political domains and the genres which are relevant in this field (in the sense of Bourdieu's theory of fields, *habitus* and capitals). The most important domains can be summarized in the following figure:

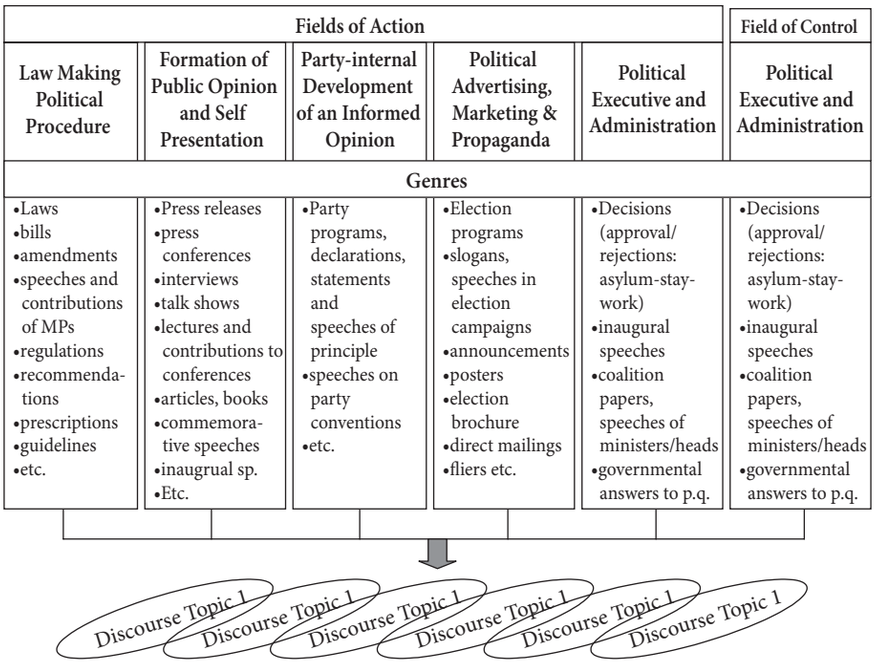

Figure 1. Selected dimensions of Discourse as Social Practice (Wodak and Meyer 2001).

Our triangulation approach is based on a concept of *context* which takes into account four levels:

- The co-text of each utterance or clause
- The con-text in the macro-text; the genre analysis
- The socio-political context of the speech event
- The intertextual and interdiscursive relationships of the respective speech event to other relevant events.

In the following example, I will illustrate each level of context and make the sequential analysis transparent, following the categories of analysis that will be defined below. I will focus in detail on the linguistic means, which relate the broad and narrow contexts with each other. This implies that one needs to demonstrate how certain utterances realized through linguistic-pragmatic devices point to extra-linguistic contexts, diachronically and synchronically. The impact of such a discourse can only be understood when related to the Austrian political developments, and most importantly, to the instrumentalization of a 'coded' anti-Semitism in political discourse in post-war Austria.

3. Some linguistic/pragmatic concepts

In this case study, we need to turn to a number of linguistic concepts and devices that are of particular importance for the description of post-war anti-Semitism in Austria.

Through *allusions* (cf. also Wodak *et al.* 1990) one can suggest and address negative associations and connotations without being held responsible for them. Ultimately the associations are only hinted at; the listeners/viewers/readers must make them explicit in the act of reception (Wodak and de Cillia 1988: 10).[9] Allusions depend on *shared knowledge* (cf. Searle's (1976) *background assumptions*, Sperber and Wilson's (1986) *mutual manifestness*, van Dijk's (2005) *common sense knowledge*, and so forth). The person who alludes to something counts on the general preparedness for resonance of the audience, that is, the hearer's tendency to expand literal meanings according to this shared knowledge.

Hence, in the field of politics, allusions may bear the intention, and achieve the result, of devaluating political opponents, without accepting responsibility for what is implicitly said: at best an invitation was given to make particular connections.[10] What is not pronounced creates, in the case of allusions, a kind of secrecy or intimacy, and familiarity suggests something like: 'we all know what is meant'. The world of experience exists, however, in a 'repertoire of collective knowledge', which we can analyze through historical, psychological, etc. studies and theories of anti-Semitism. Allusions frequently rely on racist/anti-Semitic *topoi* (*World conspiracy*) and standardized linguistic patterns which manifest and carry clearly defined meanings (e.g., 'East Coast'; Mitten 1992 and Wodak 2004a for discussion), or which point to collectively well-established anti-Semitic stereotypes (such as 'Jewish speculators and crooks'; Wodak and de Cillia 1988: 15).

Although allusions resemble other types of implicit components of meaning, it is necessary to go into further details and differentiate allusions proper. Januschek provides a useful definition for allusions embedded in political discourse:

> […] In contrast to slogans, allusions require active thinking and discriminating recipients. Not everyone can understand allusions, and those who do understand them have to do something about it: they have to give meaning to the allusion. The creator of the allusion can thereby renounce responsibility for the meaning that arises: he may distance himself. In other words: allusions can be very short — but they can never be one-sided communicative acts. And, allusions may be understood in a highly explosive way — but always so subtly that they provoke contradiction and cannot be casually filed away in particular drawers. Whereas electoral slogans tend to cause fragmented discourse to break down completely, allusions drive it forward. Under the conditions of fragmentized political communications they are the linguistic means that relies on the fact that citizens, under these same conditions, generally act intelligently and not merely as puppets for the cleverest manipulators (Januschek 1994: 115).

In our case study, for instance, we can observe that in accusing Dr. Ariel Muzicant, Dr. Jörg Haider frequently employed allusions. By this kind of discursive device, he (and others) implied and addressed certain presuppositions, which many people shared as 'common sense knowledge' or 'shared truth'. This is, of course, not a new linguistic strategy in prejudiced discourse.

The concept of presupposition is central to Linguistics. The analysis of presuppositions within speech act theory, which began with John Austin (1961) and John Searle (1969, 1976), makes it possible to make explicit the implicit assumptions and intertextual relations that underlie text-production (see Schiffrin 1994).

In the case of anti-Semitic utterances, at least since 1945, no enclosed ideological edifice of anti-Semitism is directly and completely spelled out. Rather, an amalgam of ideological tenets is invoked by linguistic 'clues and traces', in order to relate to a particular set of beliefs, thus constructing a 'discourse space' through rhetorical, argumentative, metaphorical and pragmatic means — irrespective of where the 'roots' of this 'discourse space' may lead.[11]

There are many linguistic phenomena that have been related to presuppositions. Here I shall follow the survey given in Yule (1996: Chapter 4), which concentrates on 4 types (see Table 1).

Table 1. Types of Presupposition.

Presupposition Type	Example	Presupposition
existential	'The X'	>>X exists.
factive	'I regret having done that'	>>I did it.
non-factive	'He claimed to be a teacher'	>> He was not a teacher.
lexical	'She managed to escape'	>>She attempted to escape
structural	'Who is coming?'	>>Someone is coming.
counter-factual	'If I were not ill….'	>>I am ill

It is useful to notice, for further analyses (see below), that presuppositions have remarkable properties regarding the triggering of audience consent to the message expressed. Presupposed content is, under ordinary circumstances, and unless there is a cautious interpretive attitude on the part of the hearer, accepted without (much) critical attention (whereas the asserted content and evident implicatures are normally subject to some level of evaluation). For example: a mother, knowing that her child is not happy about the idea of going to visit Aunt Mary, may utter, in order to facilitate consent, *Which Teddy bear would you like to bring with you to Aunt Mary's place*, where the fact that they are definitely going to visit Aunt Mary is presupposed, instead of simply stating *We are going to Aunt Mary*.

Existential presuppositions are a very effective way to manufacture consent. I will come back to this briefly below.

Finally, I would like to consider the term 'wordplay'. In his most 'famous remark' during the election campaign (see example (3)), Haider made a word play on 'Ariel', Muzicant's first name. This was then relativized as a 'joke', as 'irony' and so on, in the sense of 'why not have a bit of fun during the carnival'?[12]

Wordplay ('play on words') means playful use of words, the humorous effect of which depends particularly on the ambiguity of the words used or on the identical or similar pronunciation of two related words with different meanings. As Bering (2002) has elaborated, Goebbels used wordplay frequently in the 1930's to defame and denounce prominent Jewish lawyers in pre-war Berlin. Some of these persons went to court and even won their case against Goebbels; however, the new 'names' stuck.[13] Playing with names and distorting names thus has to be seen as denying and threatening the identity of a specific person. As illustrated below, this can be realized linguistically in different ways: either the pronunciation can be altered or shifted, phonetically or phonologically; or allusions and semantic associations with other concepts can be constructed; sometimes, conceptual metaphors can be created through such wordplays. In our example and during the election campaign 2001, Haider employed all these devices for different politicians and, most importantly for our case-study, for the president of the Austrian Jewish community. The different realizations have various distinct pragmatic functions, as will be shown below.

4. The Vienna Election 2001

In 2001, during the election campaign for the city of Vienna, the capital city of Austria with a social democratic majority, the Freedom Party FPÖ (a right wing extremist party, similar to Le Pen's party in France), with its former leader, Dr. Jörg Haider, began a campaign that stimulated anti-Semitic beliefs and prejudices (see

Möhring 2001; Rosenberger 2001; Pelinka and Wodak 2002; examples (1), (2)). Traditional stereotypes were used as political weapons. Specifically, this campaign was characterized by vehement attacks on the president of the Jewish Community, Dr. Ariel Muzicant.

On Ash Wednesday, 28th February 2001, Dr. Jörg Haider made a speech in Ried im Innkreis, Upper Austria, in which he insulted Dr. Ariel Muzicant, along with a number of other opposition politicians (see example (3)). The remarks that were broadcast many times on the television, ultimately world-wide, set off a new, very heated debate on anti-Semitism in Austria.

In this paper, I will focus only on the three utterances quoted above, while summarizing the immediate context of Haider's speech; a survey of a number of characteristic quotations from the Vienna election campaign, which illustrate, on the one hand, the anti-Semitic discourse, and on the other hand, the unequal debate about 'freedom of opinion' and 'criticism' that evolved out of it, can be found elsewhere (Wodak 2002; Wodak and Reisigl 2002).

4.1 The immediate co-text of the incriminated utterance on 28th February 2001 in Ried: The 'textual chain of abuse'

Below, I list some of the macro topics Jörg Haider addressed in the Ried speech:

- The topics of the BSE crisis and EU agricultural policy — these topics illustrate the EU-sceptical position of the FPÖ. In this context he characterized the then Austrian EU commissioner Franz Fischler as a political *Rübezahl*[14] suffering from an outburst of rage in the European agricultural policy.
- The topic of the introduction and stability of the Euro — thus repeating EU skepticism by linking this to unemployment and raising living costs.
- The topic of the presumed high salaries of SPÖ politicians, thus hinting at and alluding to corruption and privileges of politicians. In this context he refers on one occasion to the leader of the SPÖ, Alfred Gusenbauer, as *Gruselbauer*.[15]
- The topic of the 'EU-14 sanctions against Austria', which had caused a huge shift to the right in the year 2000 when the right wing government had overcome the center-left grand coalition. The sanctions of the 14 EU member states immediately after the take over of the new government had proved to be counter-productive: they triggered a chauvinistic discourse of 'Austria against the EU' which swept all oppositional voices under the carpet and allowed labelling opposition politicians as 'traitors' and as 'non-patriotic' (see Möhring 2001).
- Dr. Ariel Muzicant is attacked by Dr. Jörg Haider in the course of discussing the 'EU-sanctions', of which the speaker claims that they had their origin in

> Austria and thus presupposes that Muzicant might have been part of a 'conspiracy' which started or at least supported these sanctions. Then Haider stated explicitly that the 'Austrian socialists' and 'the left' had asked their 'friends abroad' for the sanctions and that Dr. Ariel Muzicant had made a contribution to this.

If one compares the wordplays with the names of Fischler, Gusenbauer and Muzicant, significant pragmatic differences immediately become apparent. In the first two cases, irony is used and only small changes in the names are suggested or comparisons are hinted at, none of which derogate the person viciously. In the case of Muzicant, the wordplay alludes to seemingly inherent negative characteristics of the 'Jew'.

After his verbal attack, in which Dr. Jörg Haider accuses Dr. Ariel Muzicant of being a Jew hostile to Austria, and with a lot of 'dirty linen' (i.e., being criminal), Haider, governor of Carinthia, in the remainder of his speech, moved on to abusing other political opponents from Austria, France and Germany. Thus, the abuse of Dr. Ariel Muzicant in Haider's speech in Ried fits into a series of abusive remarks, some of which Dr. Jörg Haider made before or later. If one looks at this series of insults one is struck by the fact that Dr. Ariel Muzicant is the only non-politician (in the narrower sense of professional politician) among those selected and subjected to verbal attack. So, whereas Dr. Jörg Haider attacks political opponents inside and outside Austria, he insults Dr. Ariel Muzicant personally and in his function as president of the Jewish community in Austria.

4.2 Detailed linguistic-pragmatic analysis

The linking of compensation/restitution of war victims and Holocaust survivors in relation to the criminalization of Muzicant began at the New Year meeting on 22nd January 2001 (Examples (1), (2)). In what was expressed there it was said of Muzicant that he had himself piled up debts and that the restitution would partly serve his own interests (those of paying off debts).

At this point, we can zoom in to the pragmatic analysis proper. These first utterances imply many existential *presuppositions*. The properties of the presupposed content (see above) are extensively exploited in our particular case. Below, I list some interesting existential presuppositions at work in Haider's utterances.

First, the utterance presupposes that Muzicant actually makes criminal moves, because he seemingly exploits the interests of the Holocaust survivors for himself and his business. Secondly and simultaneously, a chain of anti-Semitic insinuations and associations are triggered by this presupposition: 'Jews are rich, are all businessmen, etc.' At the same time the topic of restitution is, in general terms,

rhetorically devalued as a not very important 'problem' (euphemism). This first macro topic is pursued at the beginning of the election campaign, when there is an onslaught on the 'East Coast' (a synecdoche; see below), and the apparent influence of the 'East Coast' (this *topos* is related to the Mayor of Vienna, Dr. Michael Häupl, and to the Social-democratic Party [SPÖ], as well as to the restitution negotiations); such an argumentation is a good example of implicature directly connected with the network of presuppositions. The specific implicature related to these insinuations is, on the one hand, that the Jews are treated better than the Sudeten Germans; and that this, on the other hand, is unfair.

Further, the use of the insinuation 'East Coast' goes back at least as far as the 'Waldheim Affair' (1986), where 'the Jewish Lobbies in New York' where alluded to through this synecdoche (Wodak *et al*. 1990; Wodak 2004a). The latent meaning implies that the Socialist Party seems dependent of these 'powerful Jews', thus the traditional stereotype of the 'World Conspiracy' as *topos* is *presupposed*. Moreover, in this speech the extermination of the Jews and the matter of restitution are explicitly set against the expelled Sudeten Germans after 1945 (discursive strategy of equation; *topos*: 'we are all victims').[16]

The criminalization of Muzicant is then pursued in the form of an allusion and word play ("dirty linen") which is, however, removed from its vagueness and clarified in the following quotations (see example (3)). The play on Muzicant's name ("Ariel") which is also the name of a detergent was laughed upon during the speech. The speech was tape-recorded and thus also available for a multimodal analysis and analysis of the intonation structure.

The ambiguity here is twofold: on the one hand, the criminality of Muzicant (and the Jews) is represented; on the other hand, the ancient anti-Semitic stereotype of 'dirty Jews' is alluded to. The intentionality of this utterance can be illustrated through the spontaneous reaction of the audience as well as the shared prejudicial frame of the audience. The following utterance by Haider manifests very clearly that he knew precisely what he was doing: he wanted to provoke Muzicant — and he succeeded. Through this abusive wordplay with the function of an indirect challenge or invitation to a debate (fight), Haider started an interaction with Muzicant who responded the next day and took Haider to court. Historically, such wordplays with Jewish surnames allude to Nazi times where Goebbels used this device when abusing prominent lawyers in Berlin in the 30's (see above).

Hence, this first argumentative pattern can be adequately analyzed with the help of pragmatic concepts, namely through detecting presuppositions, wordplay, implicatures and allusions (many in the form of rhetorical tropes). In this concrete case, the argumentative pattern serves to present Dr. Ariel Muzicant as a criminal, in order to focus sharply on his role in the restitution negotiations. Ultimately, however, what also seems important for Haider is to devalue the restitution claims

of Jewish victims of the Holocaust *per se* and to set the Holocaust as equivalent to the expulsion of the Sudeten Germans.

The second discursive macro strategy concerns the sub-division of Austrian citizens, i.e., the discursive construction of social groups through membership categorization devices (MCD): into those with a 'true Viennese heart' (US) and those who allow themselves to be influenced by the 'East Coast' (i.e., the apparently powerful Jewish lobbies in New York (THEM).

In *profil* of 2nd April 2001 (a liberal progressive weekly), Peter Sichrovsky, then general secretary of the FPÖ, in an interview even provides this interpretation of the allusion used explicitly and thereby contradicts Haider's later justification of 16th March 2001 that 'East Coast' is a 'purely geographical description', the literal semantic meaning as opposed to the alluded and shared synecdoche.

This categorization concerns, on the one hand, the electoral debate in Vienna; Stanley Greenberg, the adviser to the mayor of Vienna, is presented as, among other things, a Jew who is now working for the Social-democratic Party (SPÖ) as a 'spin doctor'. The singular characterization of a person in his quality as a 'Jew' serves exclusively to arouse anti-Semitic attitudes, because this attribution was — of course — totally unimportant for Greenberg's work. Jews are thus juxtaposed to and contrasted with 'real' Austrians. The *topos* of the *real Austrian* is also not new. This *topos* was already used in the 1970's when Bruno Kreisky, later chancellor of Austria, a social democrat of Jewish origin, campaigned against the People's Party (ÖVP). The use of 'real Austrians' appeared again in the national election campaign 1999 (in which Haider presents himself as a 'real' Austrian) and alludes to the belief that Jews or other Austrians from other ethnic origin are not to be considered 'on the same level', even if they have Austrian citizenship. The Austrian-ness (or citizenship) of Austrian Jews is thereby implicitly denied. There are of course many more examples of pragmatic and grammatical/rhetorical devices in the whole textual chain which have to be left aside here due to space restrictions.

5. Final remarks

The precise textual and pragmatic analysis, embedded in the contextual analysis of discourses and discourse strands demonstrates why such strategies can be cognitively and emotionally effective, given the contents of the various levels of contextual and co-textual assumptions and the subtle pragmatic devices involved.[17] In this particular case, it demonstrates the extent to which Jörg Haider has used anti-Jewish stereotypes since the FPÖ New Year's meeting in 2001. The fallacious linking of the Vienna election campaign with the restitution negotiations becomes equally clear.

What is relevant for our theoretical discussion is the evidence that the analysis of such discourses needs a very precise definition of differing layers of context and of theoretical and methodological input of neighbouring disciplines.

Moreover, the intricate and complex relationship between grammatical means, pragmatic devices and discourse analysis becomes apparent, a relationship proposed by other researchers as well. Already Heiko Hausendorf (2000) has argued in his important book *Zugehörigkeit durch Sprache. Eine linguistische Studie am Beispiel der deutschen Wiedervereinigung,* that important links between grammar and Pragmatics exist, which he demonstrates using conversational analysis and MCD in studying TV debates on latent conflicts between former East Germans and former West Germans immediately after the reunification of Germany. In another paper by Ruth Wodak and Rick Iedema (2005), we illustrate the relationship between grammar (in the Hallidayan sense) and interdisciplinary CDA when analyzing a TV interview in the Austrian television between Haider and the anchorman of the evening news. In this interview, Haider managed to divert the explicit questions on the FPÖ's xenophobic programme again by implicit pragmatic devices and by typical fallacies and *topoi*.

Within other trends of pragmatics there are also relevant insights about what a hearer does when constructing an *ad hoc* contextualisation when processing an utterance, starting from a 'context' in the broad sense and narrowing it down into a set of supposedly useful assumptions. Such an approach is, I believe, another good starting point for further relating Pragmatics with CDA, though it does not take into account discourses as complex and contextualized speech events but aims at explaining micro phenomena at the level of the sequential interpretation of utterances.[18]

Following the assumptions in the first section of this paper, I hope to have made it clear that pragmatic devices, such as insinuations, wordplays and presuppositions, all relevant characteristics of 'coded discourses of silence and justification', are only to be analyzed explicitly and systematically in constant dialogue of pragmatic and discourse-analytical approaches with the extra-linguistic contexts and other non-linguistic theories.

Notes

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1. See Wodak *et al.* 1990; Mitten 1992, 1997, 2000; Reisigl and Wodak 2001; Wodak and Reisigl 2002; Wodak 2004a; Martin and Wodak 2003; Benke and Wodak 2003a, 2003b; Heer *et al.* 2003.

2. An extensive analysis of the whole election campaign is published elsewhere (Wodak and Reisigl 2002).

3. Within argumentation theory, *topoi or loci* can be described as parts of argumentation which belong to the obligatory, either explicit or inferable premises. They are the content-related warrants or 'conclusion rules' which connect the argument or arguments with the conclusion, the claim. As such, they justify the transition from the argument or arguments to the conclusion (Kienpointner 1992: 194).

4. See Reisigl and Wodak 2001, Wodak 2001 for precise definitions of these terms, which are central to CDA.

5. See Wodak and Meyer 2001; Fairclough 2003; Blommaert 2005; Wodak 2004b, 2006 a, b; see Reisigl and Wodak, 2001: Chapter 2 for details of the discourse-historical approach employed in this paper.

6. "Context models and event models are mental representations in episodic memory…in which people store their knowledge and opinions about episodes they experience or read/hear about… Context models control the 'pragmatic' part of discourse and event models the 'semantic part" (van Dijk 2001: 112). "We can characterize a [metaphor] 'scenario' as a set of assumptions made by competent members of a discourse community about 'typical' aspects of a source situation; f. ex., its participants and their roles, the 'dramatic' storylines and outcomes, and conventional evaluations of whether they count as successful or unsuccessful, permissible or illegitimate, etc. These source-based assumptions are mapped onto the respective target concepts" (Musloff 2006:28). "These highly specific source scenarios… are ubiquitous and constitute an essential feature of metaphor use in public discourse registers. Scenarios appear to dominate public discourse not just in terms of overall frequency but also in that they help to shape the course of public debates and conceptualizations in the respective discourse communities" (*ibid.*: 28).

7. See Chilton 2004; Chilton and Schäffner 2002, 1997; Girnth 2002; Jarren, Sarcinelli, and Saxer 1998; Gruber, Menz, and Panagl 2003; Wilson 1990; Wodak and van Dijk 2000; Billig 2005; Wodak and Chilton 2005.

8. See Reisigl 2004 for a recent discussion of the concepts of 'discourse'.

9. This assumption converges very well with observations made by Sperber and Wilson within cognitive pragmatics (Sperber and Wilson 1986: PAGES 35ff). For them, implicit meanings (in a broad sense which includes what I label here *allusions*, and which I define more precisely with regard to *implicatures* later in this section) are derived by the audience at its own responsibility. The speaker is always able to retract (s/he does not commit himself to the meaning).

10. I do not relate my assumptions here to the notion of *invited inferences* (Geis and Zwicky 1971) but one can not avoid noticing an interesting connection. Geis and Zwicky proved that some types of implicit meanings are best explained in terms of non-logical — or fallacious — but *practical* reasoning. To be invited to make specific connections is of course more than this, but the idea links well to the notion that non standard logical processes might be present in such cases.

11. Referring to this notion of *discourse space* allows for a very interesting pragmatic interface of CDA with works by Fauconnier and Turner on mental spaces and blending (1996), as well as with the framework of metaphor in the line of Lakoff and Johnson (1980, 1998), Musloff (2006), Koller (2005), Wagner and Wodak (2006), and Chilton (2005). However, in contrast to Chilton's analysis of anti-Semitic utterances, where he neglects all contextual, emotional and historical analysis and argues that CDA has become obsolete, I am convinced that an isolated cognitive linguistic analysis is incapable of addressing and explaining the specific occurrence of such utterances and their impact at certain times with specific audiences (see above and Wodak 2006d). See also Sauer (2006).

12. See detailed analysis below. During carnival, jokes or even distortions of names — Haider states — should be permissible. Interestingly, however, Ash Wednesday is, of course, after the end of carnival; thus, the conventions and rules of carnival should not apply to it.

13. Bering (2002: 178) mentions the most famous case of Bernhard Weiß, the then president of police in Berlin in the 1930s as an example. Goebbels made fun of his name and called him 'Isidor'. Even though Weiß won his case at court, the name 'Isidor' stuck. Other examples are the infamous forced re-naming of Jews with 'Israel'and 'Sara' in the so-called J-passports.

14. *Rübezahl* is the name of a destructive turnip-counting giant-figure in German folklore.

15. This play on words implies 'mess-maker'.

16. The Sudeten Germans were expelled from then Czechoslovakia because the Benes government sought revenge for the collaboration of many Sudeten Germans with the Nazis before and during the occupation in the Second World War.

17. See more on these aspects of 'belief-inculcation' and manufacture of consent through discursive and pragmatic strategies in Allott (2005) and Saussure (2005). See also van Eemeren and Grootendorst (1994) and Reisigl and Wodak (2001) for extensive discussions of argumentation patterns and fallacies.

18. For a discussion, see Saussure (2003, 2004), Carston (2002).

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