

**Essays in  
Speech Act  
Theory**

Edited by  
Daniel Vanderveken  
and Susumu Kubo

# ESSAYS IN SPEECH ACT THEORY

# *Pragmatics & Beyond*

## *New Series*

### **Editor:**

Andreas H. Jucker  
Justus Liebig University Giessen, English Department  
Otto-Behaghel-Strasse 10, D-35394 Giessen, Germany  
e-mail: andreas.jucker@anglistik.uni-giessen.de

### **Associate Editors:**

Jacob L. Mey (*Odense University*)  
Herman Parret (*Belgian National Science Foundation, Universities of Louvain and Antwerp*)  
Jef Verschueren (*Belgian National Science Foundation, Univ. of Antwerp*)

### **Editorial Board:**

Shoshana Blum-Kulka (*Hebrew University of Jerusalem*)  
Chris Butler (*University College of Ripon and York*); Jean Caron (*Université de Poitiers*)  
Robyn Carston (*University College London*); Bruce Fraser (*Boston University*)  
Thorstein Fretheim (*University of Trondheim*); John Heritage (*University of California at Los Angeles*)  
Susan Herring (*University of Texas at Arlington*); Masako K. Hiraga (*St. Paul's (Rikkyo) University*)  
David Holdcroft (*University of Leeds*); Sachiko Ide (*Japan Women's University*)  
Catherine Kerbrat-Orecchioni (*University of Lyon 2*)  
Claudia de Lemos (*University of Campinas, Brazil*); Marina Sbisà (*University of Trieste*)  
Emanuel Schegloff (*University of California at Los Angeles*)  
Deborah Schiffrin (*Georgetown Univ.*); Paul O. Takahara (*Kobe City Univ. of Foreign Studies*)  
Sandra Thompson (*University of California at Santa Barbara*)  
Teun A. Van Dijk (*University of Amsterdam*); Richard J. Watts (*University of Berne*)

# ESSAYS IN SPEECH ACT THEORY

DANIEL VANDERVEKEN

*Université du Québec, Trois-Rivières*

SUSUMU KUBO

*University of Matsuyama*

JOHN BENJAMINS PUBLISHING COMPANY  
AMSTERDAM/PHILADELPHIA



The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences — Permanence of Paper for Printed Library Materials, ANSI Z39.48-1984.

### **Library of Congress Cataloging-in-Publication Data**

Essays in speech act theory / [edited by] Daniel Vanderveken, Susumu Kubo.

p. cm. -- (Pragmatics & beyond, ISSN 0922-842X ; new ser. 77)

Includes bibliographical references and index.

1. Speech acts (Linguistics). I. Vanderveken, Daniel. II. Kubo, Susumu. III. Series.

P95.55 .E84 2001

306.44--dc21

2001025627

ISBN 90 272 5093 6 (Eur.) / 1 55619 835 3 (US) (hb.; alk. paper)

CIP

ISBN 90 272 5094 4 (Eur.) / 1 55619 836 1 (US) (pb.; alk. paper)

© 2001 – John Benjamins B.V.

No part of this book may be reproduced in any form, by print, photoprint, microfilm, or any other means, without written permission from the publisher.

John Benjamins Publishing Co. • P.O.Box 36224 • 1020 ME Amsterdam • The Netherlands  
John Benjamins North America • P.O.Box 27519 • Philadelphia PA 19118-0519 • USA

# Contents

Chapter 1: Introduction	1
<b>Part I. General Theory</b>	23
Chapter 2: Universal Grammar and Speech Act Theory <i>Daniel Vanderveken</i>	25
Chapter 3: Verbal Mood & Sentence Mood in the Tradition of Universal Grammar <i>André Leclerc</i>	63
Chapter 4: How Performatives Work <i>John Searle</i>	85
Chapter 5: Possible Directions of Fit between Mind, Language and the World <i>Candida de Sousa Melo</i>	109
<b>Part II. Discourse and Interlocution</b>	119
Chapter 6: Speech Acts and the Logic of Mutual Understanding <i>Alan Trognon</i>	121
Chapter 7: Utterance Acts and Speech Acts <i>Steven Davis</i>	135
Chapter 8: An Ascription-Based Theory of Illocutionary Acts <i>Tomoyuki Yamada</i>	151
Chapter 9: An Approach for Modelling and Simulating Conversations <i>Bernard Moulin &amp; Daniel Rousseau</i>	175
<b>Part III. Speech Acts in Linguistics</b>	207
Chapter 10: Illocutionary Morphology and Speech Acts <i>Susumu Kubo</i>	209

Chapter 11: Speech Act Constructions, Illocutionary Forces and Conventionality	225
<i>Masa-aki Yamanashi</i>	
Chapter 12: Speech Act Theory and the Analysis of Conversation	239
<i>Jacques Moeschler</i>	
Chapter 13: Speech Acts and Relevance Theory	263
<i>Marc Dominicy &amp; Nathalie Franken</i>	
Notes	285
References	303
Notes on Contributors	321

# Chapter 1

## Introduction

Daniel Vanderveken & Susumu Kubo

In order to act together with success, several agents engaged in a common activity often have to communicate to each other in order to coordinate intelligently their efforts. Communication is at the centre of sciences like philosophy, psychology, linguistics and cognitive and computer sciences which deal with language, thought and action. As ordinary language philosophers have pointed out, any study of communication must take into account the nature of speech acts that agents perform in discourse (their utterance acts, their acts of reference and predication, their illocutionary and perlocutionary acts) as well as the structure of their language games, the forms of life into which they are engaged and the conversational background. This book contains a series of contributions by philosophers, psychologists, computer scientists and linguists on language use and comprehension in general and speech acts in particular. In this introduction we will offer a brief historic survey and present current issues of speech act theory regarding the structure and functions of language. We will also present the contents of the contributions.

Philosophers and grammarians have long acknowledged the role of speech acts in their explanation of verbal mood and sentential types. According to Aristotle, only declarative sentences can be true or false (cf 1979: 17a). Other sentence types like the interrogative and optative types serve to make other kinds of speech. During the classical age, philosophical grammarians developed an ideational theory of meaning according to which sentence utterances serve to make acts of thought like judgements, requests and commands for the purpose of communication. In the second chapter *Verbal Moods and Sentence Moods in the Tradition of Universal Grammar*, André Leclerc presents the treatment of *aspects of meaning* determining the types of speakers' acts of



thought in classical Universal Grammar (c. 1660–1800). Leclerc’s interpretation of the theory of verbal moods explains why the indicative is more fundamental than other verbal moods and also why it is not really a mood according to Port-Royal’s grammar. There are two approaches in the classical theory of verbal moods defended in the philosophical grammars of the XVIIIth century. According to the first approach that Arnault and Lancelot (1966) defended, grammatical moods are characteristic *markers of the speaker’s acts of thought* (which can be social as well as solitary). So the various types of sentences that language distinguishes express conventionally various types of acts of thought that speakers can entertain for the purpose of communication. This first approach recognizes a relative autonomy to the non declarative fragment of natural language. The second approach is *reductionistic*: it considers that non declarative sentences only serve to express judgements of the speaker about himself. Both approaches still exist in contemporary philosophy of language.

More recently, Frege, in the logical trend of contemporary philosophy of language, acknowledged that all kinds of sentences contain expressions whose meaning serve to determine the *force* of their utterances. According to Frege (1977[1918]), force, sense and denotation are the three basic components of sentence meaning. Thus literal utterances of declarative sentences have the force of assertion; they serve to acknowledge the truth of the expressed proposition. Literal utterances of interrogative sentences have the force of a question; they serve to request an answer. Unfortunately, Frege, whose main objective was to derive mathematics from logic, did not formulate an elaborated semantic theory of force and of sense as he did for denotation. For a purely extensional ideographic object language was sufficient for his logicist purposes. Sentences have a truth value but no sense in his logical ideography. However force markers were so indispensable to language according to Frege that he felt the need to introduce force markers, the assertion and the definition signs, in the object-language of logic. All theorems are asserted in the *Begriffsschrift*. Frege’s interest for the force of utterances was abandoned<sup>1</sup> by his successors in the logical trend. They were much more interested by his remarks about sense and the need of a general logic of sense and denotation for an adequate semantic theory of truth of declarative sentences. So there are no force markers in the object language of modal, temporal and intensional logics that Church, Carnap, Prior, Montague, Marcus, Kaplan, Kripke and others have formulated. These philosophers only

contributed to the theory of meaning by analyzing how certain words serve to determine the truth conditions of propositions expressed by declarative sentences in which they occur.

In the middle of the XXth century, Wittgenstein pointed out in his *Philosophical Investigations* (1953) that meaning and use are systematically related in language. “For a large class of cases, ... the meaning of a word is its use in language” (P.I. 43). According to Wittgenstein, we learn the meaning of words by learning how to practise language-games with them. Sentences are instruments that have a role and functions in language-games. “Here the term “*language-game*” is meant to bring into prominence the fact that the *speaking* of language is part of an activity, of a form of life” (P.I. 23). Influenced by Wittgenstein, Austin, Strawson, Grice, Searle and others formed a new philosophical trend devoted to ordinary language analysis. So the contemporary philosophy of language has come to be divided in two different trends often in polemical terms. On the one hand, the logical trend founded by Frege and Russell mainly studies how words relate to things. It tends to consider that language serves to describe the world and it concentrates on the analysis of truth conditions of propositions expressed by declarative sentences. On the other hand, the ordinary language analysis trend studies how and for which purposes words are used in the conduct of discourse. It considers all kinds of speech activities in language use and it concentrates on the analysis of felicity conditions of speech acts performed by uttering all types of sentences (declarative or not). Austin (1962a) distinguished three main kinds of speech acts in the use of language that he called locutionary, illocutionary and perlocutionary acts. In Austin’s terminology, by uttering sentences, speakers characteristically perform *locutionary acts*: they utter words with a certain sense and reference. They also mean to perform *illocutionary acts* with a certain *force*<sup>2</sup> such as assertions, promises, orders, declarations and apologies. Moreover, when their utterances have effects on the audience, speakers perform *perlocutionary acts*: they can, for example, convince, please, influence, amuse or embarrass the hearer.

Austin discovered illocutionary acts by noticing that successful literal utterances of sentences like “I request you to help me”, “You are invited to come” and “I open this session” are *performative*, in the sense that they constitute the performance by the speaker of the illocutionary act named by their main verb. Austin called this kind of sentence *performative sentences* and their main verb *performative verbs*. At first, illocutionary acts were introduced by

Austin (1962b) to analyze the meaning of performative sentences as opposed to other types of sentences that he called *constative sentences*. Utterances of constative sentences are *true* when they represent things as they are in the world. Otherwise, they are *false*. On the other hand, utterances of performative sentences are not true or false but rather happy or unhappy according to Austin. They are *happy* when the speaker does represented things with his words by virtue of uttering them in the right context and they are *unhappy* otherwise. However, as Austin soon came to realize, illocutionary acts are important for the theory of meaning and understanding in general and not just in the analysis of performative sentences. Indeed any speaker who makes a meaningful utterance (whether performative or not) attempts to perform an illocutionary act in the context of his utterance. His attempted performance of an illocutionary act is part of what he primarily means and intends to get the hearer to understand. All kinds of sentences serve to perform illocutionary acts. Constative sentences serve to make statements, interrogative sentences to ask questions and imperative sentences to direct the hearer.

According to ordinary language philosophy, *the primary units of speaker meaning in the use and comprehension of natural languages are therefore illocutionary acts with felicity conditions rather than propositions with truth conditions* as it is commonly assumed in the logical trend. It is in the attempted performance of illocutionary acts that speakers express and communicate their thoughts in the conduct of discourse. Austin mainly studied elementary illocutionary acts which have a *force*. Such acts are performed at a moment of utterance by uttering an appropriate sentence in an adequate context of utterance. He attempted to analyze their felicity conditions and drew our attention to words whose meaning serve to determine types of illocutions rather than truth conditions.

In the past three decades, speech act theory has become an important branch of the contemporary theory of language thanks mainly to the influence of Searle (1969, 1979) and Grice (1975) whose ideas on meaning and communication have stimulated research in philosophy and in human and cognitive sciences. Simultaneously, Wittgenstein's anti-theoretical approach to language has been increasingly abandoned. Thus, Wittgenstein's claim that there are "countless different kinds of use of what we call 'symbols', 'words', 'sentences'" (PI, sec.11) was strongly criticized by Searle (1975b) who proposed instead a classification of basic kinds of meaningful utterances based on the clear and distinct notion of illocutionary point. From Searle's

view, there are only five illocutionary points that speakers can achieve on propositions in an utterance, namely: the *assertive*, *commissive*, *directive*, *declaratory* and *expressive illocutionary points*. Speakers achieve the *assertive point* when they represent how things are in the world, the *commissive point* when they commit themselves to doing something, the *directive point* when they make an attempt to get hearers to do something, the *declaratory point* when they do things in the world at the moment of the utterance solely by virtue of saying that they do and the *expressive point* when they express their attitudes about objects and facts of the world.

This typology of possible illocutionary points enabled Searle to improve Austin's classification of performative verbs and to proceed to a reasoned classification of illocutionary forces of utterances which is not as language-dependent as that of Austin. As Searle pointed out, the five illocutionary points correspond to the four different directions of fit that can exist between words and things. Assertive utterances like assertions and predictions have the words-to-things direction of fit. Commissive utterances like promises and threats and directive utterances like requests and commands have the things-to-words direction of fit. Declaratory utterances like appointments and definitions have the double direction of fit and expressive utterances like thanks and congratulations the empty direction of fit. Searle also revised Austin's trilogy of locutionary, illocutionary and perlocutionary acts by replacing the notion of locutionary act by those of *utterance* and *propositional acts*. In language use, speakers make oral or graphic utterances: they pronounce the sounds or write the marks of sentences. Furthermore, in their attempted performance of elementary illocutionary acts, they express propositions with forces. They refer to objects under concepts, they make acts of predication and they express a propositional content with certain truth conditions. In this view, *elementary illocutionary acts* are of the form  $F(P)$ : they are *composed of a force F and of a proposition P*. On the one hand, sentences like "Please, help me!" and "You will help me", whose clauses are synonymous, express in the same contexts of utterance illocutionary acts with the same propositional content but different forces. On the other hand, elementary sentences like "Is it snowing?" and "Are you coming?" with the same force marker express illocutionary acts with the same force but different propositional contents. Thanks to this new analysis, Searle has established a bridge between speech act theory and the theory of sense and denotation of Frege and his successors. It has become possible to exploit in speech act theory the resources of the theory of truth developed in

the logical trend in contemporary philosophy.

An attempt of performance of an illocutionary act can be more or less felicitous. The speaker can succeed or fail to perform that act. He can perform that act with or without defect. (An illocutionary act is defective when the speaker is not sincere or speaks in a wrong context). Furthermore the illocutionary act can be satisfied or not depending on what is happening in the world. An assertion can be true or false, a promise kept or violated, a request granted or refused. By attempting to analyze rigorously the felicity conditions of illocutionary acts in *Speech Acts* and *Expression and Meaning*, Searle has raised up an irreversible theoretical movement in the trend of ordinary language philosophy against the original anti-theoretical will of his founder Wittgenstein. Later, in *Foundations of Illocutionary Logic*, Searle and Vanderveken have used the resources of logic in order to analyze the logical form of illocutionary acts and to formulate the basic laws of speech act theory. Unlike Austin whose notion of illocutionary force was primitive, Searle and Vanderveken have decomposed illocutionary forces into their various components (illocutionary point, mode of achievement, degree of strength and propositional, preparatory and sincerity conditions). They have formulated a recursive definition of the set of all possible illocutionary forces of utterances instead of giving a simple list of actual forces. The five primitive illocutionary forces are the five simplest forces with an illocutionary point: the force of *assertion*, the force of a *commitment to a future action*, the force of a *linguistic attempt to get someone to act*, the force of *declaration* and that of *expression of an attitude*. All other forces are obtained from the primitives by a finite number of applications of six logical operations on their components. They have a more restricted mode of achievement of their illocutionary point, special propositional content, preparatory or sincerity conditions or a smaller or greater degree of strength. Furthermore, Searle and Vanderveken have defined recursively by induction the conditions of success, non defective performance and satisfaction of elementary and complex illocutionary acts. Unlike Austin, they have distinguished between successful utterances which are defective illocutionary acts (like successful promises that the speaker is unable or does not intend to keep) and utterances which are not even successful (like failed promises where the speaker does not succeed in putting himself under an obligation to do something). In addition to elementary illocutionary acts of the form F(P), Searle and Vanderveken have also studied complex *illocutionary acts of denegation* like refusals which are denegations of accep-

tances, *conditional illocutionary acts* like offers which are promises made on the condition of the hearer's acceptance and *illocutionary conjunctions* like warnings which contain both an assertion and a directive.

Searle and Vanderveken have also proposed a new declaratory analysis of performative sentences. According to them, performative utterances are primarily a *declaration* by the speaker that he is performing at the moment of utterance the illocutionary act named by the performative verb. In their view, any successful literal utterance of an explicit performative sentence is performative because a successful declaration makes its propositional content true and the propositional content in this case is that the speaker performs the illocutionary act named by the performative verb. Thus by a successful literal utterance of sentence (1) "I hereby ask you if it is snowing", the speaker asks the expressed question by way of primarily declaring that he asks that question. On this account, such a performative utterance is primarily a declaration and secondarily a question. Searle and Vanderveken's declaratory semantic analysis of performative sentences is in opposition to the two views that were current before. First, according to the so-called *performative hypothesis*, (Ross 1970) the main feature of the force marker of performative sentences was considered to be the performative verb itself. In such a view, any successful literal utterance of a performative sentence just constitutes the performance by the speaker of the illocutionary act named by the performative verb. For example, by a literal utterance of (1), the speaker means to ask the question whether it is snowing just as when he uses literally the corresponding interrogative sentence (2) "Is it snowing?" Performative and corresponding non performative sentences are then analyzed as synonymous. Second, according to the assertive hypothesis of Warnock (1973), D. Lewis (1972) and others, performative sentences were considered to be declarative sentences like others. The main feature of their illocutionary force markers is then the indicative mood of the performative verb rather than that verb itself. From this standpoint, a successful utterance of a performative sentence constitutes primarily a literal *assertion* by the speaker that he is performing the illocutionary act named by the performative verb. Thus, by a literal utterance of (1), the speaker means primarily to assert that he is asking a question. Whenever this assertion is true, the utterance is performative. The assertive hypothesis is reductionist just as the second approach of Universal Grammar mentioned above.

Searle in the chapter *How Performatives Work* further explains the declaratory analysis of performative utterances of *Foundations* by asking the

question: How do declarations work? He argues that illocutionary acts are a special kind of action where the expression of the intention to perform the action in an appropriate context is sufficient for the performance of that action. Generally speakers perform literally an illocutionary act of the form  $F(P)$  by uttering a sentence whose force marker and clause express respectively the force and propositional content of that act in the context of utterance. However, they can also express their intention of performing such an illocutionary act by making a literal utterance in an appropriate context of a performative sentence whose verb names that very act. Performative utterances are both self referential and executive according to Searle. By declaring that he performs an illocutionary act  $F(P)$  the speaker necessarily manifests his intention to perform that act by virtue of his utterance. Such a declaration unlike a simple assertion is sufficient to guarantee the presence of the speaker's intention to perform the act  $F(P)$ . And the manifestation of that intention is then constitutive of the performance of the expressed illocution. An unexpected consequence of Searle's explanation is that any verb at all that names an intentional action could be uttered performatively. All depends on facts about how the world works and not on the meaning of action verbs. Because of His supernatural powers, God can use performatively many more verbs than we can.

Illocutionary logic is a novelty in the history of logic. For the first time, logic can interpret the whole set of sentences that Aristotle divided in the *De Interpretatione* in declarative and non declarative utterances. Illocutionary logic enables formal semantics to analyze the proper meaning of all types of sentences (whether declarative or not) expressing all kinds of illocutionary acts without any *ad hoc* reduction of non declarative sentences to declarative sentences. Utterances with an illocutionary point cannot be reduced to utterances with another illocutionary point in the framework of illocutionary logic. So the assertive and performative hypotheses are false. We can perform illocutionary acts without asserting or declaring that we perform them. Furthermore, not all illocutionary acts are an expression of the speaker's attitudes. In making assertive, commissive, directive and declaratory utterances speakers do more than express their attitudes. They want to achieve a success of fit between words and things.

Furthermore, illocutionary logic enables lexical semantics to analyze formally the meaning of performative and illocutionary verbs of ordinary language by way of a systematic breakdown of lexicalized forces into their components. Such a work in lexical semantics has been compiled for English,

French and Portuguese in recent years.<sup>3</sup> It is now under way for other typologically different languages such as Japanese (Kubo 1999), Polish and Spanish.<sup>4</sup> In the tenth chapter *Illocutionary Morphology and Speech Acts*, Susumu Kubo analyzes in the perspective of illocutionary logic the meaning of Japanese sentences with an illocutionary affix. He investigates why the illocutionary force of utterances with an affix is not that of their main verb but that of their affix. He then proposes a general composition mechanism thanks to which one can generally predict the expressed forces within the framework of illocutionary categorial morphology. This clarifies the process of illocutionary force understanding in Japanese. Through the analysis of a particular Japanese illocutionary affix Susumu Kubo observes that the affix is illocutionarily polysemous as regards the preparatory and sincerity conditions of its force even though those polysemous meanings share their core meaning which is a particular mode of achievement of that force.

In speech act theory, propositions are not only senses of sentences with truth conditions. But they are also contents of illocutionary acts with success and satisfaction conditions. Any proposition is in principle expressible in the performance of an illocutionary act. This imposes new conditions of adequacy to propositional logic. For many propositions with the same truth conditions are not substitutable *salva felicitate* within illocutionary acts. So the type of propositions cannot be reduced to truth conditions in illocutionary logic as it has been commonly done since Carnap in philosophical logic. As Vanderveken explains in the first chapter, illocutionary logic requires a non classical predicative propositional logic which distinguishes propositions whose expression requires different acts of predication or whose truth conditions are understood in different ways.

In *Meaning and Speech Acts* Vanderveken has used and further developed illocutionary and intensional logics in order to construct a general formal semantics of success and satisfaction capable of interpreting indirectly via their translation into an ideographic object language all types of sentences (imperative, interrogative, conditional, subjunctive, optative as well as declarative) and of deriving the principles of practical as well as theoretical valid inferences that speakers are able to make in the use of ordinary language. The unified logic of force, sense and denotation of general formal semantics is a generalization and conservative extension of Montague's intensional logic. Its perspicuous and disambiguous object language serves to exhibit the deep logical structure common to all natural languages. Like Montague,



Vanderveken considers that there is no important theoretical difference between natural and formal languages: logical formalisms such as model and proof theories are most useful resources in order to explicate and construct linguistic competence in general and the speaker's ability to perform and understand illocutionary acts in particular. However, the theory of truth advocated by Davidson, Montague and others is not the single most important objective of formal semantics in Vanderveken's view. For success and satisfaction conditions are not reducible to truth conditions. So the theory of truth is now just a part of a more general theory of success and satisfaction of illocutionary acts needed to interpret all kinds of utterances. There is a model-theoretical semantics of success, satisfaction and truth in *Meaning and Speech Acts* as well as a generally complete axiomatization of valid laws. So speech act theory has come to take its place in the logical trend of philosophy of language (cf. Cocchiarella 1997) and that entrance is also a return to Frege's original ideas about the theory of meaning.

All the elementary sentences of the ideographic object language of general semantics contain a force marker: they express in each possible context of utterance an illocutionary act of the form F(P) whose felicity conditions are defined recursively in every possible interpretation. Unlike what happens in classical intensional logic, clauses expressing strictly equivalent propositions are not synonymous any more. Propositions are complex senses with a structure of constituents in the predicative propositional logic of general semantics. Moreover all the fundamental semantic notions of analyticity, consistency and entailment are ramified so as to explain semantic facts like Moore's paradox that were completely ignored before in the theory of linguistic meaning. So general semantics is able to explain and predict illocutionary and truth conditional entailments between sentences that were completely ignored before.

In the eighties, Searle realized that it was necessary to complete and even to found philosophical investigations on language and speech acts by constructing a philosophical theory of intentionality. Searle had spoken quite freely before of mental states like beliefs, desires and intentions that speakers express verbally in language use and of their meaning intentions in attempted performances of illocutionary acts. Searle's main objective in *Intentionality* was to contribute to the philosophy of mind by analyzing rigorously such intentional notions. In the philosophical tradition, intentionality is the intrinsic feature of the mind by which our thoughts are directed at objects and facts of the world other than themselves. In Searle's view, our intentional thoughts are

satisfied when a success of fit is achieved between the mind and the world from the appropriate direction. In Searle's classification, there are only three possible directions of fit between mind and the world: one that goes from mind to things (particular to beliefs), one that goes from things to mind (particular to desires and intentions) and the last null or empty direction of fit (particular to regrets and gratitude). Candida Jaci de Sousa Melo in the chapter *Possible Directions of Fit Between Mind, Language and the World* advocates the existence of a fourth double direction of fit between mind and things particular to verbal and non verbal declarations. Among acts of conceptual thought which represent facts of the world, there are illocutionary acts like assertions and promises that we perform verbally. There are also non verbal acts like solitary judgements, promises or recommendations to ourselves that we perform mentally by thought alone without any use of public language. According to Candida Jaci, all conceptual thoughts (whether states or acts, purely mental or verbal) have a characteristic direction of fit between mind and the world. Thus judgements, assertions and beliefs have the *mind-to-things direction of fit*. Commitments, directives, intentions and desires have the *things-to-mind direction of fit*. Acts of declaration such as appellations, definitions and classifications have the *double direction of fit between mind and things*. They are satisfied when the mind does represented things just by thinking that it does them. And joys and expression of regrets have the *empty direction of fit*. Candida Jaci attempts to justify the basic notions of illocutionary point and possible directions of fit between words and things of speech act theory from more primitive and general notions of the philosophy of mind. Her considerations follow Searle's idea that philosophy of language is a branch of the philosophy of mind.

There has been a dispute in the contemporary philosophy of language as regards the underlying formal ontology of the theory of meaning. How do we stratify the types of entities of the universe of discourse in an adequate theory of meaning? What are the indispensable ontological commitments of the theory of meaning? Like Frege, Searle and Vanderveken advocate the need of forces, senses and denotations in the theory of meaning. But Montague and other logicians tend to reduce meaning to sense and denotation, while Quine, Davidson and a few others go even farther in attempting to reduce meaning to denotations. According to Searle and Vanderveken, reductionist doctrines of the types of force and illocutionary act fail to explain and blatantly ignore a lot of basic illocutionary and truth conditional entailments between all kinds of

sentences. They also make a lot of obviously false predictions of illocutionary commitment. For this reason reductionist doctrines are incompatible with an adequate theory of success and satisfaction.

Illocutionary acts are successfully performed by uttering words in contexts of utterance. In each context of utterance, there is a token of an utterance act made by the speaker. There is also a token of the illocutionary act type attempted by the speaker in that context of utterance whenever the conditions of success are fulfilled. Are these tokens identical or not? Steven Davis asks this fundamental ontological question in the chapter *Utterance Acts and Speech Acts*. It has been argued that each illocutionary act token is one and the same as an utterance act token. Both would be the same act token described in different ways. So argued Davidson whose extensionalist program goes against contents and intentional states and acts. In a series of Twin Earth arguments, Tyler Burge has shown that an agent's psychological states are not identical to his internal physical states. Steven Davis adapts one of Burge's arguments and applies it to answer the question above. Davis reaches a negative conclusion: an agent's speech act token is not identical with the utterance act token that the speaker uses in performing his speech acts.

In classical formal semantics and speech act theory, logicians and philosophers use the primitive notion of a possible circumstance (point of reference or indice) which serves to represent complete possible states of the world. Expressions have a denotation in a given circumstance. In the chapter *An Ascription-Based Theory of Illocutionary Acts* Tomoyuki Yamada advocates the use of Barwise and Perry's notion of *situation* which represents partial states of the world. He proposes to exploit the resources of a version of their calculus of situation in order to contribute to illocutionary logic. Yamada's theory of illocutionary acts is ascription-based in the sense that its basic formulas ascribe actions to agents. They state facts about particular utterances and illocutionary acts performed by agents. General rules governing illocutionary acts are captured as constraints upon possible combinations of types of contexts, types of utterances, types of possible illocutionary acts and types of background conditions. Yamada presents a theory of content for illocutionary acts which is based on a generalized version of J. L. Austin's theory of truth. By extending Austin's notions of demonstrative and descriptive conventions so as to cover both assertive and non assertive illocutionary acts, Yamada attempts to specify contents of illocutionary acts without assuming propositions (qua truth value bearers) to be their common contents.

Yamada treats illocutionary acts as acts which change situations. He aims to characterize illocutionary forces in terms of types of changes within types of situations which illocutionary acts bring about.

It sometimes happens that the speaker makes a direct or indirect quotation in an utterance. The main objective of Yamanashi in the chapter *Speech Act Constructions, Illocutionary Forces and Conventionality* is to investigate the phenomena relative to illocutionary acts that occur in the case of quotation. Most studies of quotation in the past have been devoted to the explication of syntactic and semantic relationships that hold between direct and indirect modes of speech. Not much has been said about the illocutionary forces and related pragmatic features which are involved in the use and comprehension of the quoted part and of the quoting part of a sentence and about the kinds of verbs which can be used as predicates of quotation in natural language. Yamanashi investigates these aspects of quotation phenomena by examining a variety of idiomatic and non idiomatic speech act constructions and the ways in which their illocutionary forces are conventionalized.

It often happens that speaker meaning is different from sentence meaning in the course of discourse. As Austin pointed out, there are non literal and non serious utterances. The speaker does not mean what he says when he uses a figure of speech such as an irony, a metaphor or an indirect speech act. In such cases, he does not speak literally: he means to perform a non literal illocutionary act different from the illocutionary expressed by the sentence used in the context of utterance. The speaker does not speak seriously when he acts in a theatre play or writes a work of fiction. In such contexts, he just acts as if he were performing the expressed illocutionary act. If, for example, he utters a declarative sentence, he is not seriously committed to the truth of the propositional content. It is part of the art of speaking to be able to use the right figure of speech and to pretend to perform illocutionary acts in the conduct of discourse.

Until now, philosophy of language and linguistics have tended to study the speakers' ability to use and understand single sentences without taking much into consideration their ability to participate in conversations. Similarly speech act theory has tended to study the speakers' ability to perform and understand isolated illocutionary acts in single contexts of utterance. But speakers seldom use language just for that purpose. On the contrary, they most often perform their individual illocutionary acts in entire conversations where they are in interaction with other speakers engaged in the same forms of life.

Above all language use is a social form of linguistic behavior. Speakers who exchange words generally share the collective intention of practising together a certain kind of language game. As Geneva linguists pointed out (Roulet et al. 1985), a conversation is more than the finite sequence of single individual illocutionary acts attempted at successive moments of utterance. A conversation consists rather of a finite sequence of verbal *exchanges* where speakers, for example, make presentations, take positions, respond in concert with each other, attempt to make a decision, give explanations, make replies, comments and conclusions. Such interventions are units of discourse of a superior level more complex than individual illocutionary acts. In the perspective of speech act theory, they are *collective illocutionary acts* which are performed during an interval of successive moments. Could we enrich speech act theory so as to explain and construct our ability to make and understand all kinds of utterances (whether literal and serious or not) and to perform with other speakers collective illocutionary acts in the course of conversation?

According to Grice (1989: 26), speakers who intend to contribute to a conversation make cooperative efforts. They observe a general *principle of cooperation*: “Make your conversational contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged.” For that reason, speakers participating in conversations respect conversational maxims such as the maxim of quality “Try to make a true and sincere contribution”, the maxim of quantity: “Make your contribution as informative as is required (neither less nor more informative than required) for the current purpose of the exchange”, the maxim of relation “Be relevant” and the maxim of manner “Be perspicuous”. According to Grice, it is reasonable for speakers to respect such maxims in order to achieve their goals. Unfortunately, Grice only gave an informal, heuristic and partial account of conversational maxims and he did not justify his system. Moreover Grice stated his maxims as if the sole purpose of conversation were the exchange of information. So Grice’s maxims only apply to assertive utterances made in a special kind of discourse.

Following Grice, Searle, Bach and Harnish (1979), Récanati (1992), Vanderveken and others have made progress on the pragmatics of non literal utterances by exploring Grice’s idea that hearers understand non literal illocutionary acts by making inferences on the basis of what the speaker has said (the felicity conditions of the literal illocutionary act), the hypothesis that the speaker respects conversational maxims and the assumed existence in the

conversational background of certain relevant facts on which the speaker wants to draw attention. In their approach, the speaker means to perform primarily a non literal illocutionary act (what Grice calls a conversational implicature) just when he could not respect the conversational maxims in the context of utterance if the literal illocutionary act were primary.

In *Expression and Meaning*, Searle analyzed figures of speech such as irony, metaphor and indirect speech acts. He also analyzed the logical status of fictional discourse. Moreover Searle pointed out the importance of the *background* for the understanding of both literal and non literal meaning. Attempted illocutionary acts have conditions of satisfaction depending on the background. Notice that Searle's conception of background is much stronger than the current holism of the network of our mental contents. The background is rather an indefinitely open set of skills, preintentional assumptions and practises which are not representational but enable intentional acts and states to manifest themselves. As Récanati pointed out (1991, 2001), because of the background what is said is undetermined by linguistic meaning.

Can we explicate and generalize Grice's conversational maxims of quality and quantity within the framework of illocutionary logic? So argued Vanderveken (1991, 1997a), according to whom the maxim of quality turns out to be the general principle: "Let your illocutionary act be entirely felicitous (that is to say successful, non defective and satisfied)" and the maxim of quantity: "Let your illocutionary act be as strong as needed (neither too weak nor too strong) to achieve your current linguistic purposes" Vanderveken's formulation of these maxims is exact (it only uses notions which are rigorously defined in illocutionary logic). They now cover all kinds of utterances (assertive or not) within any type of discourse.

Dan Sperber and Deirdre Wilson have attempted to formulate the maxim of relevance in *Relevance* (1986). In their account, an hypothesis is relevant in a context when it has contextual effects in that context. There are degrees of relevance according to Sperber and Wilson: A hypothesis is relevant inasmuch as it has more contextual effects and requires less efforts of treatment in that context. Dominicy and others have criticized Sperber and Wilson's inferential model.

Could we enrich current speech act theory so as to formulate a more general but equally powerful theory of conversation, capable of analyzing their logical and dynamic structure as well as their conditions of success and satisfaction? Searle has expressed skepticism while Marcelo Dascal (1992),

Vanderveken (1994a) and Alain Trognon (see Chapter 6), among others, have been more optimistic as regards the possibility of constructing such a theory of conversation. However, Searle has pointed out important difficulties that are to be taken into consideration. Searle admits that speakers must follow certain rules in order to pursue with success various types of conversation. "Just as a move in a game creates and restricts the range of appropriate countermoves, so each illocutionary act in a conversation constrains the range of appropriate illocutionary responses." (*Foundations of Illocutionary Logic*, p 11). However, he observed in *On Searle on Conversation* that discursive constraints are much less strong than one would expect. Searle also pointed out that unlike illocutionary forces which have an internal illocutionary point, many conversations do not have a point which is internal to them *qua* conversations. The relevance of an illocution at a moment of utterance is dependent on the particular purposes of the protagonists of the conversation at that moment. Because such purposes can change arbitrarily in the course of conversation, Grice's requirement of relevance imposes few constraints on the proper structure of casual conversations. A speaker having a new purpose can attempt to change the kind of conversation by making an utterance which has nothing to do with what has been said before. Irrelevant as well as non felicitous illocutionary acts do not prevent the conversation to continue. Furthermore, as Wittgenstein has already pointed out, the forms of life into which speakers are engaged as well as their meanings and purposes in a conversation are always relative to a background that it is impossible to describe exhaustively. Finally, according to Searle, the intentionality common to the protagonists of a conversation is in principle a *collective intentionality* which is not reducible to the sum of their individual intentions and of their mutual knowledge of the background. Conversations are language games that several speakers play by performing together a joint action rather than several distinct individual activities. We need a more collective and less individualistic approach in the theory of intentionality in order to account for our ability to converse. As Searle recognizes, his critical remarks do not prove the impossibility of a theoretical investigation on conversation. They only show important difficulties intrinsic to any such investigation. Background and collective intentionality are also indispensable in the current semantics and pragmatics of elementary illocutionary acts of the form F(P). But Searle does not question these established theories.

Alain Trognon in the chapter *Speech Acts and the Logic of Mutual*

*Understanding* advocates the use of speech act theory in the theory of conversation. He asks the question: Can a speaker be certain to have been understood by his audience? There is no definite answer to that question. However, according to Trognon, the speaker can have certain evidence based on the course of the conversation. When we consider a conversation not as an isolated phenomenon but as a process, it can be observed that the speaker's uncertainty is limited and that it does not affect much the communication process. Trognon's purpose is to show that the interactive process of mutual understanding relies on two logical features of illocutionary acts: their success and satisfaction conditions. Such features according to Trognon explain the role of sequencing in the process of mutual understanding. What the speaker means at a certain moment in a conversation is often what the speaker is taken to mean given a joint interpretation of his utterance which is made by the protagonists of the conversation.

In the chapter *An Approach for Modelling and Simulating Conversations*, Bernard Moulin and Daniel Rousseau propose a model for analyzing and simulating conversations on the basis of several guidelines: A conversation is a cooperative activity. Multichannel communications take place between speakers who monitor several levels of interaction at once. Speakers reason about mental states and perform speech acts to transmit their mental states to other agents. In their approach, speech acts are transformed into so-called conversational objects (COs) corresponding to mental states associated with agents' positioning. The COs are managed by a special agent which embodies a persistent memory of the conversation held by the participants. Moulin and Rousseau describe the main categories of mental states and relations which can be part of a speaker's mental model or in the CO network. Three other special objects: the conversation object, the initiative agenda and the negotiation agenda are used to monitor the different phases of a conversation as well as turn-taking and topic management. They also present three life cycles specifying state transitions allowed in the course of conversations. Moulin and Rousseau show how speech acts can be transformed in terms of COs and agents' positioning. They give a brief illustration of a conversation simulation.

Unlike Trognon, Jacques Moeschler argues against a modelling of conversation based on the notion of speech act in the chapter *Speech Act Theory and the Analysis of Conversation*. Moeschler first criticizes the common sense approach in favour of speech act theory according to which every illocutionary act constrains the range of appropriate illocutionary replies to that act in



each conversation. He also criticizes the hierarchical functional model of discourse formation of the Geneva school of linguistics to which he had adhered. Moeschler proposes a solution to the question of implicature and sequencing in conversation in terms of Sperber and Wilson's relevance theory. In the last chapter *Speech Acts and Relevance Theory*, Marc Dominicy and Nathalie Franken compare different claims of speech act theory and relevance theory about language and communication. More specifically, they confront the illocutionary treatment of directives in speech act theory to the alternative approach developed by Sperber and Wilson. Their objective is to account for examples where an imperative sentence is literally and seriously used while the act performed does not seem to fit the conditions set out in the definition of a directive illocutionary act. They argue that in most cases (advice, permissions, expressions of good wishes) speech act theory puts forward a well grounded explanation, provided we make a principled distinction between two kinds of desirability (desirability to an individual *versus* desirability for an individual) and provided the background contains ethical norms which value altruistic desires. Dominicy and Franken also show that the use of illocutionary connectives within speech act theory paves the way for an insightful description of threats and dares expressed by means of imperative sentences.

It is quite clear nowadays that the future of speech act theory lies in the development of a general and rigorous theory of discourse. Such a theory is needed for progress in all the sciences dealing with language, action and thought. Thus philosophy of mind and language still have to explain the human ability to think and reason in the conduct of mental and linguistic discourse. Linguistics still has to analyze the structure of written texts and verbal exchanges and psychology to account for the process of mutual understanding. Literary studies has to explain figures of speech and literary styles and Artificial Intelligence to generate automatically intelligent dialogues between man and machine. Searle's critical remarks about the difficulties of any theory of conversation leave us with a challenge as regards the possibility of developing such a theory. Vanderveken has attempted to meet that challenge in recent papers.<sup>5</sup> We will finish this introduction by making a few constructive considerations along the lines of Vanderveken's ideas in favour of an extension of speech act theory towards a rigorous but restricted theory of discourse.<sup>6</sup>

As Wittgenstein pointed out, speakers in conversation most often collec-

tively attempt to achieve *extra-linguistic* goals. They communicate to each other in order to coordinate intelligently non verbal actions such as cleaning the house, making or repairing an instrument. Wittgenstein and Searle are right to say that it is impossible to construct a theory of all possible kinds of language games. There are “countless kinds” of language games that we could play in exchanging words. “And this multiplicity is not something fixed, given once for all; but new types of language, new language-games, as we may say, come into existence, and others become obsolete and get forgotten” (*Philosophical Investigations* 23)

The proper task of the theory of conversation is to analyze only the logical and dynamic structure of conversations whose type is provided with an internal discursive purpose. According to Vanderveken, there are only four possible discursive goals that speakers can attempt to achieve by way of conversing: the *descriptive*, *deliberative*, *declaratory* and *expressive goals* which correspond each to one of the four possible directions of fit between words and things. *Discourses with the words-to-things direction of fit have the descriptive goal*: they serve to describe what is happening in the world. Such are reports, news, public statements, diagnoses, forecasts, theoretical debates on a question, explications and interviews. *Discourses with the things-to-words direction of fit have the deliberative goal*: they serve to deliberate on which future actions speakers and hearers should commit themselves to in the world. Such are negotiations, bargaining sessions, peace talks, discussions aiming at a friendly settlement, contracts, medical consultations, sermons and exhortations. *Discourses with the double direction of fit have the declaratory purpose*: they serve to transform the world by way of doing what one says. Such are official declarations like inaugural addresses, licences, amnesties, testaments, discourses held in ceremonies of wedding and judgements at court. *Discourses with the empty direction of fit have the expressive point*: they serve to express common attitudes of their speakers. Such are the exchange of greetings, eulogies, verbal protestations and public lamentations. We are all able to pursue conversations with the four discursive purposes by virtue of our linguistic competence. Furthermore, all kinds of language games (including conversations with extra-linguistic objectives) are composed of sub-conversations with a discursive purpose. As we have said earlier, these are collective illocutionary acts of a superior order.

Unfortunately, analysts of conversation have neglected discursive purposes. Moreover they have not sufficiently taken into consideration the fact

that conversations are collective actions provided with conditions of success. Linguists like Jean-Claude Anscombe and Oswald Ducrot (1983), Andreas Jucker (1986), Atkinson and Drew (1979) have analyzed conversations with a discursive purpose such as argumentations, linguistic exchanges in court, job interviews, newscasts and lessons at school. Philosophers of science have studied the structure of scientific discourse and logicians the nature of demonstrations. In our opinion, one should integrate these investigations within a more general theory of discourse that studies conversations whose type is provided with a proper discursive purpose.

All forces having the same illocutionary point do not play the same role in language use. It is sometimes better to request than to order. Similarly, many types of conversation having the same discursive purpose are to be conducted under different conditions. For example, a sermon is a rather peremptory deliberation which serves principally to influence the behavior of an audience. On the other hand, verbal attempts at a friendly settlement are deliberations where speakers act in concert with the intention of ending a conflict. On the model of illocutionary logic, we can decompose each type of conversation with a discursive point into other components: the mode of achievement of its discursive purpose, thematic conditions, background conditions and sincerity conditions. These other conversation components play in the conduct of discourse a similar role to that of corresponding force components in the performance of elementary illocutionary acts. We can also define recursively the set of possible conversation types with a discursive purpose. The four primitive discourse types are the simplest types of conversation, namely: the *description type*, the *deliberation type*, the *declaration type* and the *expression type*. All other discourse types are obtained by adding to simpler discourse types new components. Thus the type of negotiation has a polite mode of achievement of the deliberative goal: negotiators must take counsel together as how to act. The type of bargaining has one more thematic condition than that of negotiation: a bargaining session treats of the purchase and selling of certain goods.

It is more difficult to define the successful conduct of a discourse than the successful performance of an auxiliary individual illocutionary act. For conversations are sequences of interventions which are themselves sequences of individual auxiliary illocutionary acts. The successful conduct of a conversation does not require that all its constitutive interventions are successful, just as the successful conduct of an intervention does not require the successful

conditions of all its basic constitutive individual auxiliary illocutionary acts. From a logical point of view, all utterances do not have the same importance in a conversation. Some attempted collective or individual illocutionary acts are superfluous. Others which Vanderveken calls its *master speech acts* play a central role in its conduct. Only these master speech acts have to be relevant and successful. Consider a bargaining session. When attempting to buy and sell, speakers who bargain can also make statements about the price and value of goods for sale and express mental states. They can from time to time make irrelevant utterances (for example a joke) which do not contribute to the process of bargaining. But they must necessarily perform directive and commissive illocutionary acts such as offers, counter-offers, acceptances and refusals about objects for sale. Otherwise there is no bargaining. In illocutionary logic, each component of a force determines a particular success condition of illocutionary acts with that force. Similarly, in the theory of conversation, each discourse type determines a particular condition of success of conversations of that type. As Vanderveken pointed out, such success conditions require both the successful performance of constituent master illocutionary acts of certain forms as well as the existence of relations between these master acts. In a trial, for example, the judgement of the judge must take into consideration the verdict of the jury.

Notice that the form of relevant replies to a master speech act in a conversation is determined not only by its logical form but also by the discursive type of that conversation, the place and role of that act in that conversation and the background. When the hearer does not understand entirely the meaning of the speaker in an utterance he can ask the speaker to be more explicit. Both can fix together the meaning of that utterance in a linguistic exchange. In considering utterances within the conversations where they are made, speech act theory gives a new dynamic and collective perspective to the theory of meaning. Furthermore, the hearer should also react when certain felicity conditions of the attempted illocutionary act or of the conversation in course are violated in the conversational background. So speakers can be brought to change the background and revise their intentions and illocutions.



Part I

**General Theory**



## Chapter 2

# Universal Grammar and Speech Act Theory

Daniel Vanderveken

*Université du Québec, Trois-Rivières*

As philosophers and universal grammarians of the classical age have already pointed out, the primary functions of language are to enable human speakers to express and communicate with accuracy and efficiency their conceptual thoughts.<sup>1</sup> Thus one can raise the question: *Are there transcendent features that any natural language must possess in order to be able to fulfil its two basic functions of expression and of communication, and if yes, what is their nature?* According to speech act theory, the primary units of meaning in the use and comprehension of language are not isolated propositions but rather speech acts of the type called by Austin (1962a) *illocutionary acts*. Speakers who make meaningful utterances of elementary sentences always relate propositional contents to the world with a certain illocutionary force. They mean to perform in the context of their utterances elementary illocutionary acts such as assertions, questions, orders, declarations and thanks. It is part of what they intend to communicate to their hearers. Moreover they contribute to conversations with the intention of performing with other speakers *collective illocutionary acts* such as exchanging greetings, giving news, making a deliberation or changing things by way of making official declarations.

Because speakers express and communicate their thoughts in the very performance of illocutionary acts, speech act theory contributes to the theory of linguistic universals in formulating the necessary and universal laws governing the successful performance and satisfaction of all kinds of illocutionary acts in language use and comprehension. *As I will argue, the logical form of illocution-*



ary acts imposes certain formal constraints on the logical structure of a possible natural language as well as on the mind of competent speakers. In particular, certain syntactic, semantic and pragmatic features are transcendent and universal because they are indispensable. A language deprived of such features would not provide for its human speakers adequate means of expression and of communication of their conceptual thoughts. Moreover, if linguistic competence is the ability to perform and understand illocutionary acts, then competent speakers and hearers must have certain mental states and abilities which are, in general, traditionally related to the faculty of reason. For example, speakers must be able to refer and predicate and to distinguish truth from falsehood, success from failure and satisfaction from dissatisfaction. They must also be able to make certain theoretical and practical valid inferences and to coordinate intelligently their contributions to discourse. Otherwise, they would not be fully able to use and understand a language. As we will see, there is an internal relationship between the basic functions and the deep structure of language. Natural languages offer a vast vocabulary and a rich grammar to express forces, propositions and illocutionary acts. The surface structure of their sentences can be misleading. However, speakers apprehend their deep structure in meaning and understanding. And it appears that the logical form of linguistic expressions which express transcendent features of speech acts is exactly the one which is appropriate to their function.

Illocutionary acts such as assertions, questions, refusals and offers which are performed at a single moment of utterance by way of uttering sentences in appropriate contexts are *first level illocutionary acts*. *Elementary illocutionary acts of the first level are of the form F(P); they consist of an illocutionary force F<sup>2</sup> and a propositional content P*. Speakers who mean to perform an elementary illocutionary act may have all sorts of intentions and perlocutionary goals. But they always have the intention to achieve an illocutionary point on the propositional content. According to illocutionary logic<sup>3</sup> the five illocutionary points of language use are: the *assertive point* which consists in representing how things are in the world, the *commissive point* which consists in committing the speaker to doing something, the *directive point* which consists in trying to get the hearer to do something, the *declaratory point* which consists in doing something by way of representing oneself as doing it and the *expressive point* which consists in expressing attitudes. Elementary illocutionary acts are expressed in natural languages by elementary sentences containing a *marker* and a *clause* expressing respectively a force and a propositional content in each

possible context of use. Common examples of force markers are verb mood and sentential types. Thus declarative sentences serve to make assertions. Imperative sentences serve to give directives and interrogative sentences to ask questions. Performative sentences serve to make declarations. (As Searle and I pointed out, successful performative utterances are declarations whose propositional content is that the speaker performs the speech act named by their performative verb.)<sup>4</sup> And exclamatory sentences serve to express the speaker's attitudes. *Illocutionary denegations* such as refusals and disapprovals, *conditional speech acts* such as offers and *conjunctions* of illocutions such as warnings and alerts are *complex first level illocutionary acts* which are expressed by sentences containing illocutionary connectives such as "I do not accept your offer", "If you want, I promise to help you" and "The road is slippery: pay attention!".

Speakers seldom speak and talk just for the purpose of making isolated individual utterances. On the contrary, they interact verbally with other speakers in *conversations* and perform their individual illocutionary acts with the collective intention of conducting joint *interventions* such as exchanging salutations, making a report, a consultation or a negotiation, or doing things by making common declarations. In conducting interventions, protagonists in a conversation attempt all together to achieve *discursive goals*: they intend to describe how things are in the world (*descriptive goal*), to deliberate on their mutual future actions (*deliberative goal*), to transform the world by way of declarations (*declaratory goal*) or simply to express common attitudes (*expressive goal*). As I pointed out,<sup>5</sup> exchanges whose type is provided with an internal discursive goal are also illocutionary acts that speakers mean to perform in language use. From a logical point of view, such exchanges are *collective higher order illocutionary acts*: they are performed jointly by several speakers and they last during an interval of time containing several successive moments of utterance.

By their nature, all kinds of conversation and discourse (whether they have an internal point or not, whether their point is linguistic or extra-linguistic) are composed of one or several interventions with a discursive goal. *So there is a hierarchy of different levels of units of meaning and understanding* in the use and comprehension of language. Each *language game* that speakers play in exchanging words in common forms of life is a sequence of verbal and non verbal interventions, verbal exchanges with a discursive goal being in turn sequences of first level illocutionary acts. In order to conduct such interven-

tions, speakers coordinate their meaningful utterances and attempt to perform some of their individual elementary illocutionary acts with the intention of achieving a common discursive goal. They can use discourse verbs such as “describe”, “explain”, “deliberate”, “bet”, “negotiate”, “contract”, “exhort”, “bequeath” and “welcome” in order to express the type of intervention that they want to conduct. Imperative sentences like “Let us explain why this happened!”, “Let us make a contract” serve to invite other speakers to make certain types of intervention. Some discourse verbs can be used performatively: “I bet you 5 dollars that they will win”, “I exhort you to be brave”. One can find many performative discourse verbs in Austin’s list of expositives: “illustrate”, “argue”, “recapitulate”, “answer”, “quote”, “answer”, “reply”, “object”, “conclude”, “deduce”, “analyze”, “formulate”, “class”, etc.

Interventions with a discursive goal have a *discursive type* as well as a *theme*. One can deliberate on different questions, just as one can report different stories. Language distinguishes different discursive types with the same discursive goal just as it distinguishes different illocutionary forces with the same illocutionary point. Pledges, promises, threats, acceptances and vows are commissive illocutions with different forces to be performed under different conditions. In analyzing illocutionary forces, *Searle and I decomposed each force into six components: its illocutionary point (the main component), its mode of achievement of illocutionary point, its propositional content conditions, its preparatory and sincerity conditions and its degree of strength.* In order to be identical two illocutionary forces must have the same six types of components. Otherwise they play different linguistic roles in the expression of propositional contents. Similarly, negotiations, sermons, bargaining sessions, attempts at friendly settlements and contracts are types of deliberative interventions which are to be conducted under different conditions. *In addition to a discursive goal, discursive types of interventions have four other types of components: a mode of achievement of discursive goal, thematic conditions, background conditions and sincerity conditions.* Discursive types with different components are different; they play different roles in the conduct of conversation.

*By virtue of their logical form, illocutionary acts have success and satisfaction conditions.* Illocutionary acts are by nature intentional actions that speakers always attempt to perform. As is the case for *human actions* in general, attempts to perform such acts can *succeed* or *fail*. For example, in order to put himself under a legal obligation to do something, a speaker must succeed in

expressing to which action he intends to commit himself. Moreover he must have the right to put himself under that obligation. In order to make a contract, parties must act in concert with each other and make joint reciprocal commitments to future actions. Moreover, illocutionary acts are directed at objects and facts and, even when they are successful, they can still fail to be satisfied, when the world does not fit their propositional content. We can make false assertions and break our promises. We can also disobey directives. So our descriptions can be inexact and our deliberations not respected. Sincere speakers want their attempted illocutionary acts to be both successful and satisfied.

The *conditions of success* of an illocutionary act are the conditions that must be fulfilled in order for one or several speaker to succeed in performing that act. As I said earlier, first level illocutionary acts are successfully performed in single contexts of utterance, and higher level illocutionary acts in speech situations during an interval of several successive moments of utterance. *The notion of a condition of satisfaction is a generalization of the notion of a truth condition* which is necessary to cover all kinds of illocutionary acts. Just as an assertion is satisfied when it is *true*, a command is satisfied when it is *obeyed*, a promise is satisfied when it is *kept*, a request is satisfied when it is *granted*, and similarly for all other illocutionary forces. *Interventions are satisfied when their master illocutionary acts are satisfied*. Thus parties respect a contract when they keep their main reciprocal commitments. The two types of success and satisfaction conditions of illocutionary acts are not reducible to truth conditions. As one cannot attempt to perform or understand illocutionary acts without understanding their success and satisfaction conditions, the primary objectives of speech act theory are to elaborate recursive theories of success and satisfaction.

From a philosophical point of view, **speech act theory contributes to universal grammar for various reasons.**

*Natural languages have a vast vocabulary for specifying illocutionary act types and propositions. But they are ambiguous and their grammatical conventions are complicated so that it is difficult to directly analyze the underlying logical form of attempted illocutionary acts.* First, there is no one-to-one correspondence between illocutionary forces and performative verbs or force markers in natural languages. “Illocutionary forces are, so to speak, natural kinds of language use, but we can no more expect the vernacular expressions to correspond exactly to the natural kinds than we can expect vernacular names of plants and animals to correspond exactly to the natural

kinds” (Searle and Vanderveken 1985: 179). Thus, some possible illocutionary forces are *not actual* today in English. For example, one can no longer repudiate one’s wife and break off one’s marriage by uttering words, as one could do in past civilisations in certain ways fixed by custom. Some possible illocutionary forces are actual in English but are not realized syntactically or lexicalized. For example, there is no marker in English for commissive illocutionary forces. A speaker cannot directly commit himself in English to carrying out a future action. He can commit himself indirectly to doing something by way of asserting, for example, that he will do it. He can also commit himself performatively by way of making a declaration (“I promise to do it”). Furthermore, performative verbs like “tell” and “swear” are ambiguous between different illocutionary points. One can assertively swear that something is the case, just as one can commit oneself in swearing to do something. Expositive performative verbs like “reply”, “remark” and “conclude” do not name interventions whose type is provided with an internal discursive goal. Conclusions can be descriptive, deliberative, declaratory or expressive.

A second reason for distinguishing carefully between illocutionary forces, on the one hand, and performative verbs and illocutionary force markers, on the other hand, is that *natural languages are not perspicuous*. Many sentences of the same syntactic type (for example, the declarative sentences “He is dead”, “Frankly, he is dead”, “Alas, he is dead”, “Of course, he is dead”) express illocutionary acts with the same illocutionary point but different forces. Similarly, performative verbs with a superficially similar syntactic behaviour (for example, “order”, “forbid” and “permit”) do not have the same logical form. Only the first verb “order” names a directive illocutionary force, for an act of forbidding something is just an order not to do it. Furthermore an act of granting permission is the illocutionary denegation of an act of forbidding. Finally, performative verbs like “argue”, “inform”, “state”, “present”, “claim” and “criticize” can name an illocutionary force as well as a discursive type.<sup>6</sup>

One should not trust the surface structure of ordinary language too much. As I argued,<sup>7</sup> it is better to analyze indirectly the deep structure of ordinary sentences *via* their translations in an ideal perspicuous disambiguous formal object language. *I have used for that purpose in formal semantics of success and satisfaction the ideographic language of a higher order unified illocutionary and intensional logic*<sup>8</sup> containing a revisited propositional logic where

*strictly equivalent propositions are distinguished.* One advantage of using an ideographic language in illocutionary logic is to have at one's disposal a theoretical vocabulary thanks to which any expressible illocutionary act can in principle be analyzed in a canonical way and be put into relationships with others. Another advantage is that, contrary to what is the case in ordinary language, the grammatical forms of the sentences of the ideography reflect clearly on the surface the logical forms of the illocutionary acts that they express. Thus one can exhibit *via* translation the logical form of illocutionary acts that ordinary sentences serve to perform.

All the logical constants and syncategorematic expressions of the ideographic object language of illocutionary logic express *universal features of language* such as identity, success, truth, functional application,  $\lambda$ -abstraction and abstraction over circumstances. So in formulating the syntactic rules of formation and abbreviation of this ideal language, the meaning postulates governing its expressions in possible interpretations, and its axiomatic system illocutionary logic makes universal claims about the deep structure of language. *Thanks to the new ideography, richer fragments of natural languages containing sentences of all syntactic types (declarative as well as non declarative sentences) can now be interpreted indirectly in logic.* There is no more need to reduce non declarative to declarative sentences for *ad hoc* theoretical reasons. Formal semantics can analyze the proper meaning of non declarative utterances just as illocutionary logic analyzes the proper nature of non assertive forces. In the philosophy of mind underlying speech act theory,<sup>9</sup> conceptual thoughts with different directions of fit are different.<sup>10</sup>

As Montague (1974) pointed out, by way of translating clauses of ordinary sentences into the ideal object language of intensional logic, formal semantics clarifies the logical form of propositions and proceeds to a better explication of the meaning and truth conditions of declarative utterances. Similarly, by way of translating force markers and performative verbs into the ideographic object language of illocutionary logic, formal semantics can exhibit the logical form of illocutionary acts and proceed to a better explication of the meaning and success and satisfaction conditions of all types of utterances.<sup>11</sup> According to Cocchiarella, "This enlarged framework is not at odds with Montague's intensional logic, it should be emphasized, but is really a conservative extension of the latter that simply adds a recursive theory of success and satisfaction to Montague's theory of truth." (p 71).<sup>12</sup>

Given the nature of conceptual thought, one can argue that there are in all

possible languages *linguistic universals* on the side of illocutionary forces and discursive types as well as on the side of propositions and discourse themes. Expressions which name linguistic universals lend themselves to *radical translation* in the sense of Quine (1960). *Any lingua philosophica adequate for the expression of thoughts must therefore contain logical constants or syncategorematic expressions representing these universals*. There are two kinds of linguistic universals: material and formal universals.

### *Material linguistic universals*

From a theoretical point of view, *material linguistic universals* are basic elements of thought like predication, illocutionary points and discursive goals which are constitutive of the deep logical structure of language. So the ideographic language of illocutionary logic must contain basic expressions for the act of predication and the five assertive, commissive, directive, declaratory and expressive illocutionary points. In order to represent how things are in the world, we must predicate of them properties or relations.<sup>13</sup> We would not be able to express elementary propositions representing atomic states of affairs and events of the world in a language deprived of predication. For atomic facts exist in a circumstance when objects have certain properties or stand in certain relations in that circumstance. In order to represent atomic facts we must refer to their objects and predicate of them attributes (i.e. properties or relations). Elementary propositions serve to represent atomic facts in language use: they are true in a circumstance if and only if objects have in that circumstance predicated attributes.

Furthermore, speakers would not be able to perform all types of illocutionary acts in a language deprived of the five different illocutionary points, for such a language would not distinguish all the different possible basic ways in which we can relate in an act of thought propositions to the world with the aim of establishing a correspondence between words and things from a possible direction of fit. So possible natural languages must contain force markers or illocutionary verbs expressing assertive, commissive, directive, declaratory and expressive illocutionary forces, just as they must contain elementary sentences expressing elementary propositions that represent facts of the world.

The theory of satisfaction of speech act theory is based on the traditional *correspondence theory of truth* for propositions.<sup>14</sup> Whenever an elementary

illocutionary act is satisfied in an actual context of utterance, there is a *success of fit* or *correspondence* between language and the world; the propositional content of the illocutionary act corresponds to an actual fact in the world. However, as Searle and I pointed out, there is more to the notion of a condition of a satisfaction than the notion of truth condition. *In order that an elementary illocutionary act of the form  $F(P)$  be satisfied in a context of utterance it is not enough that its propositional content  $P$  be true in the circumstance of that context. The correspondence between language and the world must be established following the proper direction of fit of its illocutionary force  $F$ .* In order to obey an order, it is not enough to carry out the ordered action. One must carry out that action with the intention of obeying that order. A hearer is not obedient when he or she carries out an ordered action for another reason.

According to illocutionary logic, *there are four possible directions of fit between words and things in language use to which correspond exactly the five assertive, commissive, directive, declaratory and expressive illocutionary points of elementary illocutionary acts and the four descriptive, deliberative, declaratory and expressive discursive purposes of interventions:*<sup>15</sup>

*The words-to-world direction of fit*

An elementary illocutionary act whose force has the words-to-world direction of fit is *satisfied* (or *true*) when its propositional content fits a fact existing (usually independently) in the world. *Illocutionary acts with the assertive point* (e.g. assertions, conjectures, predictions) *have the words-to-world direction of fit.* Their point is to represent how things are. Thus, in the case of assertive utterances, the words must correspond to the objects of reference as they stand in the world. At the level of discourse, *interventions whose discursive goal is descriptive* (e.g. reports, presentations, interviews, diagnoses and explications) *also have the words-to-world direction of fit.* They serve to describe what is happening in the world. So the master speech acts of descriptive interventions are assertive. And descriptive interventions are *satisfied* (or *exact*) when their master assertive illocutions are true.

*The world-to-words direction of fit.*

An elementary illocutionary act whose force has the world-to-words direction of fit is satisfied when the world is transformed to fit the propositional content. *Illocutionary acts with the commissive or directive point* (e.g. promises, vows, acceptances, requests and orders) *have the world-to-words direction of fit.*



Their point is to have the world transformed by the future course of action of the speaker (commissives) or of the hearer (directives) in order to match the propositional content of the utterance. In this case, the things in the world have to be changed to correspond to the words uttered in the performance of the illocutionary act. At the level of discourse, *interventions whose discursive goal is deliberative* (e.g. sermons, negotiations, bargaining sessions, attempts at friendly settlements and exhortations) also *have the world-to-words direction of fit*. They serve to deliberate on which future actions speakers and hearers should commit themselves to in the world. So their master speech acts are both commissive and directive. Deliberations serve both to commit speakers and to attempt to commit hearers (who are always potential speakers) to reciprocal future actions. Deliberative interventions are *satisfied* (or *respected*) when their master commissive and directive illocutions are satisfied (that is to say respectively *kept* and *followed*).<sup>16</sup>

#### *The double direction of fit*

An elementary illocutionary act whose force has the double direction of fit is satisfied when the world is transformed by an action of the speaker to fit the propositional content by the fact that the speaker represents it as being so transformed. *Illocutionary acts with the declaratory illocutionary point* (e.g. definitions, appellations, appointments, benedictions and condemnations) *have the double direction of fit*. Their point is to get the world to match the propositional content by saying that the propositional content matches the world. In successful declarations, objects of reference are then changed to correspond to words in the very utterance of these words. *Interventions whose goal is declaratory* (e.g. inaugural addresses, testaments, licences, discourses held in promulgating laws and in ceremonies of christenings and weddings) also *have the double direction of fit*. They serve to transform the world by way of declarations. They are satisfied when their main declarations are successful.

#### *The empty direction of fit*

For some elementary illocutionary acts, there is no question of success or failure of fit. Their propositional content is in general presupposed to be true. *Illocutionary acts with the expressive point* (e.g. apologies, thanks, complains, boasts) *have the empty direction of fit*. Their point is just to express (or manifest) the speaker's mental state about a represented fact. Thus, in expressive utterances, speakers do not attempt to represent how things are (they, in

general, presuppose that they are as they say) and they do not want to change things. They just want to manifest what they feel about them. So expressive illocutions are not satisfied or unsatisfied. They are rather appropriate or inappropriate. *Interventions whose goal is expressive* (e.g. exchange of greetings, welcomes, eulogies, public manifestations of faith) also *have the empty direction of fit*. They serve to express common attitudes of their speakers and their master illocutionary acts are expressive.

### *Formal linguistic universals*

Unlike material universals, formal universals are not basic transcendent elements of thought. But they are formally equivalent universal rules of closure of sets of transcendent features. Clear examples of formal linguistic universals are the truth functional operations on propositions and the few operations on illocutionary forces which consist in adding to forces new modes of achievement of their illocutionary point, new propositional content, preparatory or sincerity conditions or in increasing and decreasing their degree of strength. As is well known, a language deprived of truth functions could not serve the purpose of representing all the complex facts that exist in the world. As I said earlier, basic states of affairs and events which we experience in the world are represented by elementary propositions predicating attributes of objects of reference. But there are more complex facts whose existence in the world is compatible with the existence and non-existence of basic facts.<sup>17</sup> For example, there are negative facts which exist when basic facts do not exist. Truth functions are needed to represent such complex facts. So according to philosophers, linguists and logicians such as Frege, Russell, Chomsky, Quine (1969) and Montague (1970), *truth functions are semantic universals*. They obey universal laws of Boolean algebras.

Similarly, on the side of illocutionary forces, *the few Boolean and Abelian operations on components of illocutionary forces enable the speakers of each language to relate propositions to the world with all the actual forces which are linguistically significant in their linguistic community*. When a mode of achievement and a propositional content, preparatory or sincerity condition are linguistically significant for a linguistic community, they can always be incorporated in actual illocutionary forces of the language of that community by adding them to actual forces (Vanderveken 1990: Ch. 4). For example, the force of commands is actual in any language where speakers can

invoke a position of authority over hearers. For commands are directives given from a position of authority. And similarly speakers can increase or decrease the degree of strength of actual forces in every natural language. So the force of pledge is universal, for to pledge is just to commit oneself strongly to doing something. Just as each possible natural language must give to its speakers adequate means of expressing all the truth functions of the elementary propositions that they can express in that language, so it must enable them to express propositions with all complex illocutionary forces that can be obtained by adding new linguistically significant components or by increasing or decreasing the degree of strength of simpler forces.

According to Searle and other philosophers of mind, there is *a general principle of expressibility of conceptual thought*. Any conceptual thought (let be it a state or an act) that a human being can have in mind is in principle *expressible* in the use of language in the performance of an illocutionary act. Because there are necessary and sufficient laws governing the successful performance and satisfaction of speech acts of certain logical forms in all languages, illocutionary logic is *transcendental* in the sense of Kant (1950[1781]) and of the first Wittgenstein (1961[1921]). Indeed *the theory of success of illocutionary logic fixes limits to language use which restrict what can be thought, just as its theory of satisfaction fixes limits to the world which restrict what can exist and be experienced*. From a transcendental point of view, any state of affairs or event that a human being can experience in the world is a fact that he or she could represent in having a thought directed at that fact. Moreover, he or she could always in principle express that thought in the successful performance of an illocutionary act representing that fact. Thus, a logic of speech acts describing adequately necessary and sufficient conditions for the successful use of language also serves to articulate *a priori forms of conceptual thought*. What makes universal success conditions of illocutionary acts *a priori* is that it is not possible for us ever to have a thought whose expression in language use would violate them. For they are conditions of possibility of the very determination of speaker meaning and understanding. Of course, as Wittgenstein pointed out in the *Tractatus*, the logic of language only delimits what can be thought *indirectly* by way of fixing limits to possible linguistic expressions of thought. Otherwise, we would have to think what cannot be thought in order to fix such limits. According to speech act theory, *the limits of thought show themselves in language* in the fact that sentences of certain logical forms are *illocutionarily inconsistent* (in the sense that they

express non performable illocutionary acts) or *analytically unsuccessful* (in the sense that they can never be used literally with success in any possible context of utterance). We often think of impossible thoughts and even describe their logical forms in logic and philosophy. However, we never entertain impossible thoughts *in the first person*, just as we can never use with success an illocutionarily inconsistent sentence without meaning something else than what we say. So illocutionary logic, in so far as it contributes to universal grammar, is a work in transcendental philosophy in the classical tradition of *lingua philosophica* (Cocchiarella 1998: 71–72).

Now, what are the different kinds of universals that can be studied in speech act theory? And how can we confirm the necessary existence of such universals in all possible natural languages? As I pointed out in *Meaning and Speech Acts*, a first way to discover universals of language use is to study the nature of transcendent features such as meaning, sense, denotation, illocutionary force, proposition, illocutionary act, context of utterance, circumstance, success, truth, satisfaction, necessity, consistency, analyticity and entailment. Such transcendent features are constitutive of every possible use and interpretation of a language. Their study is important for the purposes of those sciences which are concerned with language, action and thought. I will now briefly explain the nature of some of these universals from the point of view of speech act theory.

#### *Ontological universals of speech act theory*

The formal ontology of illocutionary logic is *realist* and not nominalist. For the contents of elementary illocutionary acts are *propositions* which are abstract *senses*. As Searle and I pointed out, there is no way to elaborate an adequate theory of success and satisfaction without identifying their contents with propositions. So forces, senses and denotations are the three basic components of sentence meaning in speech act theory. As Frege pointed out, these three components are logically related. Firstly, *there is a relation of correspondence between senses and denotations*; denotations of certain types correspond to senses in possible circumstances. Thus propositions, which are senses of sentences, are either true or false in each circumstance. Properties of individual objects, which are senses of unary predicates have sets of individuals as denotations: they are possessed by a certain number of individuals in each circumstance. Concepts of individual objects, which are senses of referring expressions, have single individuals as denotations: they apply to at most

one individual in each circumstance.<sup>18</sup> Secondly, *propositional contents are always expressed with an illocutionary force in language use and comprehension*. In the deep structure of language, the proposition which is the sense of an elementary sentence in a context of utterance is also the content of the elementary illocutionary act that the speaker of that context would mean to perform if he were using that single sentence literally. So the proposition which is the sense of the declarative and imperative sentences “You will help me” and “Please, help me!” in a context of utterance is the propositional content of the assertion and request expressed by these sentences in that context. Elementary sentences of all types express propositions according to speech act theory.<sup>19</sup>

*In the theory of types of illocutionary logic, the universe of discourse is stratified as follows:*

1. There are three *primitive types of denotations*: the type *e* of *individuals*, the type *t* of *truth values* and the type *s* of *success values*. Individuals are particular objects like material bodies and persons existing in actual or possible courses of the world. They are objects of reference of the simplest logical kind. The two truth values are *truth* and *falsity* and the two success values *success* and *insuccess*.<sup>20</sup> The *primitive types of senses* are the type of *concepts of individuals*, the type of *properties of individuals* and, for each number  $n \geq 2$ , the type of *relations of degree  $n$  between individuals*.
2. As in intensional logic, for any pair of types  $\alpha$  and  $\beta$  of entities which exist in the universe of discourse, there is the derived type  $(\alpha\beta)$  of *functions* from the set of all entities of type  $\alpha$  into the set of all entities of type  $\beta$ . Thus  $(tt)$  is the type of unary truth functions and  $t(tt)$  that of binary truth functions.  $(et)$  is the type of (characteristic function of) sets of individuals and  $e(et)$  that of sets of pairs of individuals.
3. Each type is a *subtype* of *more general types*. Thus all properties of individuals and all relations of any degree between individuals have the general type of *attributes* of individuals. All concepts and attributes of individuals have the more general type p.c. of *propositional constituents*.<sup>21</sup>
4. Finally, for any type  $\alpha$  of entities, there is the derived type  $\#\alpha$  of *intensions* whose extensions are entities of type  $\alpha$ .<sup>22</sup> An intension of type  $\#\alpha$  is a function from the set of all possible circumstances into the set of entities of type  $\alpha$ . For example, Carnapian truth conditions are intensions of type  $\#\text{t}$ : they are functions which associate with any possible circumstance one truth value.

All types of senses and denotations of the universe of discourse can be obtained from the few primitive types named above by applying the three operations on types that I have defined. From Carnap we know that *each sense to which correspond entities of type  $\alpha$  has a characteristic intension of type  $\#\alpha$* , namely the function which associates with any possible circumstance the entity which is the denotation of that sense in that circumstance. So any proposition has its characteristic Carnapian truth conditions which associate with each possible circumstance the true if and only if that proposition is true in that circumstance. Unfortunately traditional intensional logic has tended to identify senses with their characteristic intensions. So propositions are reduced to truth conditions: their type  $p$  is  $\#t$  in the modal logic of Carnap, Montague, Kaplan, Kripke, Belnap and many others. In this view, *strictly equivalent* propositions, which are true in the same possible circumstances, are identified. However, it is clear that most strictly equivalent propositions do not have the same cognitive values. In particular they are not substitutable *salva felicitate* within the scope of illocutionary forces. For example, one can assert that Paris is a city without asserting that it is a city and that bachelors are unmarried, even if these two assertions are true under the same conditions. Illocutionary logic requires therefore a finer propositional logic. Just as the same denotation can correspond to different senses, the same intension can be common to different senses in the deep structure of language.

In order to seriously take into account the fact that propositions are always expressed in the attempted performance of illocutionary acts, I have advocated in *Meaning and Speech Acts* and other papers<sup>23</sup> a *natural predicative logic of propositions*. My main idea was to explicate the logical type of propositions by mainly taking into consideration the acts of predication that we make in expressing and understanding propositions. It is based on the following principles:

*Propositional constituents are senses and not denotations*

As Frege (1892) pointed out, we cannot refer to objects without subsuming them under senses and without predicating of them attributes. Thus referential and predicative expressions of sentences have a sense in addition to a possible denotation in each context. When we speak literally, we express the attributes and concepts which are the senses of the referential and predicative expressions that we utter. Moreover we refer to the objects which fall under these concepts in the context of utterance. Frege's argument against direct reference

remains valid if propositions are contents of thought. Otherwise, we would be totally inconsistent. We can make mistakes and assert, for example, that Tullus is not Cicero. But we never intend to make the absurd assertion that Tullus is not Tullus.

*Propositions have a structure of constituents*

Understanding a proposition consists mainly in understanding which attributes objects of reference must possess in the world in order that this proposition be true. In speaking, we always predicate in a certain order attributes of our objects of reference. Each expressed proposition is then composed out of *atomic propositions* corresponding to acts of predication. For example, the proposition that the pope is Polish is composed of a single atomic proposition which predicates of the pope the property of being Polish. That atomic proposition is of the type  $a = (p.c.t)((\#t)t)$ . Its propositional constituents are the property of being Polish and the concept of being the pope. Its characteristic truth condition is the function which associates the true with all and only the possible circumstances where the individual who is pope is Polish.

*An adequate explication of truth conditions of propositions must take into account the effective way in which we understand such conditions*

To understand the truth conditions of a given proposition is not to know its actual truth value in each possible circumstance. It is rather to understand that it is true according to some possible truth conditions of its atomic propositions and false according to all others. We understand the proposition that whales are fishes without knowing *eo ipso* that it is necessarily false. We discovered in the course of history that whales are mammals. We often express senses without knowing their denotation in the context of utterance. From a logical and cognitive point of view, atomic propositions have a lot of *possible truth conditions*: they could be true in all circumstances, they could be false in all circumstances, they could be false in one circumstance and true in all others, and so on. Among all possible truth conditions that each atomic proposition could have, there are of course its *actual Carnapian truth conditions* which give as value the true for all circumstances where the objects which fall under its concepts satisfy its attribute.

We most often ignore actual truth conditions. But we always distinguish, when we express a proposition, the possible truth conditions of its atomic propositions which are compatible with its truth in a possible circumstance,

from those which are not. In making such a distinction our mind draws a kind of truth table. Thus we know that the truth of an elementary proposition in a circumstance is compatible by definition with all and only the possible truth conditions of its unique atomic proposition under which it is true in that very circumstance. We know that the truth of a propositional negation  $\neg P$  in a circumstance is compatible with all and only the possible truth conditions of its atomic propositions which are incompatible with the truth of  $P$  in that circumstance. And that the truth of the modal proposition that it is universally necessary that  $P$  is compatible with all and only the possible truth conditions of its atomic propositions which are compatible with the truth of  $P$  in every circumstance. So the type of truth conditions of complete propositions is  $\#((a(\#t))t)$  in illocutionary logic.

There are two limit cases of truth conditions. Sometimes the truth of a proposition is compatible with all possible ways in which objects could be. It is a tautology. Sometimes it is incompatible with all of them. It is a contradiction. In my approach, *tautologies* are propositions whose truth is compatible with all the possible truth conditions of their atomic propositions. And *contradictions* are propositions whose truth is compatible with none.

*The set of propositions is recursive*

*Elementary propositions are the simplest propositions.* They contain a single atomic proposition and are true in all circumstances where that atomic proposition is true. *All other propositions are more complex: they are obtained by applying to simpler propositions operations which change atomic propositions or truth conditions.* Truth functions are the simplest propositional operations: they only rearrange truth conditions. Thus the conjunction  $P$  and  $Q$  and the disjunction  $P$  or  $Q$  of two propositions have all and only the atomic propositions of their arguments  $P$  and  $Q$ . They only differ by their truth conditions.<sup>24</sup> Unlike truth functions, quantification and modal, temporal and agentive operations on propositions change constituent atomic propositions as well as truth conditions. Thus, when we say that it is necessary that God does not make mistakes, we do not only predicate of God the property of not making mistakes. We also predicate of Him the modal property of infallibility, namely that He does not make mistakes in any possible circumstance.

*Identical propositions are composed of the same atomic propositions and their truth in each circumstance is compatible with the same possible truth*



*conditions of their atomic propositions*

Thus the type  $p$  of propositions is  $(at)(\#((a(\#t))t)t)$ . From a logical point of view, each proposition has a characteristic set of atomic propositions and a characteristic intension which associates with any possible circumstance the set of possible truth conditions of its atomic propositions which are compatible with its truth in that very circumstance. My criterion of propositional identity is stronger than that of modal, temporal and intensional logic. Strictly equivalent propositions composed out of different atomic propositions are no longer identified. We do not make the same predications in expressing them. Furthermore, unlike Parry (1933) I do not identify all strictly equivalent propositions composed of the same atomic propositions. Consider the necessarily false proposition that whales are fishes and the contradiction that whales are and are not fishes. They do not have the same cognitive value. We can believe that whales are fishes. But we could not believe that whales are and are not fishes. In my logic, such propositions are different because their truth is not compatible with the same possible truth conditions of their atomic proposition. However my criterion of propositional identity is less rigid than that of intensional isomorphism in Cresswell's hyperintensional logic (1975). For all Boolean laws of idempotence, commutativity, distributivity and associativity of truth functions remain valid laws of propositional identity.

*Logical universals of speech act theory*

A primary purpose of speech act theory is to formulate valid laws about success, truth and satisfaction. Because all the logical constants and syncategorematic expressions of the theoretical vocabulary of illocutionary logic express transcendent features of language, these valid laws are contributions to universal grammar.

Thanks to the new explication of the logical type of proposition, speech act theory offers a new concise definition of truth by correspondence and articulates better the logical structure of propositions. In the philosophical tradition, from Aristotle to Tarski, true propositions correspond to reality. Objects of reference stand in relations in possible circumstances. Atomic propositions have therefore a well determined truth value in each circumstance depending on the denotation of their attributes and concepts and the order of predication. However things could stand in many other relations in each circumstance. In addition to the ways in which things are, there are the possible ways in which they could be. We are not omniscient. So, as I

explained above, in interpreting propositional contents of utterances we consider a lot of possible truth conditions of their atomic propositions. The truth of most propositions in most circumstances is compatible with many possible ways in which objects could be and incompatible with many others. Think about disjunctions, material implications, historic possibilities, future propositions, and so on.

However in order that a proposition be true in a given circumstance, things must be in that circumstance as that proposition represents them. Otherwise there would be no correspondence. Along these lines, *one can define as follows the concept of truth: a proposition is true in a circumstance when its truth in that circumstance is compatible with the actual truth conditions of all its atomic propositions.* Classical laws of truth theory follow from this new concise definition.

Human beings are not perfectly rational. We are often inconsistent. We can assert (and believe) propositions whose truth is impossible. Furthermore, our illocutionary commitments are not as strong as they should be from the logical point of view. Thus, we assert propositions without asserting all their logical consequences. We therefore need in the propositional logic of speech act theory a finer logical implication than C.I. Lewis' strict implication. A proposition *strictly implies* all others which are true in all possible circumstances where it is true. As we do not know how propositions are related by strict implication, we can achieve an illocutionary point on a propositional content P without achieving that point on all propositions strictly implied by P.

Given my predicative analysis of the logical form of propositions, one can define in philosophical logic a new relation of *strong implication* between propositions much finer than Lewis' strict implication. *A proposition P strongly implies another proposition Q when firstly, all the atomic propositions of Q are in P and secondly, the proposition P tautologically implies proposition Q* in the sense that all the possible truth conditions of atomic propositions of P which are compatible with the truth of proposition P in a circumstance are also compatible with the truth of proposition Q in that very circumstance. Unlike strict implication, *strong implication is cognitive.* Whenever a proposition P strongly implies another proposition Q we cannot express that proposition P without knowing *a priori* that it implies that other proposition Q. For in expressing P, we apprehend by hypothesis all atomic propositions of Q. We make all the corresponding acts of reference and predication. Furthermore, in understanding the truth conditions of proposition P, we distinguish all possible truth conditions of these atomic

propositions which are compatible with its truth in any circumstance. The same possible truth conditions of atomic propositions of Q which are in P are then by hypothesis compatible with the truth of proposition Q in the same circumstance. Thus, in expressing P, we know that Q follows from P.

As I pointed out, *strong implication obeys a series of important universal laws*. Unlike strict implication, strong implication is anti-symmetrical. Two propositions which strongly imply each other are identical. Unlike Parry's analytic implication, strong implication is always tautological. Natural deduction rules of elimination and introduction generate strong implication when and only when all atomic propositions of the conclusion belong to the premises. So a conjunction  $P \wedge Q$  strongly implies each conjunct P and Q. But a proposition P does not strongly imply any disjunction of the form  $P \vee Q$ . Strong implication is *paraconsistent*. A contradiction does not strongly imply all propositions. Tautologies (and contradictions) are special kinds of necessarily true (and false) propositions. Unlike other necessarily true (and necessarily false) propositions, we know *a priori* that tautologies are true (and contradictions false). Finally, strong implication is *finite* and *decidable*.

*In the theory of success and satisfaction, there are a few basic universal laws governing directions of fit of utterances which both fix limits and impose a logical order to the different possible ways in which we can use language in order to relate propositions to the world in the successful performance of an illocutionary act.* According to speech act theory, language is the work of reason. In particular, rationality is built into the very use of language. As I said earlier, speakers are not perfectly rational in the use of language. However, they are always at least *minimally rational* in their performance and understanding of illocutionary acts. First, they are minimally consistent. *They do not attempt to perform elementary illocutionary acts with a non empty direction of fit that they know a priori to be unsatisfiable.* So they do not make assertions that they know *a priori* to be false by virtue of competence. In particular, they never assert contradictions. For they know *a priori*, when they understand a contradiction, that its truth is incompatible with all possible truth conditions of its atomic propositions. Similarly, they do not make promises that they know *a priori* to be impossible to keep and they do not give orders to which they know *a priori* no one could obey. So whenever they utter a declarative, imperative or performative sentence whose clause expresses a contradiction, they do not mean what they say. Furthermore, whenever speakers know *a priori* by virtue of competence that an illocutionary act F(P) could not be satisfied unless

another act F(Q) with the same force is, they cannot mean to perform that act F(P) without attempting the second F(Q). Illocutionary commitment is partially compatible with strong implication. In particular speakers cannot assert a proposition without asserting all the propositions that that proposition strongly implies. It would not be rational for speakers to act differently.

*Most fundamental laws governing illocutionary points are related to rationality.* Thus a limit of thought shows itself in the law of the contingent *a posteriori* truth of the propositional content of any satisfied illocution with the world-to-words direction of fit. It is clear that the world could not be transformed to match the propositional content of an utterance if that content were necessarily true independent of any action. So performative and imperative sentences whose clause expresses a tautology, e.g. "I request or do not request you to come" and "Please, come or do not come!" are illocutionarily inconsistent. Speakers know by virtue of linguistic competence that literal utterances of such sentences would be pointless.

*There is also a transcendent logical order which is imposed by direction of fit on possible illocutionary acts in all languages.* On the one hand, declarations, which have the double direction of fit, are for that reason the strongest type of illocutionary act. Their successful performance is sufficient to make their propositional content true in the world and to achieve success of fit between words and things. Thus any type of illocutionary act can be performed by way of a declaration in a performative utterance. But, no other type of illocutionary act strongly commits the speaker to a declaration. Because declarations are the strongest type of illocutionary act, it is a mistake to consider them as paradigmatic speech acts, just as it is a mistake to consider performative sentences as paradigmatic forms of expression for speech acts. Only declarations have the double direction of fit. On the other hand, expressives, which have the null direction of fit, are for that reason the weakest type of illocutionary act. Any speech act has sincerity conditions. Thus, every successful performance of a speech act is an expression of mental states. Consequently, any type of illocutionary act strongly commits the speaker to an expressive. But the expressive type of speech act does not commit the speaker to any other. Just as it was a mistake for Austin to consider declarations as paradigmatic speech acts, so it is a similar mistake for Bach and Harnish (1979) and for Cohen and Levesque (1990) to consider expressive illocutions as paradigmatic speech acts. There is more to a speech act with a non empty direction of fit than just expressing sincerity conditions. For

example, in giving an order we do more than express our will. We first of all make an attempt to get the hearer to act and we moreover invoke a position of authority or power over him or her.

As I said earlier, the recursive definition of the set of all truth functions describes transcendent features in the determination of truth conditions of propositions. So all the logical forms of tautologies and contradictions are universal. And propositions of certain logical forms strongly imply propositions of other forms in every possible natural language. Similarly, *the recursive definition of the set of all possible illocutionary forces of utterances also describes transcendent features of language use*. In particular, *there are five primitive illocutionary forces in every possible natural language*. These are the simplest possible illocutionary forces : they have an illocutionary point, no special mode of achievement of that point, a neutral degree of strength and only the propositional content, preparatory and sincerity conditions which are determined by their point. *The five primitive forces are* : (1) the *illocutionary force of assertion* which is named by the performative verb “assert” and realized syntactically in the declarative sentential type; (2) the *primitive commissive illocutionary force* which is named by the performative verb “commit”; (3) the *primitive directive force* which is realized syntactically in the imperative sentential type; (4) the *illocutionary force of declaration* which is named by the performative verb “declare” and expressed in performative utterances; and finally (5) the *primitive expressive illocutionary force* which is realized syntactically in the type of exclamatory sentences. Moreover, *all other illocutionary forces can be obtained by applying five simple Boolean or Abelian operations which consist in adding new components or in changing the degree of strength*. For example, the illocutionary force of a promise is obtained from the primitive commissive force by imposing a special mode of achievement of its point involving the undertaking of an obligation. The illocutionary force of renunciation has the additional propositional content condition to the effect that it is a negative commitment. To renounce to do something is to commit oneself not to do it anymore.<sup>25</sup>

As one can expect, one can make a systematic analysis of first level illocutionary verbs of all natural languages on the basis of the recursive definition of the set of possible forces.<sup>26</sup> The same holds for force markers. Some syntactic types of sentence e.g. the declarative, imperative and exclamatory types express primitive forces. Others, like the conditional and interrogative types, express derived forces. Thus interrogative sentences are used to ask

questions which are requests (with a polite mode of achievement of the directive point) that the hearer gives an answer (special propositional content condition). So any interrogative sentence e.g. "Is it snowing?" is synonymous with a corresponding imperative sentence e.g. "Please, tell me whether or not it is snowing"

As Searle and I pointed out, one can define the conditions of success of elementary illocutionary acts from the components of their illocutionary force and of their propositional content. An illocutionary act of the form  $F(P)$  is *successfully performed* in the context of an utterance when, firstly in that context, *the speaker succeeds in achieving the illocutionary point of force F on proposition P with the mode of achievement of F*, and *P satisfies the propositional content conditions of F*, secondly *the speaker succeeds in presupposing the propositions determined by the preparatory conditions of F* and finally *he also succeeds in expressing with the degree of strength of F the mental states of the modes determined by the sincerity conditions of F about the fact represented by the propositional content P*. Thus a speaker makes a promise in a context of utterance when the point of his utterance is to commit himself to doing an act A (illocutionary point), so as to put himself under an obligation to do that act (mode of achievement), the propositional content of the utterance is that the speaker will do act A (propositional content conditions), the speaker presupposes that he is capable of doing that act and that it is in the interest of the hearer (preparatory conditions) and finally he expresses a strong intention to accomplish such an act (sincerity conditions and degree of strength). A speaker can make false presuppositions. He can also express attitudes which he does not have. Consequently, successful performances of illocutionary acts may be *defective*. A speaker can mistakenly make a promise that is not beneficial at all to the hearer. He can also make an insincere promise that he does not intend to keep. In such cases, the performed illocution is defective. From a logical point of view, an illocutionary act is *non defectively performed* in a context of utterance when it is successfully performed and its preparatory and sincerity conditions are fulfilled in that context.

Given the general definition of success, *a few universal laws of strong illocutionary commitment are valid for illocutionary forces* in all natural languages. Whenever a new illocutionary force  $F'$  is obtained by the application of an operation on a force  $F$ , that new force  $F'$  is always either stronger or weaker than the argument force  $F$ . A force  $F$  is *stronger than* another force  $F'$  when it is not possible to perform an illocution of the form  $F(P)$  without *eo*

*ipso* performing an illocution of the form F'(P). Thus, any illocutionary force whose degree of strength is positive is stronger than the primitive force with the same illocutionary point. One cannot promise, renounce or pledge something without committing oneself to a future action.<sup>27</sup>

*Semantic universals of language use*

*As it is part of the linguistic meaning of every sentence that it express a certain illocutionary act in any possible context of use, there is a general ramification of the fundamental semantic notions of analyticity, consistency and entailment as well as a recursive definition of a successful and of a satisfied utterance in the formal semantics that I advocate for ordinary language.* First, one must distinguish in semantics the two notions of illocutionary and truth conditional consistency in language. *Certain sentences* like “Whales are fishes” are *illocutionarily consistent in the sense that they express a performable illocutionary act. Others are truth conditionally consistent: they express a satisfiable illocutionary act.* Second, one must also distinguish the notions of illocutionary and truth conditional analyticity. *Some sentences* e.g. Moore’s paradoxical sentence “It is snowing and I do not believe it” are *analytically unsuccessful: they can never be used literally with success. Others* such as “I do not exist” are *analytically unsatisfied: they can never be used literally with satisfaction.* Such semantic notions do not have the same extension. Thus the sentence “Whales are fishes” is illocutionarily consistent but truth conditionally inconsistent. Utterances of Moore’s paradoxical sentence are not analytically unsatisfied. And that sentence is analytically unsuccessful but not illocutionarily inconsistent.

Just as the successful performance (or satisfaction) of certain illocutionary acts implies the successful performance (or satisfaction) of others, *certain sentences entail illocutionarily (or truth conditionally) other sentences.* For example, the performative sentence “I request your help” illocutionarily entails the imperative “Please, help me!” : it is not possible to make a successful utterance of that performative sentence without making the request expressed by the imperative sentence in the context of that utterance. Moreover, that imperative sentence “Please, help me!” truth conditionally entails the declarative sentence “You can help me”: a speaker cannot grant the request that that sentence expresses in a context unless the assertion expressed by the declarative sentence is true in that very context.

Thus the semantic analysis of the sentential forms of expression for

illocutionary acts in natural language serves to logically distinguish different classes of sentences expressing different kinds of illocutionary acts. *There are universal laws of illocutionary and of truth conditional inconsistency for sentences*, just as there are universal laws of non performability and unsatisfiability for illocutions. As we have seen, sentences of certain logical forms (for example, declarative, imperative and performative sentences whose clauses express a contradiction) express non performable and non satisfiable illocutionary acts in all languages. *Similarly, there are universal semantic laws of illocutionary and truth conditional entailment between sentences*, just as there are universal laws of inclusion of success and satisfaction conditions between illocutions . Thus performative sentences are the strongest type of sentences because declarations are the strongest type of illocutionary act. As I said earlier, each performative sentence illocutionarily entails the non performative sentences corresponding to it. However, only a consistent sentence which is performative can strongly entail another performative sentence. For similar reasons, exclamatory sentences are the weakest type of sentences in each language. Because any elementary illocutionary act strongly commits the speaker to expressing its sincerity conditions, sentences of all syntactic types illocutionary entail corresponding exclamatory sentences. So the declarative sentence “Alas, he is dead” illocutionarily entails the exclamatory sentence “How sad that he is dead!” But no consistent exclamatory sentence illocutionarily entails a sentence of a non expressive type.

Thanks to illocutionary logic, formal semantics can now state new kinds of necessary and universal laws of entailment that hold between sentences of all types by virtue of the logical forms of the illocutionary acts which they express. Moreover, it can also explain and derive principles of theoretical and practical inferences which are valid.<sup>28</sup> In the terminology of speech act theory, an inference is *valid* whenever it is not possible for its premises to express illocutionary acts with certain success or satisfaction values unless its conclusion also expresses an illocutionary act with the same or other success or satisfaction values. Some inferences are *practical*: their conclusion expresses an illocution with the things-to-words direction of fit. Other inferences are *theoretical*: their conclusion expresses an illocution with the words-to-things direction of fit. Until now, contemporary logic and formal semantics have been confined to the study of *valid forms of theoretical inferences* whose premises cannot be true unless their conclusion is also true. However, it is quite clear that we are not able to make all such valid theoretical inferences by



virtue of linguistic competence, for we understand propositions without knowing all their logical consequences. We have to learn mathematics in order to make some of these valid inferences. *Furthermore, there are four other kinds of valid inference relative to success and satisfaction conditions.* A first kind of valid inferences have premises which cannot be successful (that is to say express successful illocutions) unless their conclusion is also successful. The conjunction of premises of such inferences illocutionarily entail their conclusion. A second kind of valid inferences have premises which cannot be satisfied unless their conclusion is also satisfied. The conjunction of premises of these inferences truth conditionally entail their conclusion. The third kind of valid inferences have premises which cannot be successful unless their conclusion is satisfied. And the fourth kind is the converse of the third kind. All these kinds of valid inferences exist and do not coincide in extension.

*From the point of view of universal grammar, the most interesting principles of valid inferences are those that speakers always internalize in learning their mother tongue, for they reflect the very nature of human reason and constitute the decidable innate natural logic of linguistic competence.* The logical semantics of speech act theory is able to formulate such innate principles. For example, it can predict and explain why we are all able to infer from the premise “Please, give me a glass of red or white wine!” the conclusion “Please, give me a glass of wine!”. Why are we all able to make such a valid practical inference in language use and comprehension? We know by virtue of our competence that a speaker could not make the request expressed by the premise without making that expressed by the conclusion. And that a hearer could not grant the first request without also granting the second. For the propositional content of the premise strongly implies that of the conclusion.

An important discovery of speech act theory is that *semantic paradoxes like the liar paradox do not really occur in the use of language.* As Greek philosophers pointed out, natural languages contain paradoxical sentences like “This assertion is false” and, let me add, “I will not keep this promise”, “Disobey this order”, etc. Self referential utterances of such sentences seem to be satisfied if and only if they are unsatisfied. Unlike Russell, Tarski and many others, I do not think that natural languages are inconsistent because they contain such paradoxical sentences. It is unnecessary to prevent the formation of such sentences in formal object languages of logic and philosophy in order to avoid inconsistency. When the logical forms of their force marker and clause are well analyzed, it appears that self referential utterances of these so

called paradoxical sentences could not be satisfied unless they were also successful. But the illocutionary acts that they express are not performable given the law of minimal consistency of speakers stated above. So sentences expressing such paradoxes are both illocutionarily and truth conditionally inconsistent. As Prior (1971) anticipated in his discussion of belief, the liar's paradox is of the form "There exists a proposition P such that I assert P and P is not true and P is that very proposition, namely that there is a proposition P such that I assert P and P is not true" Whenever the liar's paradox is so analyzed, it turns out to be a false assertion that no minimally rational speaker could ever attempt to make. For its propositional content, whenever it is properly understood, turns out to be a pure contradiction. It is therefore a mistake to exclude self reference from universal grammar because of the liar paradox. Firstly, this is unnecessary because there is no real paradox of this kind. Secondly, this restricts far too much the expressive capacities of ideography. There are a lot of interesting self referential sentences, e.g. "This utterance is an assertion", "I am now thinking in uttering these words, therefore I exist"<sup>29</sup> whose utterances are both analytically successful and true. Moreover, certain types of illocutionary acts such as declarations are by nature self referential. As Austin pointed out, explicit performative utterances in English contain the adverb "hereby"; they are clearly self referential.

### *Pragmatic universals of performance*

A semantic theory of natural language is exclusively concerned with literal meaning. However, *in ordinary conversations, the speaker often means something else or more than what he says. Firstly, the primary illocutionary act of the utterance is different from the literal speech act in the cases of metaphor, irony and indirect speech acts. Secondly, the speaker often means to perform secondary non literal illocutionary acts such as conversational implicatures.* Thus a speaker can indirectly offer help by way of asking the question "Can I help you?" He can imply conversationally that he does not know exactly where Paul is by saying "Paul is in Paris or Rome" The hearer's capacity to understand what the speaker means is part of his linguistic competence and it exceeds the capacity of understanding the sentence meaning. Anything that a speaker means he or she can in principle say because of the principle of expressibility. However the converse is not true. It follows from the principle of minimal rationality that we cannot mean everything that we can say. Sentences whose utterances are analytically successful cannot be used liter-

ally. Speakers who say “I am not identical with myself today” either do not understand what they say or they mean something else, for example. “I am not today as I use to be”. Furthermore, as Wittgenstein pointed out in his *Philosophical Investigations*, language use and meaning are related to social forms of life. Old meanings and uses can disappear just as old forms of life can become obsolete. And new meanings and uses can appear with emerging forms of life. Natural languages evolve like human communities. Speakers can change forms of linguistic use and expressive capacities of their language. Often a recurrent non literal use of existing words in a recurrent background is at the origin of a new meaning.

The basic units of discourse are illocutionary acts that speakers really mean to perform, no matter whether they are literal or not. Hence the importance of a pragmatic theory of language capable of interpreting non literal utterances in semiotics. *The proper task of Pragmatics, as I conceive of it* (Vanderveken 1991b, 1997a), is to explain our capacity to perform and understand non literal illocutionary acts. Until the present, there has been little progress in the development of such theoretical pragmatics. Grice (1989) later joined by Searle (1979), Bach and Harnish (1979), Récanati (1981) and others made important remarks on non literal speech acts by exploring the idea that language use is governed by *conversational maxims*<sup>30</sup> like the maxims of quality: “Speak the truth!”, “Be sincere!” and of quantity: “Be as informative as required (for the purposes of the exchange)”. But their analyses of speaker meaning are informal, partial and lack precise theoretical content. Moreover they only apply to assertive utterances.

According to Grice, hearers understand non literal utterances by making inferences on the basis that speakers respect conversational maxims. Searle and I have reformulated as follows Grice’s deductive approach within speech act theory: A speaker who means to perform non literal speech acts intends that the hearer understands him by relying: firstly on the hearer’s knowledge of the meaning of the used sentence and on his ability to understand the success and satisfaction conditions of the literal illocutionary act; secondly on their mutual knowledge of certain facts of the conversational background; and thirdly on the hearer’s capacity to make inferences on the basis of the hypothesis of the respect of conversational maxims. In this view, it is not possible to understand the primary non literal illocutionary act of an utterance without having first identified the literal speech act and without having also understood that this literal act cannot be primary if the speaker respects the conver-

sational maxims in the context of his utterance. *Thus, in my conception of semiotics, pragmatics, conceived as the theory of speaker's meaning, incorporates semantics, conceived as the theory of sentence meaning, as well as a theory of conversational maxims and an analysis of aspects of the conversational background of utterances.*

*Two important conversational maxims that speakers respect in their use of language are the maxims of quality and of quantity.* Using speech act theory, these conversational maxims can be formulated simply as follows :

#### *The maxim of quality*

From a logical point of view, an illocutionary act is of *perfect quality* when it is entirely *felicitous* in Austin's sense, that is to say *successful, non defective and satisfied*. Thus, the maxim of quality turns out to be a general principle of illocutionary logic: *Let the illocutionary act that you mean to perform be felicitous in the context of your utterance!* There is an inductive definition of the conditions of felicity in illocutionary logic. So the new principle is both an explication and a generalization of the maxim of quality. The new maxim holds for all types of utterances and not just for assertive utterances. Thus there is the following *sub-maxim of quality for commands*: *Let your command be a successful attempt to get the hearer to do something! Let it be a command that you want him to obey, that you have the authority to give and that he will eventually obey!* Similarly, there is the following *sub-maxim of quality for assertions* : *Let your assertion represent how things are in the world. Let it be an assertion supported by evidence, sincere and true!* On this account, Grice's formulation of the maxim of quality is just the particular case for assertions.

#### *The maxim of quantity*

Each illocutionary act is a natural kind of use of language which can serve to achieve linguistic purposes in the course of conversations. From a logical point of view, an illocutionary act is of *perfect quantity* in a context of utterance when it is *as strong as required* (neither too strong nor too weak) to achieve the current linguistic purposes of the speaker in that context. Given their logical forms, certain illocutionary acts are *stronger* than others, in the sense that they have more felicity conditions. For example, a supplication to a hearer that he be merciful is stronger than a simple request of kindness. Stronger speech acts serve to achieve stronger linguistic purposes. Thus a speaker who would like to supplicate the hearer to be merciful but who simply

requested that he be kind, would perform a speech act too weak to achieve his linguistic purpose. On the basis of these considerations, the maxim of quantity turns out to be: *Let the illocutionary act that you mean to perform be as strong as required (neither too strong nor too weak)!* This explication of the maxim of quantity holds for all types of meaningful utterances. Thus there is the special *sub-maxim of quantity for directives*: “Let your directive be as strong as required!” As one might expect, Grice’s formulation of the maxim of quantity is just the special case for assertive utterances which aim to be informative.

The maxim of quantity imposes conditions on the force as well as on the propositional content of attempted illocutionary acts. Thus your directive should not be too strong. If you just want to ask someone for a glass of cognac, do not implore him (your directive force would be stronger than needed). And do not ask for more than what you want. (Do not ask for a whole bottle if you just want a glass). On the other hand, your directive should not be too weak. If you want to invoke your position of authority over the hearer, do not only tell him to do it (your directive force would be too weak), but give him a command. Furthermore, if you want him to give you armagnac, do not only command him to give you cognac (you would not be accurate enough).

*There is a universal law of respect of conversational maxims in meaning and understanding.* Why do speakers and hearers have to respect as much as possible conversational maxims in their performance and understanding of speech acts?<sup>31</sup> In particular, why isn’t it possible to violate ostensibly the maxim of quality in a conversation (for example, to say something which is known to be obviously false) without exploiting that maxim (that is to say without meaning something else which is compatible with the background)? *Like Grice and Kasher* (Kasher 1982), *I think that the universal respect of conversational maxims is a consequence of the hypothesis that a competent speaker is a rational agent.* This is quite obvious for the two maxims of quality and quantity which concern the very logical form of illocutionary acts. By nature, an illocutionary act is a means of achieving linguistic purposes in conversation. According to practical reason, a rational agent should not use means under conditions where he knows that they will not be effective. Similarly, a rational speaker should not attempt to perform an illocutionary act in a context of utterance where he knows that he will fail, be defective or unsatisfied. Moreover, a rational agent should respect a principle of the effective means in his selection of attempted illocutionary acts. From a logical point of view, there corresponds to each possible

linguistic purpose a unique illocutionary act which serves fully and most effectively that purpose. Thus, a speaker who would ostensibly attempt to perform a weaker or stronger illocutionary act in a context where he has that purpose would not act most effectively to attain his ends. So it is reasonable to respect the conversational maxim of quantity.

Grice did not attempt to formally analyze the nature of inferences that hearers make in order to understand non literal utterances. However one can reformulate and attempt to formalize his inferential approach within speech act theory. *In my view, there are two main ways in which a speaker can get the hearer to infer what he means on the basis of the assumption that he respects the conversational maxims. These two ways are the exploitation and use of a maxim.*

#### *The exploitation of a maxim*

My notion of exploitation of a maxim is related to Grice's notion. But it is more general. A speaker *exploits a conversational maxim* when he wants to attract the hearer's attention to certain facts of the conversational background with the intention that the hearer recognize the following data: Firstly, the speaker would not respect that conversational maxim if the primary illocutionary act were the literal speech act; but he is able to respect the maxim without violating another maxim (there is no clash). Moreover, he wants to cooperate and to continue the conversation; so he intends to perform non literally another primary illocutionary act. And finally, the speaker also intends that the hearer know that they both have mutual knowledge of all this.

So in the case of an *exploitation of the maxim of quality*, the speaker intends that the hearer recognize that there are in the background facts incompatible with felicity conditions of the literal speech act. Moreover he also wants that the recognition of his intention be part of mutual background knowledge. Whenever the hearer recognizes this, he understands that the speaker does not mean to perform the literal illocutionary act but another primary illocutionary act having felicity conditions different from those which are violated in the background. Furthermore, the hearer identifies these other non literal conditions by drawing them from facts of the conversational background that the speaker intends him to recognize. Suppose that someone tells you "I promise that you will regret this" in a background where he wants you to know that he will react by doing something bad for you. That speaker would be exploiting the maxim of quality. His utterance is not a promise. For

he obviously does not presuppose that he will do something good for you, the hearer (preparatory condition of a promise). On the contrary, he presupposes the opposite of this literal preparatory condition. In such a situation, you should understand that the speaker means to threaten you ironically. His non literal threat only differs from the literal promise by virtue of the fact that it has the opposite preparatory condition that the represented action is bad for the hearer. In a case of exploitation, there is only an apparent violation of the maxim at the level of the literal speech act. The primary illocutionary act is compatible with the background.

In the case of *exploitation of the maxim of quantity*, the speaker intends that the hearer recognize that the literal speech act is not as strong as required to achieve his current linguistic purposes in the context of utterance. Thus a speaker who tells you “Your work is not bad!” exploits the maxim of quantity to make an *understatement* when it is part of background knowledge that everybody is very impressed by what you have done. In such a context, you should understand that the speaker means to make indirectly a stronger assertion than the literal one, namely that your work is very good.

#### *The use of a maxim*

A speaker *uses a conversational maxim* when certain facts of the conversational background are such that he intends the hearer to recognize that he would not respect that maxim in performing the primary speech act if he were not also performing a secondary non literal illocutionary act. Moreover he also intends that the hearer know that they both mutually know all this. So the speaker means then to perform that secondary non literal illocutionary act.

Whenever a speaker uses the maxim of quality, he intends the hearer to make an inference on the basis of the hypothesis that his primary illocutionary act is felicitous. Suppose that the information that gay men do not have girlfriends is part of background knowledge and that someone to whom you have asked “Does Jones have a girlfriend?” answers by saying “He is gay” meaning what he says. In that situation he would use the maxim of quality in order to imply conversationally that Jones has no girlfriend. On the other hand, whenever a speaker uses the maxim of quantity, he intends that the hearer make an inference on the basis of the hypothesis that his primary illocutionary act is as strong as required to achieve his current linguistic purposes. Usually the conversational background is such that other stronger relevant speech acts could have been performed at that moment in the conver-

sation. In such a situation the hearer comes to the conclusion that the speaker means to denegate one of these stronger illocutionary acts or to implicate conversationally that, given the background, they would not be felicitous in that context. Suppose someone to whom you have requested help answers “I will try” instead of “I promise to help you”. He could use the sub-maxim of quantity “Commit yourself as strongly as you want!” in order to imply conversationally that he does not want to make a promise. This would oblige him too much.

As Grice pointed out, non literal illocutionary acts performed in language use have two important properties. First, they are in general *contextually cancellable*, in the sense that there are other possible contexts of utterance (with different backgrounds) where the same speaker could use the same sentence without having the intention of performing these non literal speech acts. Moreover, non literal speech acts are also in general *not detachable*: if the speaker had used another sentence expressing the same literal illocutionary act in the same conversational background, he would also have meant to perform them. From a theoretical point of view, these two properties of non literal speech acts are important. First, if non literal illocutions are cancellable, certain conditions must be necessary in order that a speaker who uses a sentence in a conversational background can mean something else than what he says. When such conditions are not fulfilled, the speaker’s meaning can only be literal. Second, if non literal speech acts are not detachable, certain conditions relative to the form of the literal speech act and the conversational background must be sufficient in order that speaker meaning be different from sentence meaning. When these conditions are fulfilled in the conversational background, the speaker’s meaning could not be entirely literal in the context of an utterance. Part of the task of pragmatics is to state these necessary and sufficient conditions for non literal speaker meaning.

On the basis of preceding considerations, I have made the following conjecture in pragmatics: First, *a speaker means to perform a primary non literal speech act when he exploits conversational maxims and second he implies conversationally that he performs a secondary non literal illocution when he uses such maxims in the context of his utterance*. I have also explicated the logical form of certain important figures of non literal meaning such as irony, conversational implicatures and indirect speech acts.

*Irony is an extreme case of exploitation of the maxim of quality. An ironic speaker relies on facts of the conversational background which are incompatible*



with the literal illocutionary act. In the case of irony, it is not only part of mutual knowledge background that certain literal felicity conditions are violated, but also that the speaker intends to perform a non literal illocutionary act with opposite conditions. The speaker's irony is in general directed to the components of the force and propositional content of the literal illocutionary act which determine blatantly violated felicity conditions. So in the case of elementary utterances, the ironic illocutionary act only differs from the literal speech act by the fact that it has the opposites of these components whenever such components exist and the act is performable. Otherwise, the ironic illocutionary act is just the denegation of the literal speech act. Such an analysis of irony explains why and how *in the case of irony the speaker's meaning is always in opposition to the meaning of the sentence that is used*. It also accounts both for irony as to the illocutionary force and irony as to the propositional content of the literal speech act. (Most analysts have neglected until now the first kind of irony.) The speaker can be ironical as to the illocutionary point (he can ironically refuse in saying "I agree"), as to the mode of achievement (he can ironically command in saying "Please"), as to the preparatory condition (he can ironically threaten in saying "I promise"), as to the sincerity condition (he can ironically disapprove in saying "I approve") and as to the propositional content (he can ironically assert the opposite of what he says).

So called *indirect speech acts are cases of exploitation of the maxim of quantity*. A speaker means to perform indirectly a speech act by way of performing the literal illocutionary act when he exploits the maxim of quantity by intending to draw the hearer's attention to the fact that certain non literal conditions of non defective performance are fulfilled in the conversational background. In such contexts, the speaker intends that the hearer recognize that the literal illocutionary act is not strong enough to achieve all his current linguistic purposes. The speaker respects the maxim of quantity in attempting to perform indirectly another illocutionary act. For that indirect speech act serves to achieve all his other non literal purposes. In the simplest cases of exploitation of the maxim of quantity, all the non literal conditions of non defective performance which hold in the background are relative to the literal propositional content. In such cases, the indirect and literal speech acts have the same propositional content. So the speaker's indirection is only directed to the illocutionary force. Thus we can make an indirect promise by saying "I will help you" in a context where we intend that the hearer recognize that we want to commit ourselves to doing something which is good for him. When

the indirect speech act has a non literal propositional content, some of its non literal felicity conditions are conditions of satisfaction of the literal speech act. The speaker can assert that these conditions obtain and exploit the maxim of quantity by relying on the fact that his literal assertion is true given the conversational background. He can also ask the hearer whether these conditions obtain and exploit the maxim of quantity by relying on the fact that his literal question has or at least could have a positive answer given the conversational background. So we can indirectly offer and sometimes also promise help by way of saying “I could help you”, “Can I help you?”, “Would you like me to help you?” (preparatory conditions), “I intend to help you”, “Don’t you realize that I want to help you?” (sincerity conditions), “I should help you”, “Should I help you?” (mode of achievement). In these idiomatic uses, the propositional content of the indirect speech act is part of the literal propositional content.

My analysis of indirect speech acts explains why and in which way *speaker meaning is always an extension of sentence meaning in the case of indirect speech acts*. Contrary to what is the case for other non literal speech acts, the speaker performs an indirect speech act by way of performing the literal speech act. Both are required to achieve all his literal and non literal purposes in the context of utterance. From a logical point of view, the primacy of the indirect speech act over the literal speech act is shown in the fact that whenever the first is felicitous the second is *eo ipso* satisfied. My analysis of indirect speech acts also accounts for all the different kinds of indirection in language use. As I have shown, the speaker’s indirection can be directed to the force and to the propositional content (Vanderveken 1997a).

As I have explained, *there is an effective method of decision for constructing the primary ironic and indirect illocutionary act from the literal speech act and relevant facts of the conversational background which are always in finite number*.<sup>32</sup> In my view our capacity of performing and understanding is effective and is part of our linguistic competence. Notice that an integrated formal pragmatics of non literal illocutionary acts is needed to establish a theoretical link between synchronic and diachronic semantics. For recurrent non literal meanings in recurrent forms of life of background tend to be lexicalized or realized syntactically after a while. Thus one can conceive a *theory of meaning change* explaining how new literal meanings (for example dead metaphors) can appear in the history of language.

*Cognitive universals of language use*

Other transcendent features of universal grammar are cognitive. They can be abstracted from the study of mental states and cognitive capacities which are necessary and sufficient for linguistic competence. *Clearly, in order to be able to fully perform and understand illocutionary acts, competent speakers must first be able to express propositions representing facts of the world. In particular, they must be able to refer and predicate and to distinguish truth from falsehood. They must also have beliefs, intentions and desires and be able to achieve illocutionary points and discursive goals. Thus, they must distinguish the different directions of fit of utterances as well as success from failure and satisfaction from insatisfaction. They must also be able to recognize relevant contextual aspects and to make valid practical and theoretical inferences in meaning and in understanding.* It is clear that computers do not have all these mental capacities. By nature, computers, which are concrete Turing machines, are able to perform syntactical operations on words and symbols in carrying out formal programmes. But they cannot perform semantic operations of relating words of language with things in the world. For that reason, they are not able to think, just as they cannot fully use and understand language. As Searle (1984) pointed out, computers cannot have mental attitudes. They can only *simulate* intelligence and understanding in verbal interactions with man. But such a simulation does not constitute any duplication.

Moreover, as Davidson (1984) and Searle pointed out, any adequate semantic and pragmatic theory of meaning must take into account the fact *that our natural languages are possible human languages*: they can be learned and understood (quite rapidly) by intelligent beings whose cognitive abilities are restricted. Thus there are also cognitive universals of language use. For example, we can only perform a finite number of illocutionary acts in a possible context of utterance and we perform all such speech acts by way of performing a stronger illocutionary act which commits us to all others. *Consequently, there is a universal law of foundation for successful performance in speech act theory.* All illocutionary acts that a speaker succeeds in performing in a context are acts that he performs by way of performing a unique stronger illocutionary act that generates all others in that context. Certain logical features like strong illocutionary commitment and entailment are *innate*: we know them *a priori* in virtue of linguistic competence (but the corresponding truth conditional notions do not have the same psychological reality). *Consequently, there are universal effective methods of recognition of certain logical*

*features*. Unlike Montague (1970) who tended to consider formal semantics and universal grammar as part of mathematics, I think like Chomsky (1975) that philosophy and psychology have to play an important role in the development of universal grammar. Even from the formal point of view, we need a very constructive theory of meaning and understanding that accounts for the creative and effective mental abilities of competent speakers as well as their cognitive limitations.

Therefore investigations on linguistic universals in performance are in many ways interdisciplinary. Speech act theory has to use the resources of various sciences dealing with communication and action in order to study these universals. Not only logic and the philosophy of language, of action and of mind are needed but also linguistics, anthropology, cognitive science, psychology and computer science. Consequently, there are various ways to confirm the material and formal adequacy of the universal claims of speech act theory. Some of the claims require an *empirical confirmation* from the observation of linguistic or psychological data. For example, in order to confirm that there are only six different components of illocutionary force, it is most useful to analyse the formal structure of the set of force markers and performatives in many typologically different languages. In order to confirm the minimal rationality of competent speakers in the use of language, it is also necessary to check empirically by psychological methods the actual reasoning of speakers in their conduct of real conversations. Moreover, various universal claims require a *logical proof*. For example, in order to confirm that the language generated and interpreted by an advocated universal grammar is human, it is necessary to demonstrate the recursivity of its definition of linguistic and speaker meaning as well as the decidability of what is supposed to be known in virtue of linguistic competence. In certain cases, in order to account for the rapidity of the time of comprehension, one must prove by computational methods that the time of decision of the corresponding algorithms has a minimal upper bound. Finally, because speech act theory is concerned with the a priori forms of thought, some universal claims require more than an empiric confirmation or a logical proof. They need what Kant used to call a *transcendental deduction*. Thus one must justify in a certain philosophical way the classification of illocutionary points according to which there are exactly five basic ways to use language to relate a propositional content to the world. This is why Searle and I have attempted to make a transcendental deduction of the five assertive, commissive, directive, declara-

tory and expressive illocutionary points from the consideration of the different possible directions of fit of utterances. The same holds for the justification of discursive goals.

## Chapter 3

# Verbal Moods and Sentence Moods in the Tradition of Universal Grammar

André Leclerc

*Federal University of Paraíba, João Pessoa/Brasil*

### 1. Introduction

Illocutionary logic is something new in the very long history of philosophical logic. Until recently, logicians always set aside non-declarative sentences (and speech acts other than assertive). Aristotle (*De Interpretatione* 17a) assigns the study of non-declaratives sentences (or the so-called “kinds of speech” other than declarative) to rhetoric and poetics. And Frege, another great founder in our logical tradition, who clearly distinguished, in his philosophy of language, the sense, the denotation *and* the force of a sentence as components of its meaning, nevertheless seems to exclude likewise non-declarative sentences from the province of logic. The word “Truth” refers to Logic, he says, as the word “Good” refers to Ethics, and the proper bearer of truth-value is a “thought” (*Gedanke*) expressed by sentences of certain syntactical types: Declarative, and complete interrogative sentences (Frege 1967[1918]).

In the history of grammar, the situation is very different. Grammarians cannot ignore or neglect well-formed sentences with different sentence or verbal moods, which are commonly used in any linguistic community to make not only assertions, but also promises, requests, or to give an order, to ask a question, to express a strong emotion, etc. The grammar of a language cannot be reduced to its declarative fragment. Of course, some grammarians think that this declarative fragment is the most fundamental in any language, that the

meaning of non-declarative sentences should be explained by “reduction” to that of declaratives, or that the semantics of non-declarative sentences has no real “autonomy” with respect to the declarative fragment. But for all grammarians since the ancient Greeks, a complete grammar of a language must include a unified description of all the syntactical types realised in that language.

The logical and the grammatical traditions merge in the tradition of classical Universal Grammar, initiated by Lancelot, Nicole and the great Arnauld of Port-Royal. There we find an interesting treatment of the *illocutionary aspects of meaning*, that is, these aspects of meaning determining the type of an illocution, or the illocutionary act performed by a speaker using literally a sentence of a certain syntactical type in a context of utterance. In this tradition, the main theoretical *locus* of that treatment is the general theory of the moods of verbs. In distinction with today’s linguists, the *grammairiens philosophes* of the classical period (*circa* 1660–1800) do not distinguish very clearly the *verbal moods* (indicative, subjunctive, imperative, optative, infinitive, etc.) from the *sentence moods* or syntactical types (declarative, interrogative, exclamative, imperative, precative, dubitative, etc.).<sup>1</sup> It is largely assumed that the two kinds of moods are merely different but equivalent conventional devices expressing our most important acts of thought or operations of the mind: Judgement, desire, command, doubt, interrogation, concession, prayer, etc. However, universal grammarians differ as for the way these acts of thought are expressed in language. (More on this later). They recognised the necessity of considering morphological criteria to identify a particular mood in a particular language; but, from a theoretical point of view, the “nations”, so to speak, could have, had they found it useful, marked and distinguished formally all the variety of sentence moods by characteristic verbal flexions. So the non-declarative sentences are usually studied in the sections devoted to verbal moods in the treatises of Universal Grammar of the XVIIth and XVIIIth centuries.

In the next pages, I shall first examine the theory of verbal moods of the *Grammaire générale et raisonnée* of Port-Royal (hereafter *GGR*). That theory contains, *in nuce*, the two main approaches to verbal moods I shall present below — the reductionistic approach and the conception of the moods as markers of the acts of thought —, even if Arnauld and Lancelot clearly adopted the second one by distinguishing the moods of will and the moods of assertion. Then, I shall briefly consider the good fortune of Port-Royal grammatical legacy in that matter, mainly in France but also in England. An adequate treatment of these

topics would require a full examination of each verbal mood and of many related matters like incidental propositions, indirect discourse, the meaning of *that*, the pragmatics of moods, etc., in the works of the most important *grammairiens philosophes* (Arnauld & Lancelot, Buffier, Du Marsais, Beauzée, Condillac, Destutt de Tracy, Harris, Monboddo, Beattie, Gregory, etc.). However, in a short paper like this, it is clearly not possible to do it in details for all the universal grammarians here mentioned.<sup>2</sup>

## 2. Preliminary remarks

A few remarks are in order. First, it is well-known that the more you pay attention to functions or semantic roles, the longer is the list of moods; conversely, the more you rely on morphological or syntactical criteria, the less is the number of moods recognised by grammarians. These trends are well illustrated in the history of grammar (Julien 1979). According to the first one, there are as many moods as there are conventional ways of expressing the numerous and distinct acts of thought or *passiones animi*; then one finds, in the list of moods, a concessive mood, an interrogative mood, a “minative” mood (the mood for threat), a dubitative mood, a precative mood (the mood for request), and so on, even if there is no characteristic flexion or syntactical features distinguishing them in any particular language. According to the second one, the only moods are those explicitly marked by characteristic verbal flexions, and then the number of moods usually does not exceed five in most European languages: Indicative, imperative, subjunctive, infinitive, and sometimes optative and conditional. The *GGR*, in this respect, adopts something from the two approaches (semantical and syntactical), “*puisque ce n’est pas seulement la maniere differente de signifier qui peut estre fort multipliée, mais les differentes inflexions qui doivent faire les modes*”.<sup>3</sup> Notice that the same verbal mood, say the imperative mood, can be used to perform many different illocutionary acts like a request, an order, a command, a question, a concession, etc. So the verbal mood of a sentence does not fully determine the nature of the illocutionary act performed by a speaker using that sentence literally; other “illocutionary force indicating devices”, like word-order and intonation, must be considered. But verbal moods, at least the personal moods (those by which we form complete sentences [*oratio perfecta*], so excluding infinitive, participle, and sometimes subjunctive), usually mark the illocution-



ary point of a literal utterance, and thus indicate its direction of fit, and the type of mental state the speaker should have were he speaking sincerely. The *grammairiens philosophes* did not really possess a concept of *illocutionary force*, but they clearly identified many components of the force, using instead the convenient concept of an *act of thought* (*action de nostre esprit*) to distinguish the meanings of sentences with different moods: sentences with different moods express different acts of thought. One of them, James Gregory, said that the best way to study the “moods of thoughts” is to study the “grammatical moods”. In the tradition of classical Universal Grammar, it is clearly the semantical, functional point of view that prevails.

Second, the universal grammarians often recognised explicitly the economic considerations at work in the development of any human language. It is evident that to add a new verbal mood means to add an entire set of new linguistic forms suitable for any verb in the language. The “wisdom of nations” preferred to keep the conjugation system as simple as possible by adopting a few verbal moods *and* other marks (word-order, punctuation signs, intonation, etc.) to express literally acts of thought of any type.<sup>4</sup>

Third, the verbal mood is higher in the hierarchy than any other verbal flexion; for instance, in French, it determines the number of tenses: eight tenses for the indicative; subjunctive: four; imperative: two. Likewise for the personal flexions: indicative: six; imperative: three. Tense and mood are traditionally taken to be characteristic features of verbs; other parts of speech, *e.g.* pronouns, bear marks for number and person, not for tense and mood. Nevertheless, mood determines tense, not the reverse. The primacy of mood seems to point to a closer relationship with the intentionality of the speaker.

One can distinguish two approaches in the general theory of verbal moods of the universal grammarians: one is *reductionistic* in the sense that all utterances reduce, after analysis, to the expression of a judgement. The meaning of non-declarative sentences is explained by reduction to that of declarative sentences, and non-declarative sentences or verbal moods other than the indicative, are just shorter ways to express judgements about oneself (I order you to..., I ask you to tell me whether..., I wish that ..., etc.). Beauzée, the *grammairien philosophe* of the great *Encyclopédie*, the successor of Du Marsais, writes: “*nos jugements sont les seuls objets de l’oraison* (1767, Vol. I, Book III, Ch. V: 205).” The other approach conceives the moods (verbal or sentential) as *markers of the acts of thought*; in that view, each mood other than indicative (or declarative) is “autonomous” over against the indicative, in

the sense that a non-declarative sentence does not conceal the expression of a judgement in its “deep structure.” It is not an elliptical form expressing a judgement, but a complete conventional mean to express an act of thought other than categorical judgement (mainly acts of the will like wishing, ordering, requesting, etc.).

Isn't strange to call “act of thought” an act, like ordering or requesting, which cannot be performed in the mind *only*? These acts, to be successfully performed, require a context, an addressee, many fulfilled presuppositions, etc. We will see that the notion of an act of thought, at the end of the XVIIIth century, will be enlarged by the Common Sense philosophers Reid and Gregory to encompass social aspects of language in the framework of an “ideational theory of language”, that is, a theory explaining linguistic facts by referring them to operations of the mind (mainly acts of conception and judgements) they are made to express. The *social operations of the mind*, according to Gregory, “imply the belief [in the existence] of some other intelligent beings to whom they relate, and which cannot be supposed to take place in a solitary being.” (1790: 215).

### 3. The Moods in the *Grammaire de Port-Royal*

The chapter XVI of the *GGR* entitled “*Des divers modes ou manieres des verbes*” does not look very important: just four short pages. To see why it matters, we have to go back to the beginning of the second Part of the booklet where Arnauld and Lancelot explain the foundations of grammar. Words are distinct and articulated sounds invented by men to signify their conceptual thoughts. Therefore, what happens in our mind, the knowledge of its operations, is necessary to understand the different kinds of meaning expressed by the words we use.

According to the logicians of the classical period, the three main operations of the mind are conceiving, judging and reasoning. According to the grammarians, the last one is just an extension of the second, and given that men do not usually speak simply to express what they conceive, but rather to express their judgements about what they conceive, it is sufficient, for the sake of grammar, to consider the first two operations, or what is contained of the first operation in the second one. In a sentence like “The Earth is round”, the two terms, *Earth* and *round*, the subject and the attribute, pertain to the first

operation; they express what we conceive. The copula, *is*, the link between these terms, pertains to the second; it expresses the judgement we do about the Earth. The terms express the *objects of our thought*, and the verb or copula, the *act of our mind* (*l'action de nostre esprit*) or the *manner* we think about Earth and its roundness (in that case, judgement).

From that, Arnauld and Lancelot draw the following conclusion:

... la plus grande distinction de ce qui se passe dans nostre esprit, est de dire qu'on y peut considerer l'objet de nostre pensée; & la forme ou la maniere de nostre pensée, dont la principale est le jugement. Mais on y doit encore rapporter les conjonctions, disjonctions, & autres semblables operations de nostre esprit; & tous les mouvemens de nostre ame; comme les désirs, le commandement, l'interrogation, &c (1966: 29[1660]).<sup>5</sup>

Consequently, the most general distinction among words divides them into two groups: those signifying the objects of our thoughts, and those signifying the form, or the manner of our thoughts. Names, articles, pronouns, participles, prepositions, and adverbs are in the first group; they name, determine, describe, or refer to the objects we conceive. The interjections, conjunctions and verbs are in the second one; they express either “operations of the mind” (judgement, together with conjunction, disjunction, negation, etc.), or “passions of the soul” (*mouvemens de l'ame*), including acts of the will and strong emotions.

Interjections, conjunctions and the so-called “substantive” verb have a common characteristic: They signify nothing outside the mind. Interjections signify “*les mouvemens de l'ame*” (in that case strong emotions). But, as signs, they are more natural than artificial (1966: 153). Conjunctions, *and*, *or*, *if*, *therefore*, including the adverb of negation *no* (or *not*) do not either denote anything outside the mind. They simply signify the operations by which the mind joins things together, or disjoins them, considers them conditionally, or negates something. Arnauld pointed out a problem motivating (among other considerations) the Fregean distinction between judgement and thought (*Gedanke*). Usually, the verb is the mark of the judgement in a simple sentence. However, as Arnauld correctly saw, in a conjunctive, disjunctive or conditional proposition, it is the whole that is asserted, not the individual parts; and then, in such cases, it is the conjunctions (*and*, *or*, *if*) which carry the force of assertion, the mark of the judgement or the assent of the speaker, not the verb of each simple clause.

It seems that Arnauld and Lancelot apply the expression *operation de l'esprit* to conception, judgement, reasoning, negation, disjunction, conjunc-

tion, and “conditionalization”, and keep the expression *mouvements de l'ame* to designate strong emotions or passions, expressed by interjections, and the acts of the will (*desirer, prier, commander*) expressed by verbal moods other than the indicative. Subjunctive is also a mood, but a mood of assertion, not a mood of the will, like optative and imperative. Indicative, we will see in a moment, is not even a mood; it does not figure in the list, because it is the *unmarked case* in the grammatical category of mood.

As for the verb, its main use is to signify assertion (*un mot dont le principal usage est de signifier l'affirmation*). Judgement is the “principal manner of our thought”, and the verb has been invented to mark that action of our mind by which we assert an attribute of a subject (e.g. to assert roundness of the Earth). The verb signifies the assertion made by a speaker, and not an assertion conceived by him. The word *affirmatio* or *affirmans* signifies assertion but as terms do, as objects of our thought. To revive a medieval distinction, the verb signifies assertion as *actus exercitus*, not as *actus significatus*.<sup>6</sup> In *Petrus est affirmans*, there are two assertions: one is made by the speaker (*actus exercitus*) and marked by *est*, the other is *conceived* (*actus significatus*) by the speaker and signified by *affirmans*. Arnauld and Lancelot contend that to mark the first is the “principal” meaning of the verb, because we also use it to signify other “passions of the soul”, like desiring, praying, commanding, etc. But then we have to change the verbal flexions or the mood of the verb. The principal meaning of the verb, the meaning it has “by definition”, is the meaning it has in the indicative; hence, according to them, there are moods only by opposition to the indicative.

The verb in its purest form is the so-called “substantive verb” in the third person of the present indicative, as it is used in the “eternal truths” (“The whole *is* greater than one of its part”, etc.). In these sentences, the verb signifies only assertion or judgement, the action of our mind by which we link two terms, and nothing more. However, in most cases, the meaning of the verb is complex. A verb, in its “principal use”, always signifies judgement or assertion. But given that “men are prone to abridge their expressions”, they have joined other meanings to the verb for the person, the number, the tense and the attribute. The endings of the one-word-sentence *affirmo* signify the first person (*ego*) and the present indicative. Moreover, *affirmo* means the same as *ego sum affirmans*, *affirmans* being the attribute, and *sum* the sign of the assertion I do (*actus exercitus*). So the “essential” meaning of the verb is to signify the categorical assertion of an attribute, that an attribute exists really in

a subject. But usually it does it with a designation of the person, the number and the tense added to the attribute itself. The contraction of the verb as such (substantive verb) with the attribute was usually called “adjective verb.”

The system of moods as such excludes the infinitive, which is just a kind of name when it does not retain assertion,<sup>7</sup> and the participle, which is an adjectival name. They do not serve to form complete expressions of thought; they are just parts of nominal or verbal groups. But it also excludes the indicative. The moods are the subjunctive, the optative, the concessive (*modus concessivus* or *modus potentialis*) and the imperative. The first is a mood of assertion, the others are moods of the will. Now, what is the relation between the indicative and the moods? What does mean the view that the principal meaning of the verb, its “essential” meaning, is the meaning it has in the indicative? Why is indicative so fundamental? If the essential meaning of the verb is its indicative meaning, what happens to the verb in the other moods?

I think that the right interpretation is the following: Indicative is not more fundamental because assertions would be more frequent than questions or orders, neither because it would come first in the genetic order, but rather because the other moods presuppose in some way the indicative. They presuppose the indicative like the *oblique* cases (genitive, accusative, ablative, etc.) presuppose the nominative in the category of name. The indicative, like the nominative, is the unmarked case (Dominicy 1984: 163). As the oblique cases, which suspend the categorical reference of a name (‘Plato’s beard’ does not refer primarily to Plato, but to his beard), the moods suspend the categorical assertion of the verb in the indicative. My view is that one would not define a name by explaining its function in one of the oblique cases; so Arnauld and Lancelot gave of the verb the definition it has according to its function in the indicative, not according to its function in the moods. When they defend their definition of the verb as a word whose main function is to mark assertion, they write: “on ne sçaurait trouver de mot qui marque l’affirmation qui ne soit verbe, ni de verbe, qui ne serve à la marquer, *au moins dans l’indicatif*” (1966: 101–102, italics mine) So the indicative, like the infinitive and the participle, is not treated in the chapter XVI devoted to the moods. Moreover, the mood is not one of the common “accidents” of the verb, besides the person, the tense and the number, precisely because the indicative is not a mood. The indicative is part of the nature of the verb, part of its definition; in contrast, the moods, like oblique cases, appear as deviations from the *direct* and *autonomous* case (Donzé 1967: 118). The indicative and the nominative are direct and auto-

mous in the sense that they reach, so to speak, by themselves, a state of affairs or a referential target. The moods (other than indicative), as we will see, generate *intensional contexts*; they suspend the categorical character of the judgement or assertion, and present the inclusion of the attribute in the subject as being only possible, probable, depending upon a condition, a contingent fact, or a future action.

But a verb does not cease to be a verb when one changes its modal flexion. However, it ceases to signify assertion or assent. The verb, in its “principal” or “fundamental” meaning, signifies the assertion of the inclusion of the attribute in the subject. But that inclusion may not be presented as something actual. Universal grammarians of the next century (*e.g.* Du Marsais, Beauzée) often called *oblique* the moods which do not present an action, an event or a state of affairs as something actual. In the *GGR*, the indicative is the “principal” use of the verb; the moods are all “secondary” uses of the verb. The principal use is to express a categorical judgement (indicative), and the secondary uses, to express some other “manners” or moods of our thoughts, like non-categorical judgement or acts of the will (wishes, concessions, and commands). Other acts of thought (or mental states) like interrogations, requests or strong emotions are very akin to the first ones and could have been, presumably, expressed in the same way by characteristic verbal flexions. But they are not. To express them, we use instead word-order, intonation (or punctuation signs), and performative verbs. Nonetheless, verbal moods are by far the most important markers of the acts of thought in the *GGR*. No doubt, acts of thought marked by verbal moods are amongst the most important for our social life and our mental activity. Arnauld and Lancelot did not offer a very explicit distinction between the mood of a thought and its content, but it is clear that they presupposed such a distinction. So the principal use of the verb is to mark the assent (or categorical judgement) that the attribute is included in the subject [assent + inclusion]. In the secondary uses, assent is removed and replaced by wish in the optative [wish + inclusion], by command in the imperative [command + inclusion], by concession in the concessive, etc. In the subjunctive, the only mood of assertion, which included the French forms in *-rais* for the conditional mood, it would be a conditional or non-categorical assent.<sup>8</sup> In an interrogative sentence, it would be the state of mind we have when we wish to know something.

Arnauld and Lancelot achieved, from a semantical point of view, a certain unification in the grammatical category of mood. All verbal moods are means

to express *complete* conceptual thoughts other than categorical judgement. Infinitive and participle are excluded from the grammatical category of mood, even if they are, from a morphological point of view, different forms of the verb. The infinitive is a kind of name (except when it does retain assertion, and link two propositions, as it does frequently in Latin — *scio malum esse fugiendum*— and sometimes in French — *il croit savoir toutes choses*). As for the participle, it is a kind of adjective. Infinitives and participles do not express any attitude of the speaker. The Ariadne's clew for the classification of the moods seems to be something like the notion of "direction of fit" (more precisely the "responsibility for achieving the success of fit") of Searle & Vanderveken [1985]. Judgements, categorical or not, have a mind-to-world direction of fit, and the assertions of the corresponding sentences, a word-to-world direction of fit; here the speaker is clearly responsible for his mistakes. With the moods of the will, one has the world-to-word direction of fit, and the responsibility for achieving the success of fit is not upon the speaker. It is upon the hearer in the imperative (he has to carry out a course of action to obey the order or command), and in the optative, neither the speaker, nor the hearer bears it (the satisfaction of a wish is a matter of chance or of providential events). The concessive or potential mood corresponds to an illocutionary denegation of an interdiction (or the illocutionary denegation of an order not to do something); that the allowed action be performed or not is the responsibility of the hearer, but he will not incur any punishment if he refrains from doing it. On the contrary, the speaker usually welcomes the abstention of the hearer. The moods of the will do not have special endings, except the optative in Greek. Arnauld and Lancelot straightforwardly derived them from the different manners to will something. Men could have invented special endings, they say, for these uses of verbs, but they did not, and use instead other devices, like deletion of the pronoun for the expression of an order or a request, or the use of *Utinam* + subjunctive in Latin for the expression of a wish.

In the history of grammar, at least since Apollonius of Alexandria, there is a common procedure of resolution (or reduction) of non-declarative sentences to declarative sentences (or from the moods other than indicative to indicative). The meaning of non-declarative sentences was explained by such a procedure, which makes explicit the illocutionary act performed by the literal use of these sentences. So, for example, "Go out!" has (approximately) the same meaning as "I order you to go out" (or "I order that you go out"), and "if only he be there!" (Approximatively) the same meaning as "I wish that he

be there”, etc. Strangely enough, that procedure is well known by Port-Royal grammarians. Lancelot used it in his *Nouvelle methode pour apprendre facilement et en peu de temps la langue latine* [1644]. However, fifteen years later, in the *GGR* with Arnauld, the procedure of reduction is never used — not even mentioned.<sup>9</sup> Moreover, Arnauld and Nicole in *La logique ou l’Art de penser* (hereafter *LAP*) developed two theories of indirect discourse, a very influential theory of incidental propositions and gave an explication of the meaning of *that*, all things required precisely for a standard and theoretically sound procedure of resolution of the non-declarative sentences to the declarative ones. Let us look briefly at these theories.

A sentence may be complex according either to its matter (subject or predicate or both), or its form (when the copula contained in the verb is modified). In a sentence like “Alexander who was Philip’s son defeated Darius who was the king of Persians”, the incidental propositions “who was Philip’s son” and “who was the king of Persians” *explicate* the subject and a part of the attribute of the sentence. But in the following sentence: “Politicians who held left-wing views are appreciated in that country”, the incidental “who held left-wing views” *determines* (or *restricts*) the subject. Usually, a false explicative incidental does not affect the truth-value of the whole sentence. Even if Alexander is not Philip’s son, it remains true that he defeated Darius; but the suppression of a restrictive incidental usually affects the truth-value of the whole sentence in which it occurs (Pariente 1985: 60ff). But whenever a sentence is complex according to its form, the incidental proposition is attached to the verb (or copula) and affects the assertion or negation. For instance, in “I maintain that the Earth is round”, “I maintain” is not attached to “Earth” or “round”, but to the copula of the “principal” proposition, which already expresses the assertion; but “I maintain”, which is here the incidental, does it more explicitly. “I maintain”, and other operators like “I deny that”, “It is true that”, etc., do not absorb the assertion marked by the copula of the principal proposition (“the Earth *is* round”). Alethic modalities and verbal moods, on the other hand, absorb the assertion of the principal proposition. Arnauld and Nicole could have analysed moods other than indicative along these lines: “I wish that”, “I order that”, “I wonder if”, etc., would be incidental propositions absorbing the assertion of the principal proposition and making explicit some of the commitments of the speaker *vis-à-vis* the hearer concerning the truth of the inclusion or non-inclusion (of the attribute in the subject) expressed in the principal. That inclusion would then be presented



as simply possible in the optative, as something that could or should be a consequence of the speech act in the imperative, or as depending upon an unknown fact in the interrogative, etc. However, as I said, they never resort to that analysis, and it is a little farfetched to call “principal” the subordinated proposition. The function of *that* in this analysis would be just to link, like a conjunction, two propositions (e.g. [I order] (that) [you close the door]).

In the fifth edition of the *LAP* [1683, Part II, chap. 1], Arnauld and Nicole develop a new analysis. They propose the following account of “John did answer that he was not the Christ”, “I suppose that you will be good” and “I tell you that you are wrong”. The *that* in “John did answer that...” keep the function of linking a proposition (“he was not the Christ”) with the attribute concealed in “did answer”, which means *fuit respondens*. But it has another (anaphoric) function, which is to “point”, so to speak, to an antecedent noun gotten by lexical decomposition of the verb. *That* is now treated as a contraction of “a thing which is” (or “something which is”) provided with a metalinguistic function, and the antecedent of *which* is the noun “answer” in “John made an answer which is: ‘he was not the Christ’.” And likewise in the other cases: “I make a supposition which is: ‘you will be good’”, “I tell you something which is: ‘you are wrong’”, etc. The word *answer* signifies the same thing as “he was not the Christ”, *supposition*, the same thing as the sentence “you will be good”, etc. [cf. Dominicy, 1984]. An analysis of non-declarative sentences along these lines yields the following: “I order that you walk” becomes “I give you an order which is: ‘you walk’”, and “I wish that it rain” becomes “I have a wish which is: ‘it rains’”, etc. The failure of the law of substitutivity *salva veritate* of co-extensive phrases can then be explained as in Davidson’s paratactic analysis of *saying that* (1968–69, 1976). And the reduction to the declarative has been achieved, since the *analysans* contains only declarative sentences. But the sentences taken as *analysanda* are no longer complex according to their form, because the incidental is now attached to an attribute; more precisely, to a noun gotten by lexical decomposition of the verb and which names directly what is normally indicated by the imperative and optative moods. In this analysis, the phrases “I order that”, “I wish that” are no longer called “incidental”. The incidental is now rather the sentence introduced by “a thing which is”, which is asserted only in a “diluted” sense (Nuchelmans 1983: 81). The *content* of the order, or of the expression of a wish, is shown or presented by the mentioned sentences. In some contexts, it seems that the intention of the speaker alone enable us to decide which part of the sentence is the incidental and whether it must be

attached to the attribute of that sentence or to its copula. If my intention, in saying “All philosophers assure us that weighty things fall by themselves”, is to assert that weighty things fall by themselves, then the first part is the incidental. If my intention is to assert that philosophers assure us of something, the second part is the incidental linked to “a thing” through *which* in “All philosophers assure us of a thing which is...”

The verbal moods in the *GGR* are “added meanings” (*significations ajoutées*) to the principal meaning of the verb in the indicative. These added meanings could be explained by “explicative” incidental sentences making explicit the act of thought and the commitments of the speaker. Arnauld, Lancelot and Nicole could have explained the meaning of the moods by using the traditional procedure of reduction, a procedure they knew very well. But they did not. The grammatical category of mood is divided into moods of assertion (subjunctive and conditional) and the moods of the will (optative, potential and imperative). The moods of the will stand autonomously; they serve to express directly acts of thought other than judgements, categorical or not. They are not elliptical categorical judgements about oneself. All the moods are markers of the acts of thought other than categorical judgement, the indicative being no mood at all. By using the moods (verbal or sentential) we do not *name* our acts of thought (*actus significatus*), we make them known in doing something (*actus exercitus*) — when I say “Do it!”, I do not name what I am doing, I just do it, I issue an order. The grammatical moods (verbal and sentential) correspond to moods or acts of our thought.

The *GGR* and the *LAP* were very influential in France; and in England, though less influential, they were held in high esteem by anyone interested in philosophical grammar. Their followers of the next century often adopted many features of Port-Royal’s analysis of verbal and sentential moods, criticising some of them, and sometimes departing radically from them. I will now survey some of their most important works on that topic, dividing them into reductionistic and non-reductionistic theories of mood.

#### **4. Grammatical moods as markers of the acts of thought: The non-reductionistic approach**

César Chesneau Du Marsais is the first appointed *grammairien philosophe* of the great *Encyclopédie* of Diderot and d’Alembert. That famous grammarian died when he was writing the article *Grammairien* for the *Encyclopédie*! “A

grammarian who is not philosopher is not even grammarian”, he said, being himself an honest empiricist and the author of a modest *Logique*. As for the moods, the article *Construction* of the *Encyclopédie* is the one which most deserves attention.

Du Marsais is among the first grammarians to abandon the theory of the so-called “substantive verb” (the copula) and to adopt a bipartite analysis of the grammatical proposition into Subject and Attribute — instead of Subject-Copula-Attribute —, the verb being an essential part — and always the first part — of the attribute. The verb, besides the particular semantic value or meaning of the qualificative it concealed, has essentially two functions: to mark the *existence* (actual or imaginary) of the subject under such and such qualification, and to mark the action of our mind or a certain “view of the mind” attributing or applying that value to a subject. In that way, the verb is not defined by its assertive function, as it is in the *GGR* but by the idea of *application* by the mind of the attribute to a subject, and that application can be done in various ways. So the indicative has no privilege and takes up again its place in the system of moods. In that theory, the verb has a categorematic meaning (Nuchelmans, 1983: 95): it always signifies existence, either existence as such (“Socrates is”), or existence “modified” in a certain way (“Socrates walks” [is walking]). *To be* is the verb of existence. But the latter function distinguishes the verb from any other word, which are just denominations. (Cf. the article *Conjugaison* of the *Encyclopédie*). The action of the mind applying the particular value of a verb to a subject may be either a judgement, or another “particular consideration of the mind”. The expression of judgements gives rise to “propositions”, and the expression of these other “considerations of the mind”, to what Du Marsais called “simple utterances” (*simples énonciations*) or “oblique propositions”. Consequently, all sentences divide into “propositions” and “simple utterances”.

Les mots, dont l’assemblage forme un sens, sont donc ou le signe d’un jugement, ou l’expression d’un simple regard de l’esprit qui considère un objet avec telle ou telle modification; ce qu’il faut bien distinguer. [Art. *Construction*].

That particular consideration of the mind exists in many different manners, “& ce sont ces différentes manières qui ont donné lieu aux modes du verbe” (ibid.). Propositions expressed in the indicative mood always state something concerning the actual state of an object. But it is not so with “simple utterances” in which the verb is in a mood other than indicative. When I say to

someone “Be good!”, the idea of being good is applied to the hearer only in my mind, I only say what I wish the hearer to be, not what he actually is. We have here a clear distinction between declarative and non-declarative sentences. And the last ones, as in the *GGR*, are never reduced to the first.

Du Marsais’ system of moods (cf. art. *Conjugaison*) is backward in many respects. He does not even distinguish the French conditional either as a tense of the indicative or as a verbal mood, like Buffier, Restaut and Girard did before him. His system, which includes indicative and infinitive as in the Greek and Latin grammatical tradition, is much more heterogeneous than Port-Royal’s system. But his treatment of the subjunctive is a real progress for his century. That mood marks the idea of *subordination* of the sentence in which it occurs to a direct and categorical assertion expressed in the indicative. It is always used in a subordinate sentence to mark its dependency and to form “oblique” propositions.

*Hermes: or, a Philosophical Inquiry concerning Language and Universal Grammar* [1765], by the British grammarian and philosopher James Harris (1968), had in his own country an influence comparable to that of the *GGR* in France. But Harris doesn’t like very much the doctrines of modern philosophers and is much more inspired by ancient grammarians and philosophers, and by the Cambridge Neo-Platonists. The largest unit considered in grammar is the sentence, and Harris distinguishes three basic kinds of sentences: declaratives, interrogatives, and imperatives. To avoid a multiplication of the kinds of sentences, Harris based them on the two active faculties of the mind: perception (sensible and intellectual) and will (including passions and appetites). To talk is to turn manifest the various *energies* of our mind. Declarative sentences are linked to perception, and all the others to will.

The various kinds of moods are determined for a large part according to the various kinds of sentences and by the different ways we express our various kinds of mental energies. The moods are indicative, potential, subjunctive, interrogative, imperative, precative and infinitive (imperative and precative are also called “requisitive”, that is, the mood of demand). Indicative, subjunctive and potential are related to perception, while interrogative, imperative and precative are related to will. Moods are different literal forms designed to express our mental energies. But the classification of moods is also sensitive to other dimensions of the interlocutionary situation, as the respective positions of the speaker and hearer; for instance, when the addressee is a subaltern, we use the imperative; but when the addressee is a

superior, we use the precative. The degree of strength of the commitment to the truth is also a dimension when we are certain of what we say, we use the indicative; otherwise, we use the potential (to express contingent propositions or conjectures), or the interrogative when we want to dispel our doubts. Moreover, the direction of fit has something to do with this classification: moods of perception give rise to utterances which have to “fit the world” and do not call for (not always, at least) an answer or a reaction of the hearer, contrarily to the moods of the will, which always do.

James Gregory was a Common Sense Philosopher and one of Thomas Reid’s best friends. Professor of Physics at the University of Edinburgh, he presented a sixty pages paper entitled “Theory of the Moods of Verbs” (Gregory 1790: 215) in 1787 at the Royal Society of Edinburgh. His theory of moods, in my opinion, is the most advanced and interesting of all those developed during the Enlightenment, at least from a semantical and pragmatical point of view.

Gregory’s originality lies in his sharp distinction between the *moods of thought* and the *grammatical moods*, and in the introduction of a notion due to Dr Reid, that of *social operations of the mind*.

... the moods of verbs may be considered in two different points of view; either *with relation to any particular human language*, or *with relation to human thought*, which must be supposed the same in all ages and nations. For the sake of distinctness, I shall call the expression of them, by inflection or otherwise in language, *grammatical moods*; and the thoughts, or combinations of thoughts, though not always, or perhaps never expressed in the same way, I shall call *energies*, or *modifications*, or *moods of thought*. (1790: 204).

Grammatical moods — that is, verbal moods *and* sentence moods — are formally established by the grammar of each language; but the number of the moods of thought by far exceeds that of grammatical moods, often forcing us to use the same grammatical mood to express different moods of thought. The fact that human languages are deficient in the expressing of the moods of thought is then no surprise. But all of them might be expressed, directly by the grammatical moods, or indirectly by a sentence whose main verb is in the first person of the present indicative followed by a clause: “I advise you to...”, “I exhort you to...”, etc.

Gregory gives a very interesting enumeration of the moods of thought:

Affirming, denying, testifying, foretelling or prophecying, asking, answering, wishing, hoping, expecting, believing, knowing, doubting, supposing,

stipulating, being able, commanding, praying, requesting, supplicating, loving, hating, fearing, despairing, being accustomed, wondering, admiring, warning, swearing, advising, refuting, exhorting, dissuading, encouraging, promising, threatening, and perhaps numberless other modifications of thought, for which I cannot easily find names, all admit very readily of *being* combined with the general import of a verb. (1790: 206–207).

Amongst the thirty six examples given by Gregory, about twenty are illocutionary verbs; others correspond either to perlocutionary verbs (dissuading, encouraging, etc.), or to psychological states and propositional attitudes (believing, loving, etc.), or even to dispositions (being able, being accustomed). All these moods of thought are as many “energies” of the mind, a dynamic concept that plays approximately the same role as that of “illocutionary force” in Speech Act Theory. “All nations”, he says, “are capable of understanding them perfectly, whether they use a language in which they can be expressed by mere inflections or not.”

It is a little puzzling to find, in Gregory’s list, moods of thought which presupposes a verbal interaction involving (at least) two speakers (commanding, advising, promising, supplicating, asking, threatening, etc.) and which cannot be reduced to simple “operations of the mind” of a solitary being. Arnauld and Lancelot said that commanding is an action of our mind, and that there is no first person in the imperative mood because one does not properly command to oneself. Here Gregory borrows from Reid the distinction between the *solitary operations of the mind* (such as believing, desiring, doubting, etc.), which can be performed by an isolated subject, and the *social operations of the mind* (commanding, promising, requesting, etc.), which involve a belief about the existence of other intelligent beings to whom these operations are related. According to Reid (1969: 73[1785]), all languages are made to express the social operations of the mind as well as the solitary operations. Moreover expressing the social operations of the mind “is the primary and direct intention of language.” Notice that in Speech Act Theory, illocutionary acts can be viewed as units of conceptual thoughts, and many of them can be performed *in the mind only*, not overtly [cf. Vanderveken, 1988, 1990]. The notion of a social operation of the mind makes it possible to encompass some social aspects of language in the framework of an ideational theory of language.

...the energies expressed by the moods of verbs are *chiefly* the *social* operations of the mind, as they have been very properly termed by Dr Reid; that is to say, such as imply the belief of some other intelligent being to whom they

relate, and which cannot be supposed to take place in a solitary being. (*Ibid.*, 215)

... the person who utters a proposition wishes to be believed, he who gives a command wishes to be obeyed, he who puts a question wishes to be answered, and all of them wish to be understood. These are all operations of thought, which cannot be supposed to take place in a solitary being. (*Ibid.*, 224–225).

Affirming is the most common energy expressed by a grammatical mood; just behind it come commanding and interrogating, the last one being often expressed through the tone of voice. Wishing is also among the mental energies most frequently expressed by verbal moods.

That the grammatical moods of verbs are concise modes of expressing some of those combinations of thoughts, which occur most frequently, and are most important and striking, (1790: 215).

Gregory pointed out that moods of thought may be expressed separately in sentences by other active verbs in the first person of the present of the indicative, so that non-declarative sentences are always “convertible” in declarative sentences, even if they are not perfectly “resolvable” by these sentences. The reduction procedure always misses something, and its result is always more cumbersome, much less energetic. The grammatical moods have an aesthetic value, expressing concisely combinations of thoughts more or less complex. But the “resolution” exhibits the complexity of non-declarative sentences, and Gregory, correctly, sees that the interrogative mood has a greater complexity than any other moods. Indeed, usually, the result of the resolution is a sentence containing two verbs: “I *order* you to *go* out”, “I *wish* that it *rain*”, etc. The resolution of sentences with an interrogative mood takes one more step and yields a sentence containing three verbs: from “Is Julius coming?”, to “Tell me whether Julius is coming”, and then to “I *ask* you to *tell* me whether Julius *is* coming.” We need to use the imperative of an assertive verb, like *tell*, in the second step, to reach a final rough approximation of the meaning of the first interrogative sentence.<sup>10</sup>

I said that the number of the moods of thought far exceeds that of grammatical moods. The introduction of any new mood means the introduction of an entire set of linguistic forms suitable for any verb bequeathed to our children and the next generations of speakers. Human languages must satisfy the condition of learnability and their grammar should be kept as simple as possible. That constraint obliges us to “employ one mood as [we] do one word, or one inflection, in various senses, that is, to express occasionally

different thoughts.” (1790: 215–216). Moreover, these constraints motivate non-literal uses of moods. Gregory shows, by multiplying examples, how we often put one mood in place of another which would express literally the mood of thought we have; he compares that “transfer” to the “metaphorical transfer”, invoking the Aristotelian definition of the metaphor (*Poetics*, 1457 b). Here is a resolute orientation towards a pragmatics of mood; but nowhere does Gregory show by which inferential process or algorithm, we are lead from the sentence meaning to the speaker’s meaning. Indeed, sometimes one says, “You will go”, or even “Will you go?” with the appropriate tone of voice, instead of “Go!” Rhetorical questions are of this kind.

## 5. The reductionistic approach of grammatical moods

In the preceding approach, grammatical moods (verbal moods other than indicative and non-declarative sentences) are literal conventional means to express acts of thought other than categorical judgement. We could express these acts of thought by declarative cumbersome circumlocutions, but then the economic and aesthetic virtues of moods become obvious. However these grammarians never reduce the non-declarative to the declarative and take the moods to be direct, literal, autonomous and non-elliptical means to express different acts of thought. Hence not all our utterances are to be evaluated in terms of truth-conditions or truth-values. The following grammarians (Buffier, Beauzée, Beattie, and Destutt de Tracy) adopted a different approach: each utterance reduces, after analysis, to the expression of a judgement, that is, to a sentence that can be true or false, and which has approximately the same meaning as the original.<sup>11</sup> Non-declarative sentences are elliptical ways to express judgements about oneself. I will just resume a few results and give a few illustrations, that approach being less interesting for speech act theorists who use conditions of success and of satisfaction besides truth-conditions in their formal apparatus.

The first part of the *Grammaire française sur un plan nouveau* [1709] of the Jesuit Claude Buffier (1709), a precursor of common sense philosophy, is an abridged universal grammar. He defines the verb, as the *GGR* as “*un mot qui sert ou peut servir à exprimer ce qu’on affirme d’un sujet*”. But here affirmation is “essential” to verb, and not just its “principal use”. So any complete sentence with a verb must express an assertion, explicitly or implic-



itly. In French, Buffier distinguishes only two moods: Indicative and subjunctive. Both express affirmations, but the one expressed by the subjunctive is dependent upon a categorical one. These two moods suffice for the reduction of all other non-declarative sentences. The other moods are “terms of abbreviation”; when I say “Do it!”, it is an abbreviation for “It is my will that you do it”. Similarly in the other cases. Buffier is one of the first grammarians who do not treat the conditional under the heading: “subjunctive”. Conditional is a particular tense of the indicative, expressing an “uncertain time” (*temps incertain*). Infinitive, participle, imperative, interrogative, exclamatory sentences are no moods in that theory, but only terms of abbreviation.

Beauzée, the successor of Du Marsais as appointed universal grammarian of the *Encyclopédie*, followed the same path.

Tout ce qu’enseigne la grammaire est finalement relatif à la *proposition* expositive dont elle envisage sur-tout la composition: s’il y a quelques remarques particulières sur la *proposition* interrogative, j’en ai fait le détail en son lieu. (Art. *Proposition*).

Interrogative sentences are elliptical, he says, “*puisque les mots qui exprimeroient directement l’interrogation y sont sous-entendus*”. Such a sentence “indicates” that the speaker expresses a question rather than an assertion.

Beauzée’s system of moods is presented in the *Encyclopédie* (art. *Modes*). Moods are personal or impersonal. Only the first serve to form “proposition” and then to express judgements. The impersonal moods, infinitive and participle, pertain, respectively, to the class of nouns and adjectives. Personal moods are divided in “direct” (indicative, imperative, conditional) and “oblique” (subjunctive and optative). Furthermore, moods can be divided in “pure” (indicative, infinitive and participle) or “fundamental”, and “mixed” (imperative, suppositive or conditional, and subjunctive). In distinction with pure moods, the mixed moods add an “accessory idea” (*idée accessoire*) to the “formal” or “specific” meaning, the meaning of the verb *qua* verb. These accessory ideas are expressed by the verbal flexions of the mixed moods; they add to the formal meaning of the indicative verb the idea of the will of the speaker, for the imperative, or the idea of a supposition, for the conditional, etc. The accessory idea *cosignified* by the verb can be eliminated by head-phrases like “I order that...”, “I suppose that...”, etc. S. Auroux (1986) has pointed out that the restitution of the head-phrase “I order that” destroys the accessory imperative sense. Beauzée has a few problems with his theory of the imperative and his notion of *judgement* is very problematic.

The second part of the *Theory of Language* (1968 [1789]) of the Scottish philosopher James Beattie is a universal grammar. He too defines the verb using the logical or semantical criterion of affirmation, as “a word, necessary in every sentence, and signifying affirmation”. He expresses more clearly than any other the relationship between verbal moods and sentence moods, or between the various kinds of simple sentences and the different verbal moods.

Every sentence contains a verb expressed or understood; and that verb must be in one or the other forms, which Grammarians call *moods*. Now every mood has a particular meaning, and gives a peculiar character of the sentence; and, therefore, simple sentences may be divided into as many sorts, as there are supposed to be moods in a verb. (1968: 189).

Moods “are supposed to make known our ideas, with something also of the intention, or temper of mind, with which we conceive and utter them.” (1968: 259). Like Buffier, Beattie takes indicative and subjunctive to be the only moods *necessary* to language. The others are elliptical ways of expressing judgements, usually about oneself, except the potential mood: “He may be good” and “He ought to be good” reduce, respectively, to “To be good is in his power”, and “To be good is his duty.”

The “Ideology” (*l’Idéologie*) is the theory of the origin and forming of all our ideas, in the tradition of Locke and Condillac. It became the name of a French philosophical movement of which Destutt de Tracy (1970[1803]) emerged as the leading figure. In his *Éléments d’Idéologie* [3 vols. published between 1801 and 1815], he reduces to perceiving (*sentir*) and judging the operations of our intelligence: “*Sentir et juger, voilà toute notre intelligence...*” Judging could even be reduced to perceiving: it is to perceive an idea as contained in another. Following Beauzée and Condillac, he adopts the view that the essence of discourse is to be composed out of “propositions”, expressions of complete judgements. Any sentence with a verb in one of the definite or personal mood expresses a judgement.

The second volume of *Éléments d’idéologie* is a universal grammar. In the genetic order, interjections come first; it is the breaking of interjections that gave birth to the so-called “parts of speech.” Articulated sentences are the end of this process in our learned languages. Destutt pointed out an interesting asymmetry between judgement and the other operations of the mind. When we say “I suffer” or “I want”, we express the judgement that that suffering or that will *is* in us. To express a desire, a wish or a doubt, it is sufficient to name it by saying: “I want”, “I wish”, etc. But it is not so with judgement; to name

the act of judging is *not* to perform it. To express a judgement, we need to express a subject, an attribute, and the mark of judgement or assertion; with this alone, we are able to express any other act of thought or state of mind by merely saying (asserting) that we have them. Moods are different ways to determine the meaning of a sentence; so to establish the value of any sentence possible, we just have to examine the various forms the verb can take. In the list of moods we find again indicative, conditional, subjunctive, optative, imperative, interrogative; the new one is the dubitative. Imperative, optative, dubitative and interrogative are just “abridged locutions”; they are all elliptical expressions of judgements about oneself. By that, Destutt came very close to the so-called “performative hypothesis.” The dubitative has no special endings; tournures like “Would I dare to propose that...”, “Could we try this”, etc., are examples of what Destutt called “dubitative mood”, which means “I doubt”, “I don’t know”, “I think that I can...”, etc.

## 5. Conclusion

The grammatical moods, in the classical Universal Grammar, are distinct markers of the most important and frequent acts of thought or operations of the mind (social or solitary). They determine whether the literal use of a sentence should be counted as an assertion, a question, a command, or an expression of wish, etc. But, in general, moods do not mark any illocutionary force of a very complex form. For instance, they do not indicate whether a declarative sentence expressing an assertive act is a testimony, a prediction or a report, or whether the use of an imperative sentence is an order, a command, a concession or a request. The mood of a sentence usually determines the illocutionary point of the act performed by its literal utterance, and so its direction of fit. But sometimes the *grammairiens philosophes* pay attention to other components of a force (preparatory conditions, propositional content conditions, degree of strength of sincerity conditions), and defend a lot of interesting ideas concerning moods and their use (literal or not). Their general theory of verbal moods constitutes an interesting chapter in the history of the semantics of natural languages and Speech Act Theory. Their treatment of the non-declarative sentences and of the illocutionary aspects of meaning, in the framework of an ideational theory of language, should be considered, in spite of its blanks and limitations, as a respectable tentative to solve some of the problems which are still to be found in our current theories.<sup>12</sup>

## Chapter 4

# How Performatives Work

John R. Searle

*University of California — Berkeley*

The notion of a performative is one that philosophers and linguists are so comfortable with that one gets the impression that somebody must have a satisfactory theory. But I have not seen such a theory and in this article I want to address the question: how exactly do performatives work? I believe that answering that question is not just a fussy exercise in linguistic analysis but can give us insights into the nature of language and the relation between speech acts and actions generally. Some people who have written about performatives<sup>1</sup> seem to think that it is just a semantic fact about certain verbs that they have performative occurrences, but the puzzle is: how could any verbs have such remarkable properties just as a matter of semantics? I can't fix the roof by saying "I fix the roof" and I can't fry an egg by saying "I fry an egg," but I can promise to come and see you just by saying "I promise to come and see you" and I can order you to leave the room just by saying "I order you to leave the room." Now why the one and not the other? And, to repeat how exactly does it work? Perhaps the most widely accepted current view is the following: performative utterances are really just statements with truth values like any other statements, and Austin was wrong to contrast performative utterances with some other kind.<sup>2</sup> The only special feature of the performative statement is that the speaker can perform some other speech act indirectly by making the statement. And the task of a theory of performatives is to explain how the speaker can intend and the hearer can understand a second speech act from the making of the first speech act, the statement.

I have not seen an account of performatives that I thought was satisfactory. Therefore, in this paper I will attempt to:

1. Characterize performatives in a way that will enable us to give a (fairly) precise statement of the problem;
2. State the conditions of adequacy on any solution;
3. Show that certain analyses of performatives fail;
4. Introduce the elements of the apparatus necessary to solve the problem ;  
and
5. Suggest a solution.

### **1. What exactly is a performative?**

The word ‘performative’ has had a very confusing history and I need to make clear at the start how I am using it. Austin originally introduced the notion of *performatives* to contrast them with *constatives*: and his idea was that performatives were *actions*, such as making a promise or giving an order; and constatives were *sayings*, such as making a statement or giving a description. Constatives, but not performatives, could be true or false. But that distinction didn’t work, because stating and describing are just as much actions as promising and ordering, and some performatives, such as warnings, can be true or false. Furthermore statements can be made with explicit performative verbs, as in “I hereby state that it is raining.” So it looked for a while as if he would have to say that every utterance was a performative, and that would render the notion useless. Another distinction which didn’t work is that between explicit and implicit performatives, e.g., the distinction between “I promise to come” (explicit) and “I intend to come” (implicit). This distinction doesn’t work because in the sense in which the explicit performatives are performatives the implicit cases aren’t performative at all. If I say, “I intend to come,” I have literally just made a statement about my intention. (Though, of course, in making such a statement, I might also indirectly be making a promise.) I believe the correct way to situate the notion of performatives within a general theory of speech acts is as follows: some illocutionary acts can be performed by uttering a sentence containing an expression that names the type of speech act, as in for example, “I order you to leave the room.” These utterances, and only these, are correctly described as performative

utterances. On my usage, the only performatives are what Austin called “explicit performatives.” Thus, though every utterance is indeed a *performance*, only a very restricted class are *performatives*.

If we adopt this usage, it now becomes essential to distinguish between performative utterances, performative sentences, and performative verbs. As I shall use these expressions a *performative sentence* is a sentence whose literal utterance in appropriate circumstances constitutes the performance of an illocutionary act named by an expression in that very sentence in virtue of the occurrence of that expression. A *performative utterance* is an utterance of a performative sentence token such that the utterance constitutes the performance of the act named by the performative expression in the sentence. A *performative verb* is simply a verb that can occur as the main verb in performative sentences. When such a verb occurs in such a sentence in a performative utterance I shall speak of the *performative use* of the sentence and the verb. An utterance of

(1) Leave the room!

can constitute the *performance* of making of an order, but it is not *performative*, whereas an utterance of

(2) I *order* you to leave the room.

would normally be performative.

Furthermore not every sentence containing a performative verb in the first person present indicative is a performative sentence.

(3) I *promise* to come on Wednesday.

is a performative sentence, but

(4) I *promise* too many things to too many people.

is not a performative sentence. In English most, but not all, performative utterances contain occurrences in the first person present singular indicative of the performative verb. There are also some occurrences in the present continuous, e.g.,

(5) I am *asking* you to do this for me, Henry, I am *asking* you to do it for me and Cynthia and the children.

and some performative utterances use verbs in the plural, e.g.,

- (6) *We pledge* our lives, our fortunes and our sacred honor.

Furthermore, some performative sentences are in the passive:

- (7) Passengers are hereby *advised* that all flights to Phoenix have been cancelled.

Sometimes the performative expression is not a verb and it may be in a separate clause or sentence, as in

- (8) I'll come to see you next week, and that's a *promise*.

Not every occurrence of a performative sentence is a performative use. Thus, e.g., (3) could be used to report a habitual practice: "Whenever I see you on Tuesday I always do the same thing: I promise to come and see you on Wednesday."<sup>3</sup>

## 2. What exactly is the problem about performatives?

Put at its most naive (and in a preliminary formulation we will later have to revise), the puzzle about performatives is simply this: how can there be a class of sentences whose meaning is such that we can perform the action named by the verb just by saying literally we are performing it? How can meaning determine that saying is doing? How does the saying *constitute* the doing? There are other questions related to this: why is the class of verbs restricted in the way that it seems to be? As I mentioned, I can promise by saying "I hereby promise," but I can't fry an egg, by saying "I hereby fry an egg." Furthermore, how can one and the same unambiguous sentence have both a literal performative and a literal nonperformative use?

Another crucial question is why is it that in some sense I can't lie or be mistaken or utter a falsehood with the performative part of the performative utterance in the way that statements normally can be lies, falsehoods or mistakes. This question has to be stated precisely. When I say, "Bill promised to come and see you last week" that utterance can be a lie, a mistake, or some other form of falsehood, just as any statement can. But when I say "I promise to come and see you next week" that utterance could be insincere (if I don't intend to do the act represented by the propositional content) and it can fail to be a promise if certain of the presuppositions fail to obtain (e.g. if the person I take myself to be addressing is not a person but a fence post) but I can't be

lying or mistaken about it's having the *force* of a promise, because, in some sense that we need to explain, my uttering the sentence and meaning literally what I say gives it the force of a promise. Just to have a name I will call this the "self-guaranteeing" character of performative utterances.

Finally, there is a problem about the semantic analysis of performative verbs. Are we to be forced to say that these verbs have two meanings. One performative and one not? Or two senses? Or what?

### 3. Condition of adequacy

What are the constraints that we would like to achieve on our analysis of performatives? Well first we would like the analysis to fit into an overall account of language. Ideally performatives should not just stick out as some oddity or anomaly, but it should seem necessary that these verbs, sentences, and utterances would have these properties given the rest of our account of language. In this connection we would like to preserve the intuition that performative sentences are ordinary sentences in the indicative and that as such they are used to make statements that have truth values, even when uttered performatively. Also, we would like to avoid having to postulate ambiguities; especially since we have independent linguistic evidence that performative verbs are not ambiguous between a performative and a non-performative sense. For example, we can get something like conjunction reduction in examples of the following sort: the sentence, "John promises to come and see you next week, and I promise to come and see you next week," can be paraphrased as "John promises to come and see you next week and so do I." We need further to explain the occurrence of "hereby" in performative sentences. But the hard problem is that we need to meet these constraints in a way that accounts for the special character of performatives, especially the self-guaranteeing feature that I mentioned earlier. Just so we can see what the problems are, I will simply list the main features that I would like to be able to account for.

- (1) Performative utterances are performances of the act named by the main verb (or other performative expression) in the sentence.
- (2) Performative utterances are self-guaranteeing in the sense that the speaker cannot be lying, insincere, or mistaken about the type of act being performed (even though he or she can be lying, insincere, or mistaken



about the propositional content of the speech act and he or she can fail to perform the act if certain other conditions fail to obtain.

- (3) Performative utterances achieve features (1) and (2) in virtue of the literal meaning of the sentence uttered.
- (4) They characteristically take “hereby” as in “I hereby promise that I will come and see you.”
- (5) The verbs in question are not ambiguous between a performative and a non-performative sense, even though the verbs have both performative and non-performative literal occurrences.
- (6) Performative utterances are not indirect speech acts, in the sense in which an utterance of “Can you pass the salt?” can be an indirect speech act of requesting the hearer to pass the salt.
- (7) Performative utterances in virtue of their literal meaning are statements with truth values.
- (8) Performative sentences typically use an unusual tense in English, the so called “dramatic present.”

#### 4. Previous analyses

I am not sure that all these conditions can be met, and perhaps some of them are incorrect, but in any case none of the discussions I have read and heard of performatives meets all of them. Let me review my own earlier writings on this subject. In *Speech Acts* (Searle 1969) and other writings I pointed out that in general, illocutionary acts have the structure  $F(p)$ , where the “F” stands for the illocutionary force, and the “(p)” stands for the propositional content. If communication is to be successful, the hearer has to be able to figure out from hearing the sentence what is the illocutionary force and what is the propositional content. So there will in general be in the syntax of sentences an illocutionary force indicating device and a representation of the propositional content. In the sentence, “It’s raining.” the propositional content expressed is: that it is raining, and the illocutionary force of a statement is indicated by such things as word order, intonation contour, mood of the verb and punctuation.

Now on this account, I argued in *Speech Acts* that the performative prefix is just an indicator of illocutionary force like any other. In “I state that it is raining” and “I order you to leave the room” the performative prefixes “I state” and “I order” function to make explicit the illocutionary force of the

utterance of the sentence. As far as it goes, I think that account is right, but incomplete in that it doesn't explain how performatives work. In particular, it doesn't so far explain how the same syntactical sequence can occur in some cases as an indicator of illocutionary force and in others as part of propositional content. So the present task can be described in part as an attempt to complete the account I began in *Speech Acts*.

In the *Foundations of Illocutionary Logic* (Searle and Vanderveken 1985) Daniel Vanderveken and I argued that performative utterances were all cases of declarations. Declarations, just to remind you, are speech acts such as for example, "The meeting is adjourned" or "War is hereby declared" where the illocutionary point of the speech act is to change the world in such a way that the propositional content matches the world, because the world has been changed to match the propositional content. In a declaration of the form  $F(p)$  the successful performance of the speech act changes the world to make it the case that  $p$ . Declarations thus have simultaneously both the word-to-world and the world-to-word directions of fit.<sup>4</sup> Now on this account of performative utterances, just as I can declare the meeting to be adjourned, so I can declare a promise to be made or an order to be issued, and I use a performative prefix to do these things. If we just read off the structure of the speech act from the surface structure of the sentence that account seems obviously right. The propositional content, e.g. that I order you to leave the room, is made true by the utterance of the sentence "I order you to leave the room" and such an utterance differs from an utterance of the sentence, "Leave the room" because though an utterance of "Leave the room" also makes it the case that I ordered you to leave the room; it does not do so by declaration. It does not do so by representing it as being the case, and thus it differs from a performative.

This analysis of performatives as declarations has the consequence that the illocutionary structure of "I order you to leave the room" is:

Declare (that I order (that you leave the room)).

The propositional content of the declaration is: that I order that you leave the room, even though the propositional content of the order is: that you leave the room.

I think it is correct to say that all performatives are declarations, but that does not really answer our original question, "How do performatives work?" it only extends it into "How do declarations work?" Also it has consequences of the sort that make philosophers nervous, e.g., What about the use of "I

declare” as a performative prefix for a declaration?<sup>5</sup> Is that used to make a declaration of a declaration? And if so how far can such a regress go?

Most recent attempts at analysing performatives have treated them as statements<sup>6</sup> from which some other speech act can be derived; and many, though not all of these accounts treat them as a type of indirect speech act. I said earlier that intuitively performatives did not seem to be indirect speech acts, but there is something very appealing about any approach that treats them as statements because it takes seriously the fact that a performative sentence is grammatically an ordinary sentence in the indicative mood. Typical attempts to try to make this approach work treat performative utterances as indirect speech acts on analogy with such cases as “Can you pass the salt?” used to request somebody to pass the salt or “It’s hot in here” used to request somebody to open the window. The idea is that the literal speech act is a statement and then by some mechanism of Gricean implicature the hearer is supposed to infer the intent to perform some other speech act. I do not think these accounts are adequate; but just to consider the best I have seen, I will hereby review the account given by Bach and Harnish.

According to Bach and Harnish, in the case of performative utterances, even those without the use of “hereby,” normally the hearer could reason, and could be intended to reason, as follows:

- (1) He is saying “I order you to leave.”
- (2) He is stating that he is ordering me to leave.
- (3) If his statement is true, then he must be ordering me to leave.
- (4) If he is ordering me to leave, it must be his utterance that constitutes the order. (What else could it be?)
- (5) Presumably, he is speaking the truth.
- (6) Therefore, in stating that he is ordering me to leave he is ordering me to leave.<sup>7</sup>

I believe this account is unsatisfactory, because it fails to meet even the most uncontroversial of our conditions of adequacy. Specifically, it fails to explain the performative character and the self-guaranteeing character of performative utterances. It fails to meet conditions (1) and (2). The phenomenon that we are trying to explain is how a statement could constitute an order, and on this account, it is just blandly asserted in (4) that it does constitute an order. The fact we were trying to explain is left unexplained by the Bach-Harnish account. Furthermore, we were trying to explain the self-guaranteeing charac-

ter which performatives have, but other statements do not have. Now, if we are right in thinking that performatives are self-guaranteeing, then it is redundant to suppose that we need an extra presumption that the speaker is telling the truth (their step (5)) because as far as the illocutionary force is concerned, there is no way he could fail to speak the truth.

Their account takes it as given that the utterance can constitute an order, but if we are allowed to assume that utterances can constitute states of affairs described by the utterance, then we do not have an account that explains the differences between sentences which work as performatives and sentences which do not, such as e.g., “I am the King of Spain.” They offer no explanation of why their analysis works for ordering but wouldn’t work for the following:

- (1) He is saying “I am the King of Spain.”
- (2) He is stating that he is the King of Spain.
- (3) If his statement is true, then he must be the King of Spain.
- (4) If he is the King of Spain, it must be his utterance that constitutes his being the King of Spain. (What else could it be?)
- (5) Presumably, he is speaking the truth.
- (6) Therefore, in stating that he is the King of Spain, he is being the King of Spain.

I think it is obvious that “I order you to leave” can be used performatively and “I am the King of Spain” cannot, but there is nothing in the Bach-Harnish account that explains the difference. Why does the one work and not the other? Another way to state the same objection is to point out that they are relying on our understanding of how the sentence “I order you to leave” can be used performatively and not explaining how it can be so used.

Still, there is something very appealing about the idea that performative utterances are statements from which the performative is somehow derived. We have only to look at the syntax of these sentences to feel the appeal. So let’s try to make the strongest case for it that we can. What we are trying to explain in the first instance is how the literal meaning of the indicative sentence is such that its serious and literal utterance is (or can be) the performance of the very act named by the main verb.

## 5. Performatives as assertives

Notice first that the “hereby” marks a self reference. Whether the “hereby” occurs explicitly or not, the performative utterance is about itself. In “I order you to leave” or “I hereby order you to leave,” the speaker in some sense says that that very utterance is an order. Such utterances are no more and no less self referential than, e.g., “This statement is being made in English.”<sup>8</sup>

Now, if we were going to take seriously the idea that performatives work by way of being statements to the effect that one performs a certain speech act, we would have to show how the characteristics of such self-referential statements were sufficient to be constitutive of the performance of the speech act named by the performative verb. In the formal mode we could say that we need to show how (assuming certain contextual conditions are satisfied) the statement: “John made a self-referential statement to the effect that his utterance was a promise that  $p$ ” entails, as a matter of logic, “John made a promise that  $p$ .” Well, what are the characteristics of such statements and what are the characteristics of performatives and what are the relations between them? The characteristics in question are these:

- (1) A statement is an intentionally undertaken commitment to the truth of the expressed propositional content.
- (2) Performative statements are self-referential.
- (3) An essential constitutive feature of any illocutionary act is the intention to perform that act. It is a constitutive feature of a promise, for example, that the utterance should be intended as a promise.

Now our question is a little more precise. Can we show how the first two characteristics combine to guarantee the presence of the third? Can we show how the fact that one made a self-referential statement to the effect that one was making a promise that  $p$  is sufficient to guarantee that one had the intention to make a promise that  $p$ ? I used to think this was possible, and in fact when I completed an earlier version of this paper I thought I had a pretty good demonstration of how it worked. I now think that it can’t be made to work, but I believe its failure is instructive, so let’s go through the steps. I will try to set out in some detail an argument designed to show that a self-referential statement to the effect that the utterance is a promise that  $p$  necessarily has the force of a promise and then I will try to show why the argument doesn’t work.

*Step 1.* Suppose someone makes a statement literally uttering the sentence “I promise to come and see you next week.” Well, as such it is a statement; and a statement is a commitment to the truth of the proposition, so the speaker is committed to the truth of the proposition that he promises to come to see the hearer next week.

But in general, the making of a statement does not guarantee that it is true or even that the speaker intends that it be true. For even though the statement commits him to its truth, he might lie or he might be mistaken. So from the mere fact that the utterance is a statement that he promises, we cannot derive that it is a promise.

*Step 2.* The statement is self-referential. It isn’t just about a promise but it says of itself that it is a promise. It might be paraphrased as “This very utterance is the making of a promise to come and see you next week.”

But the addition of self-referentiality by itself is still not enough to guarantee that it is a promise or even that it is intended as a promise. If I say “This very utterance is being made in French” there is nothing in the fact that a self-referential statement has been made that guarantees that it is true or even that it is intended to be true.

*Step 3.* In the utterance of the sentence, the speaker has made a self-referential truth claim to the effect that his utterance is a promise. But what would make it true, in what would its truth consist? Well obviously its truth would consist in its being a promise. But in what does its being a promise consist? Given that the preparatory and other conditions are satisfied, its being a promise consists in its being intended as a promise. Given that everything else is all right with the speech act, if it is intended as a promise then it is a promise. So now our question narrows down to this: How do the other features guarantee the intention to make a promise?

*Step 4.* The main feature of its being a promise is that it is intended as a promise. But now, and this is the crucial point, if the utterance is self-referential and if the intended truth conditions are that it be a promise and if the main component in those truth conditions actually being satisfied is the intention that it be a promise, then the intention to make the self-referential statement that the utterance is a promise is sufficient to guarantee the presence of the intention that it be a promise and therefore sufficient to guarantee that it is a promise. Why?

*Step 5.* The intention to label the utterance as a promise is sufficient for the intention to be a promise, because the intention to label it as a promise

carries a commitment. The commitment in assertives is that the proposition is true. But now, the commitment to its truth, intentionally undertaken, already carries a commitment to the intention that it be a promise. But that intention, in the appropriate circumstances, is sufficient for its being a promise.

So on this account, though statements in general do not guarantee their own truth, performative statements are exceptions for two reasons, first they are self-referential and second the self-reference is to the other speech act being performed in that very utterance. Notice that the self-referentiality is crucial here. If I assert that I will promise or that I have promised, such assertions do not carry the commitments of the actual promise in a way that the assertion "This very speech act is a promise" does carry the commitments both of the assertion and thereby of the promise.

This, I believe, is the best argument to show that performatives are primarily statements. What is wrong with it? For a long time it seemed right to me, but it now seems to me that it contains a mistake. And any mistake, once you see it, is an obvious mistake. The mistake is that the argument confuses *being committed to having an intention with actually having the intention*. If I characterize my utterance as a promise, I am committed to that utterance having been made with the intention that it be a promise, but this is not enough to guarantee that it was actually made with that intention. I thought this objection could be evaded by the self-referentiality, but it can't be. Just self-referentially describing one of my own utterances as a promise is not enough to guarantee that it is made with the intention that it be a promise, even though it is enough to commit me to having made it with that intention.

The point is a fairly subtle one, but I have reluctantly come to the conclusion that it is decisive. So, I will repeat it: The intention to assert self-referentially of an utterance that it is an illocutionary act of a certain type, say a promise, is simply not sufficient to guarantee the existence of an intention in that utterance to make a promise. Such an assertion does indeed *commit* the speaker to the existence of the intention, but the commitment to having the intention doesn't guarantee the *actual presence* of the intention. And that was what we needed to show. We needed to show that the assertion somehow guaranteed the presence of the performative intention, when the assertion was a self-referential assertion to the effect that it was an illocutionary act named by the performative verb.

It now turns out that the effort to show that performatives are a species of assertion fails. The performative character of an utterance cannot be derived

from its literal features as an assertion. I have come to the unfortunate conclusion that any attempt to derive performatives from assertives is doomed to failure because assertives fail to produce the self-guaranteeing feature of performatives, and in failing to account for the self-guaranteeing feature, the analysis fails to account for performativity. The failure to satisfy condition (2) automatically produces a failure to satisfy condition (1). In order to derive the performative from the assertive, we would have to show that given the statement *S* of certain conditions on the speech act, the conjunction of *S* and the proposition ‘*x* made the self-referential assertion that he promised that *p*’ entails ‘*x* promised that *p*’; and this cannot be done because the assertive intention by itself does not guarantee the presence of the performative intention.

## 6. Performatives as declarations

Now we have to go back to the drawing board. We were trying to derive the declarational character of performatives from their assertive character and it didn’t work. So let’s reconsider what is implied by the view that performatives are declarations. We saw earlier that, trivially, performatives are declarations because they satisfy the definition of a declaration. The definition is that an utterance is a declaration if the successful performance of the speech act is sufficient to bring about the fit between words and world, to make the propositional content true. Declarations thus have the double direction of fit  $\Downarrow$  whereas assertives have the word-to-world direction of fit  $\downarrow$ .<sup>9</sup> One way to characterize our failure so far is to say that my effort to derive the double direction of fit from the assertive direction of fit was a failure. I thought I could do it with self referentiality plus the lexical meaning of some peculiar verbs, but it turned out that the apparatus was too weak.

So let us now ask “How do declarations work in general?”, and we can then use the answer to that question to locate the special features of performatives.

In order intentionally to produce changes in the world through our actions, normally our bodily movements have to set off a chain of ordinary physical causation. If, for example, I am trying to hammer a nail into a board or start the car, my bodily movements — e.g., swinging my arm while holding the hammer, turning my wrist while holding the key in the ignition — will cause certain desired effects.



But there is an important class of actions where intention, bodily movement and desired effect are not related by physical causation in this way. If somebody says, "The meeting is adjourned," "I pronounce you husband and wife," "War is declared," or "You're fired," he may succeed in changing the world in the ways specified in these utterances just by performing the relevant speech acts. How is that possible? Well, notice that the literal utterance of the appropriate sentences is not enough. For two reasons; first, for many of these utterances someone might utter the same sentence speaking literally and just be making a report. If the chairman says, "The meeting is adjourned" as a way of adjourning the meeting, I might report to my neighbor at the meeting, "The meeting is adjourned" and my speaker meaning includes the same literal sentence meaning as did the speaker meaning of the chairman, but he and not I performed a declaration. Second, even if I say, "The meeting is adjourned" intending thereby to adjourn the meeting, I will not succeed because I lack the authority. How is it that the chairman succeeds and I do not? In general, these sorts of declarations require the following four features:

- (1) An extra-linguistic institution.
- (2) A special position by the speaker, and sometimes, by the hearer, within the institution.
- (3) A special convention that certain literal sentences of natural languages count as the performances of certain declarations within the institution.
- (4) The intention by the speaker in the utterance of those sentences that his utterance has a declarational status, that it creates a fact corresponding to the propositional content.

As a general point, the difference between pounding a nail and adjourning a meeting is that in the case of adjourning the meeting the intention to perform the action, as manifested in the appropriate bodily movement (in this case the appropriate utterances) performed by a person duly authorized, and recognized by the audience, is constitutive of bringing about the desired change. When I say in such cases that the intention is constitutive of the action, I mean that the manifestation of the intention in the utterance does not require any further causal effects of the sort we have in hammering a nail or starting a car. It simply requires recognition by the audience.

The more formal the occasion, the more condition (3) is required. The speaker must utter the right expressions or the utterance does not count as marrying you, adjourning the meeting, etc. But often on informal occasions,

there is no special ritual phrase. I can give you my watch just by saying, "It's yours," "You can have it," "I give it to you," etc.

The most prominent exceptions to the claim that declarations require an extra-linguistic institution are supernatural declarations. When God says, "Let there be light!," that I take it is a declaration. It is not a promise; it doesn't mean, "When I get around to it, I'll make light for you." And it is not an order; it doesn't mean, "Sam over there, turn on the lights." It makes it the case by fiat that light exists. Fairy stories, by the way, are full of declarations performed by witches, wizards, magicians, etc. We ordinary humans do not have the ability to perform supernatural declarations, but we do have a quasi-magical power nonetheless of bringing about changes in the world through our utterances; and we are given this power by a kind of human agreement. All of these institutions in question are social institutions, and it is only as long as the institution is recognized that it can continue to function to allow for the performance of declarations.

When we turn to performatives such as "I promise to come and see you," "I order you to leave the room," "I state that it is raining." etc., we find that these, like our earlier declarations, also create new facts, but in these cases, the facts created are linguistic facts; the fact that a promise has been made, an order given, a statement issued, etc. To mark these various distinctions, let's distinguish between *extra-linguistic* declarations — such as adjourning the meeting, pronouncing somebody man and wife, declaring war, etc. — and linguistic declarations — such as promising, ordering, and stating by way of declaration. Both linguistic and extra-linguistic declarations are speech acts, and in that sense they are both linguistic. In the examples we have considered, they are all performed by way of performative utterances. Naively the best way to think of the distinction is this: A declaration is a speech act whose point is to create a new fact corresponding to the propositional content. Sometimes those new facts are themselves speech acts such as promises, statements, orders, etc. These I am calling linguistic declarations. Sometimes the new facts are not further speech acts, but wars, marriages, adjournments, light, property transfers, etc. These I am calling extralinguistic declarations. When the chairman says, "The meeting is adjourned," he performs a linguistic *act*, but the *fact* he creates, that the meeting is adjourned, is not a *linguistic* fact. On the other hand, when I say, "I order you to leave the room," I create a new fact, the fact that I have ordered you to leave the room, but that fact is a linguistic fact.

Since the facts created by linguistic declarations are linguistic facts, we don't need an extralinguistic institution to perform them. Language is itself an institution, and it is sufficient to empower speakers to perform such declarations as promising to come and see someone or ordering someone to leave the room. Of course, extralinguistic facts may also be required for the performance of the linguistic declaration. For example, I have to be in a position of power or authority in order to issue orders to you. And such facts as that I am in a position of power are not facts of language. Nonetheless, they are conditions required by the rules of linguistic acts. No non-linguistic institution is necessary for me to give an order, and the rules of ordering already specify the extralinguistic features of the world that are necessary in order to perform a successful and non-defective order.<sup>10</sup>

All performative utterances are declarations. Not all declarations are performatives for the trivial reason that not all declarations contain a performative expression, e.g., "Let there be light!" does not. But every declaration that is not a performative could have been one: e.g., "I hereby decree that there be light!". The important distinction is, not between those declarations which are performatives and those which are not, but between those declarations which create a linguistic entity, a speech act such as an order, promise, or statement and those which create a nonlinguistic entity such as a marriage, a war, or an adjournment. The important distinction is between, e.g., "I promise to come and see you." and "War is hereby declared."

Traditionally in speech act theory we have regarded the nonlinguistic cases as prototypical of declarations, but it is also important to see how much nonlinguistic apparatus they require. Consider "divorce." I am told that in certain Moslem countries a man can divorce his wife by uttering three times the performative sentence, "I divorce you." This is a remarkable power for a speech act, but it adds nothing to the meaning of "divorce" or its translations. The ability to create divorces through declarational speech acts derives from legal/theological powers and not from semantics.

## **7. Performatives and literal meaning**

Since ordinary linguistic declarations are encoded in performative sentences such as, "I order you to leave the room" or "Leave, and that's an order," they do not require an extralinguistic institution. The literal meaning of the sen-

tence is enough. But now the question arises: how could it be enough? How can the literal meaning of an ordinary indicative sentence encode the actual performance of an action named by the main verb? And how can the literal meaning both encode the performative and the assertive meaning without being ambiguous? It is not enough to say that in the one case the speaker intends the utterance as a performative and in the other as an assertion. The question is: how could one and the same literal meaning accommodate both intentions?

With these questions we come to the crux of the argument of this paper. I believe it is the failure to see an answer to these questions — or even to see the questions — that has led to the currently fashionable views that performatives are some kind of indirect speech act where the supposedly non-literal performative is somehow derived from the literal assertion by Gricean mechanisms. On my view, the performative utterance is literal. The speaker utters the sentence and means it literally. If the boss says to me, “I hereby order you to leave the room,” I don’t have to *infer* that he has made an order, nor do I think that he hasn’t quite said exactly what he meant. It is not at all like, “Would you mind leaving the room?” said as an order to leave.

The apparatus necessary for answering these questions includes at least the following three elements:

First, we need to recognize that there is a class of actions where the manifestation of the intention to perform the action, in an appropriate context, is sufficient for the performance of the action.

Second, we need to recognize the existence of a class of verbs which contain the notion of intention as part of their meaning. To say that a person performed the act named by the verb implies that he or she did it intentionally, that if it wasn’t intentional, then the agent didn’t do it under that description. Illocutionary verbs characteristically have this feature. I cannot, e.g., promise unintentionally. If I didn’t intend it as a promise, then it wasn’t a promise.

Third, we need to recognize the existence of a class of literal utterances which are self referential in a special way, they are not only *about* themselves, but they also operate on themselves. They are both *self-referential* and *executive*.

Now if you put all these three together you can begin to see how performative sentences can be uttered as linguistic declarations. The first step is to see that for any type of action you can perform, the question naturally arises: how do you do it? By what means do you do it? For some actions you can do it solely by manifesting the intention to do it, and in general speech acts fall within this

class. Typically we perform a type of illocutionary act by uttering a type of sentence that encodes the intention to perform an act of that type, e.g., we perform directive speech acts by uttering sentences in the imperative mood. But another way to manifest the intention to perform an illocutionary act is to utter a performative sentence. Such sentences are self-referential and their meaning encodes the intention to perform the act named in the sentence by the utterance of that very sentence. Such a sentence is “I hereby order you to leave.” And an utterance of such a sentence functions as a performative, and hence as a declaration because (a) the verb “order” is an intentional verb, (b) ordering is something you can do by manifesting the intention to do it, and (c) the utterance is both self-referential and executive, as indicated by the word “hereby” in a way that I will now explain.

Normally it is a bit pompous to stick in “hereby.” It is sufficient to say “I order you ...” or even “That’s an order.” Such sentences can be used either just to make assertions or as performatives, without being ambiguous. The sentence uttered as an assertion and uttered as a performative mean exactly the same thing. Nonetheless, when they are uttered as performatives the speaker’s intention is different from when uttered as assertives. Performative speaker meaning includes sentence meaning but goes beyond it. In the case of the performative utterance, the intention is that the utterance should constitute the performance of the act named by the verb. The word “hereby” makes this explicit, and with the addition of this word, sentence meaning and performative speaker meaning coincide. The “here” part is the self referential part. The “by” part is the executive part. To put it crudely, the whole expression means “by-this-here-very-utterance,” Thus, if I say, “I hereby order you to leave the room,” the whole thing means, “By this here very utterance I make it the case that I order you to leave the room.” And it is possible to succeed in making it the case just by saying so, because, to repeat, the utterance is a manifestation (and not just a description or expression) of the intention to order you to leave the room, by making that very utterance. The whole thing implies, “This very utterance is intended as an order to you to leave the room” where that implication is to be taken not just as the description of an intention but as its manifestation. And the manifestation of that intention, as we have seen, is sufficient for its being an order.

It is perhaps important to emphasize again a point I made earlier, namely, that the self-referential assertive intention is not enough to do the job. Just intending to assert that the utterance is an order or even that it is intended as an

order doesn't guarantee the intention to issue an order. But intending that the utterance *make it the case* that it is an order is sufficient to guarantee the intention to issue an order. *And that intention can be encoded in the meaning of a sentence when the sentence encodes executive self-referentiality over an intentional verb.*

To show how the analysis works in more detail, let us go through a derivation from the hearer's point of view. We should *en passant* be able to show how the utterance of a performative sentence constitutes both a declaration and, by derivation, an assertion.

- (1) S uttered the sentence "I hereby order you to leave" (or he uttered "I order you to leave" meaning "I hereby order you to leave").
- (2) The literal meaning of the utterance is such that by that very utterance the speaker intends to make it the case that he orders me to leave.
- (3) Therefore, in making the utterance S *manifested an intention* to make it the case by that utterance that he ordered me to leave.
- (4) Therefore, in making the utterance S manifested an intention to *order* me to leave by that very utterance.
- (5) Orders are a class of actions where the manifestation of the intention to perform the action is sufficient for its performance, given that certain other conditions are satisfied.
- (6) We assume those other conditions are satisfied.
- (7) S ordered me to leave, by that utterance.
- (8) S both said that he ordered me to leave and made it the case that he ordered me to leave. Therefore he made a true statement.

This last step explains how the performative utterance can also be a true statement: Declarations, by definition, make their propositional content true. That's what a successful declaration is. It is an utterance that changes the world in such a way as to bring about the truth of its propositional content. If I say "The meeting is adjourned," and succeed in my declaration, then I make it the case that what I said is true; similarly with "I order you to leave the room." But it is important to emphasize, contrary to the hypothesis that I considered earlier, that the truth of the statement derives from the declarational character of the utterance and not conversely. In the case of performative utterances, the assertion is derived from the declaration and not the declaration from the assertion.

Now this whole analysis has a somewhat surprising result. If we ask what

are the special semantic properties of performativity within the class of intentional verbs which enable a subclass of them to function as performative verbs; the answer seems to be, roughly speaking, there are none. If God decides to fry an egg by saying "I hereby fry an egg," or to fix the roof by saying "I hereby fix the roof," He is not misusing English. It is just a fact about how the world works, and not part of the semantics of English verbs, that we humans are unable to perform these acts by declaration. But there is nothing in the semantics of such verbs that prevents us from intending them performatively; it is just a fact of nature that it won't work. If I now say, "I hereby end all wars and produce the eternal happiness of mankind," my attempted declaration will fail, but my failure is not due to semantic limitations. It is due to the facts of nature that in real life, performatives are restricted to those verbs which name actions where the manifestation of the intention is constitutive of the action, and (religious and supernatural cases apart) those verbs are confined to linguistic and institutional declarations.

There are a number of semantic features which block a performative occurrence. So for example, famously, "hint," "insinuate," and "boast" cannot be used performatively, because they imply that the act was performed in a way that was not explicit and overt, and performative utterances are completely explicit and overt. But there is no special *semantic* property of performativity which attaches to verbs and thereby *enables* them to be used performatively. As far as the literal meaning of the verb is concerned, unless there is some sort of block, any verb that describes an intentional action could be used performatively. There is nothing linguistically wrong with the utterance. "I hereby make it the case that all swans are purple." The limitation, to repeat, is not in the semantics, it is in the world. Similarly with the perlocutionary verbs. What is wrong with "I hereby convince (persuade, annoy, amuse, etc.) you" is not their semantics but their presumption. The limitation on performatives is provided by the fact that only a very tiny number of changes can be brought about in the world solely by saying that one is making those changes by that very utterance. For nonsupernaturally endowed human beings,<sup>11</sup> these fall into two classes: the creation of purely linguistic institutional facts — such as those created by saying. "I hereby promise to come and see you," "I order you to leave the room," etc. — and extra-linguistic institutional facts — such as, "The meeting is adjourned," "I pronounce you husband and wife," etc. But the special semantic property of performativity simply dissolves. There is nothing there. What we find instead are human conventions, rules, and institutions that enable certain utterances to

function to create the state of affairs represented in the propositional content of the utterance. These new facts are essentially social and the act of creating them can succeed only if there is successful communication between speaker and hearer. Thus the connection between the literal meaning of the sentence uttered and the institutional fact created by its utterance. “I promise” creates it promise; “The meeting is adjourned” creates an adjournment.

## 8. Summary and conclusion

The analysis I am proposing runs dead counter to most of the current ways of thinking about this issue and counter to the view I myself held until recently, so it is perhaps useful to summarize the argument so far.

Our problem is to explain how the literal utterance of certain ordinary indicative sentences can constitute, and not merely describe, the acts, named by the main verb (or some other performative expression) in that very sentence. It turns out under investigation that that question is the same question as how the literal utterance of these sentences can necessarily manifest the intention to perform those acts; since we discovered for such acts, the manifestation of the intention is constitutive of the performance. So our puzzle was: how can the literal utterance of “I hereby order you to leave the room” constitute an order as much as the literal utterance of “Leave the room” constitutes a directive in general, when the first is obviously an ordinary indicative sentence, apparently purporting to describe some behavior on the part of the speaker?

We found that it was impossible to derive the performative from the assertion because the assertion by itself wasn’t sufficient to guarantee the presence of the intention in question. The difference between the assertion that you promise and the making of a promise is that in the making of a promise you have to intend your utterance as a promise, and there is no way that an assertion by itself can guarantee the presence of that intention. The solution to the problem came when we saw that the self-guaranteeing character of these actions derives from the fact that not only are these utterances self-referential, but they are self-referential to a verb which contains the notion of an intention as part of its meaning, and the acts in question can be performed by manifesting the intention to perform them. You can perform any of these acts by an utterance because the utterance can be the manifestation (and not just a commitment to the existence) of the relevant intention. But you can, further-



more, perform them by a performative utterance because the performative utterance is self-referential to a verb which contains the notion of the intention which is being manifested in that very utterance. The literal utterance of “I hereby order you to leave” is — in virtue of its literal meaning — a manifestation of the intention to order you to leave. And this in turn explains why as far as illocutionary force is concerned the speaker cannot lie or be mistaken: assuming the other conditions on the speech act are satisfied, if he intends his utterance to have the force of an order, then it has that force; because the manifested intention is constitutive of that force.

I have so far tried to give an account which will satisfy all but one of our conditions of adequacy, i.e. to show:

- (1) How performative utterances can be performances of the act named by the performative verb.
- (2) How they are self guaranteeing in the sense explained.
- (3) How they have features (1) and (2) in virtue of their literal meaning.
- (4) Why they characteristically take “hereby.”
- (5) How they can achieve all of this without being ambiguous between a performative and a non-performative sense.
- (6) How they work without being indirect speech acts.
- (7) How it is that they can be statements with truth values. It remains only to answer:
- (8) Why do they take that peculiar tense, the dramatic present?

This tense is used to mark events which are, so to speak, to be construed as instantaneous with the utterance. Thus, the chemistry professor says while giving the demonstration,

I pour the sulphuric acid into the test tube. I then add five grams of pure carbon. I heat the resulting mixture over the Bunsen burner.

In these cases, the sentence describes an event that is simultaneous with its utterance, and for that reason Julian Boyd (in conversation) calls this tense “the present present.” Similarly, though less obviously, with the written text of a play. We are to think of sentences such as, “John sits,” or “Sally raises the glass to her lips,” not as reporting a previously occurring set of events nor as predicting what will happen on the stage, but as providing an isomorphic model, a kind of linguistic mirror of a sequence of events. Now, because the performative utterance is both self-referential and executive, the present present is ideally suited to it. “I promise to come and see you” marks an event

which is right then and there, simultaneous with the utterance, because the event is achieved by way of making the utterance.

Our analysis had two unexpected consequences, or at least consequences that run counter to the current ways of thinking about these matters. First, most contemporary analyses try to derive the performative from the assertion; but on my proposal, the performative, the declaration, is primary; the assertion is derived. Secondly, it turns out that there is no such thing as a semantic property which defines performative verbs. Unless there is some special feature of the verb which implies nonperformativity (as with “hint,” “insinuate” and “boast”) any verb at all which names an intentional action could be uttered performatively. The limitations on the class that determine which will succeed and which will fail derive from facts about how the world works, not from the meanings of the verbs.

If one looks at the literature on this subject, one finds two apparently absolutely inconsistent and firmly held sets of linguistic intuitions. One set, exemplified powerfully by Austin (1962a), insists roundly that performatives are not statements, but rather, performances of some other kind. Another set insists, equally roundly, that all performatives are obviously statements. One of my aims has been to show the truth in both of these intuitions. Austin was surely right in thinking that the primary purpose of saying, “I promise to come and see you” is not to make a statement or a description, but to make a promise. His critics are surely right in claiming that, all the same, when one says, “I promise to come and see you.” one does make a statement. What my argument attempts to show is how the statement is derivative from the promise and not conversely.

## Acknowledgments

An earlier version of this paper was delivered as a forum address to the Linguistics Society of America Summer Institute at Stanford, 1987. I am indebted to several people for helpful comments and criticism, and I especially want to thank J. Boyd. Y. Matsumoto, T.B. Nguyen, D. Searle and E. Sweetser.

There is now a vast literature on the subject of performatives, and I am, of course, indebted to the authors whose works I have read. Specifically, I wish to acknowledge my indebtedness to J. Austin, K. Bach, M. Bierwisch, C. Ginet, R. Harnish, I. Hedenius, J. Lemmon, J. McCawley, F. Récanati, J. Sadock, J. Urmson, and G. Warnock. (See bibliography). Reprinted with kind permission from *Linguistics and Philosophy* 12: 535–558, 1989. ©1989 Kluwer Academic Publishers.



## Chapter 5

# Possible Directions of Fit between Mind, Language and the World<sup>1</sup>

Candida Jaci de Sousa Melo  
*Université du Québec, Trois-Rivières*

Throughout this century, there have been many developments in the philosophy of mind and language. Certain recent philosophical theories dealing with intentionality and speech acts have given rise to discoveries that have influenced other disciplines such as psychology, the cognitive sciences, and linguistics among others. I am referring to works by J.L. Austin, Paul Grice, John Searle and Daniel Vanderveken,<sup>2</sup> who have clarified the nature of the relationship between the mind, language and the world by contributing to the theory of meaning.

Language is the means *par excellence* of expressing and communicating our conceptual thoughts. In the philosophical tradition, conceptual thoughts are thoughts that are a representation of facts (states of affairs, events, actions). As Descartes (1953[1649], 6th Meditation) pointed out, they are different from non conceptual thoughts, such as perception and imagination, which are rather a more direct and immediate sensorial presentation of facts. In the philosophy of the mind, two fundamental types of conceptual thoughts are differentiated: mental acts and states. The first are intentional actions (private or public) accomplished consciously by human agents. In thinking, we perform mental acts: we make judgments, attempts, commitments, definitions, we express emotions, and so on. Verbally, we perform speech acts, described as *illocutionary* by Austin, such as assertions, promises, orders, declarations, congratulations, etc. On the other hand, the beliefs, desires, wishes, intentions,

knowledge, regrets, sadness, joys that Descartes referred to as the *passions of the soul* (1953) and that we, like Russell, call *propositional attitudes* (Russell 1976) are not actions that we perform but rather mental states that we have. Contrary to acts of thought, these attitudes can be unconscious as well as conscious. Searle makes the distinction between the two types of conceptual thought in *Intentionality*:

Some authors describe beliefs, fears, hopes, and desires, 'mental acts', but this is at best false and at worst hopelessly confused. Drinking beer and writing books can be described as acts or actions or even activities, and doing arithmetic in your head or forming mental images of the Golden Gate Bridge are mental acts; but believing, hoping, fearing, and desiring are not mental acts at all. Acts are things one does, there is no answer to the question, "What are you doing now?" which goes, "I am now believing it will rain", or "hoping that taxes will be lowered", or "fearing a fall in the interest rate", or "desiring to go to the movies". The Intentional states and events we will be considering are precisely that: states and events: they are not mental acts, ... (1983: 3)

The two types of conceptual thought are logically linked. In fact, the expression of mental states is part of accomplishing any type of conceptual thought whether private or public. For example, we express beliefs by making judgments and assertions; we express intentions by making attempts and promises; we express desires by making requests. Furthermore, according to Searle's principle of expressibility, every propositional attitude that we may have concerning a fact can be expressed in the performance of an illocutionary act.

The mind is directed towards the world. In particular, conceptual thoughts are directed towards objects and facts of the world represented by their propositional content. So they have *conditions of satisfaction*. Thus judgments and assertions are satisfied when they are true, intentions when they are executed, promises when they are kept, desires when they are realised and demands when they are met. For there to be satisfaction, it is not sufficient for there to be correspondence between the mind and the world and that things in the world be as the mind thinks they are. The correspondence must also be established according to the appropriate direction of fit. According to Searle, there are four possible directions of fit between language and the world: one that goes from words to things (particular to assertions), one that goes from things to words (particular to promises and orders), a double direction of fit (particular to illocutionary acts of declaration) and the last null or empty (particular to congratulations, thanks, etc.). On the other hand, according to him, there can

only be three possible directions of fit between the mind and the world: the first, that goes from the mind to things (particular to beliefs), the second, that goes from things to the mind (particular to intentions and desires) and the third, null (particular to sadness and joys).

The main aim of this work is to enrich the typology of the directions of fit between the mind and the world. I will defend the existence of a double direction of fit between the mind and things. Searle deals mainly with mental states and very little with the non-verbal acts of conceptual thought in *Intentionality*. I believe, like him, that there are no attitudes that have a double direction of fit. On the other hand, I think that there exist acts of conceptual thought that have a double direction of fit starting with illocutionary acts of declaration such as inaugurations, appointments, decrees, benedictions, confirmations, definitions, stipulations and sanctions that we perform when we use language. Since illocutionary acts are conceptual acts of thought, when we perform them we think. Furthermore, we can also in thinking make mental declarations without using public language. It sometimes happens, for example, that we name, define, and establish classifications without uttering a word. In my view, we must enrich the classification of mental acts of thought (verbal and non-verbal) by recognizing four directions of fit. I believe this to be very important, since it is the four possible directions of fit between the mind and things that are the basis of the four possible directions of fit between words and things in the theory of speech acts. My view reinforces the Searlian thesis that the philosophy of the mind is the basis of the philosophy of language. Moreover, it facilitates the transcendental deduction of the five illocutionary points of the theory of speech acts.

One of the most general theses of the philosophy of the mind is that the mind is turned towards the world. According to phenomenologists like Brentano (1924) and Husserl (1959[1913]), intentionality is an inherent property that the mind uses to interact with reality. All conceptual thoughts are intentional. Initially, attitudes are intentional states directed towards objects and facts represented according to certain psychological modes. Each propositional attitude has a psychological mode and a propositional content representing a fact. Therefore, when an agent believes, he is directed towards a fact represented under the mode of belief. When he desires something, he is directed towards a fact under the mode of desire. It is the same for the other attitudes.

Every conceptual thought also contains intentionality. At the moment of their performance, the agent links the propositional content to the world with a

mental *force*<sup>3</sup> that is illocutionary in the verbal case. The agent tries to establish a correspondence between what he thinks and the world according to the direction of fit determined by the force. For example, when an agent makes a judgment or an assertion, he links their propositional content to the world with a force that has a direction of fit from the mind to things. He represents a fact as existing in the world. When he makes an engagement or a request, he links the propositional content to the world with a force that has a direction of fit from things to the mind. He expects an action to be performed in the world.

In his book *Expression and Meaning*, Searle establishes his typology of the possible directions of fit between words and things by presenting illocutionary points. In his opinion, there are a limited number of illocutionary points that an agent may wish to achieve on propositions in the performance of an illocutionary act: the assertive, commissive, directive, declaratory and expressive points. When using language, we can only link propositional content to the world in five different ways: assertive, commissive, directive, declaratory and expressive.

*The assertive point* is to represent how things are in the world.

*The commissive point* is to commit oneself to carrying out a future action in the world.

*The directive point* is to try to get someone to act in the world.

*The declaratory point* is to perform an action in the world by saying that we are doing it.

According to Austin (1956), the agent in this case does things with words.

*The expressive point* is to express attitudes concerning supposedly existing facts in the world.

Illocutionary points are clearly goals of the mind. When we perform an illocutionary act we have in mind the conditions by which this act will be satisfied. If we are sincere, we want it to be so. The illocutionary point aimed at determines from which direction of fit there must be correspondence between the mind and the world, on the one hand, and between language and the world, on the other hand. The four possible directions of fit between language and the world are the following:

1. *The words-to-world direction of fit.* In this case, the propositional content of the illocutionary act must correspond to a fact (state of affairs, event or action) that exists in the world for it to be satisfied. The assertive illocu-

tionary point has the words-to-things direction of fit. Thus assertions, predictions, conjectures, which have the assertive point, are satisfied when they are true. And they are true when the fact that they represent exists in the world.

2. *The world-to-words direction of fit.* In this case, the world must be transformed to correspond to the propositional content of the illocutionary act for the latter to be satisfied. The commissive and directive illocutionary points have this world-to-words direction of fit. They assign to the speaker and the hearer the role of acting in the world in order to make the propositional content true. In the case of commissive forces such as, promises, vows, and oaths, the world must be transformed by the speaker's future action. Thus a promise is satisfied when it is kept. In the case of directive forces, such as orders, commands, and requests, the world must become transformed by the hearer's future action. A request is satisfied when it is granted and an order when it is obeyed. However, in both cases, satisfaction requires more than the performance of the action represented by the propositional content. It requires that the speaker, in the case of acts of commitment, perform the action with the intention of keeping the commitment. It also requires that the interlocutor, in the case of directive acts, perform the action with the intention of conforming to the directive. Thus commissive and directive acts are satisfied when and only when the speaker and the interlocutor act in the world with the intention of complying with these acts.
3. *The double direction of fit.* In this case, for there to be satisfaction, the speaker must transform the world by performing the action that he says he is performing by the simple act of saying it. The declaratory illocutionary point has the double direction of fit. So, condemnations, blessings, nominations, dismissals, authorizations which have the declaratory point are satisfied when the speaker performs the action that he says that he is doing by virtue of his utterance. For example, an appointment is satisfied when the speaker gives to someone a certain position or status by declaration. The declaratory illocutionary acts, therefore, have the simplest directions of fit, from words to things and from things to words. They are satisfied when they are performed with success.
4. *The empty direction of fit.* The expressive illocutionary point has this empty direction of fit. An agent who performs an expressive act does not want to establish correspondence; he simply wants to express the mental



state inspired by the fact represented by the propositional content. Thus, apologies, congratulations, thanks, lamentations, and greetings, which are expressive acts, have the sole goal of expressing respectively, regret, contentment, gratitude, sorrow, and joy. There is no question here of success or failure of fit. This is why these acts do not really have conditions of satisfaction. They are either appropriate or not. They are inappropriate when the fact spoken of by the speaker does not exist in the world, or when the mode of the mental state expressed is not at all appropriate for this fact.

In *Intentionality* (1983: 6–7), Searle intends to base the theory of speech acts in the philosophy of the mind. According to the philosophers of this theory, speaking is thinking. In *Meaning and Speech Acts*, Daniel Vanderveken says so explicitly: “Before being the primary units of meaning in the use of natural languages and other semiotic *systems*, illocutionary acts are also primary *units of conceptual thought*” (1990: 56). Illocutionary acts are acts of thought. If there are in fact illocutionary acts that have the double direction of fit between words and things then by this very fact there are mental acts having a double direction of fit between the mind and the world. Such are the illocutionary acts of declaration. In this case, the mind brings about what it thinks by the simple manifestation of the intention of bringing it about. Many declarations such as nominations, baptisms, dismissals, condemnations and marriages are dependent on social institutions. To perform them, the agent must publicly address others by using language according to certain rules in certain social situations. Moreover, he must have the required status in the social institution concerned. For example, in our society only a qualified judge can condemn a person to prison. Only an official person like a priest or a judge can marry. Searle (1989) calls such declarations *extra-linguistic declarations*: they bring about non linguistic facts.

However, there exist declarations that the speakers are able to make by virtue of their linguistic competence. These are what he calls *linguistic declarations* which bring about linguistic facts such as promises, orders, requests, assertions made by declarations in performative utterances. The mind has the power to make only by thinking, without having to speak to anyone some of these linguistic declarations. It is part of the nature of the human mind to be creative. Nothing prevents us, for example, from enriching by declaration the mental ‘language of our thought’ (Fodor 1975) by giving a certain name to a new object, a certain definition to a new concept or a meaning to a new

symbol. In doing this, we create by thinking new appellations, new concepts, and new symbols in an inner discourse. Such mental declarations are acts of the mind that have a double direction of fit. In this case, the mind does what it thinks it is doing simply by thinking. Of course, each time an agent's mind links a propositional content to the world with a mental force, the world is transformed, because the agent performs a mental act. All performed mental actions are facts in the world. What is added, in the case of mental declarations, is that the agent thinks that he is performing an action and especially that he performs this represented action by the simple act of forming the intention of performing it. We could call such declarations purely *mental declarations* in the sense that they bring about mental facts. In this case, to paraphrase Austin, the mind accomplishes things with thoughts. Conclusion: there are definitely four possible directions between the mind and the world, just as there are four possible directions of fit between language and the world.

Searle, in his Intentionality theory, considers only three directions of fit between the mind and the world. I propose to add *the double direction of fit between the mind and the world* to his classification and also to attribute directions of fit to all acts of conceptual thought (verbal and non-verbal), as well as to attitudes. The following is the result of my reflection. The four directions of fit between the mind and the world are:

1. *The mind-to-things direction of fit.* Beliefs, judgments and assertions have the mind-to-things direction of fit. In this case, the mind must think things as they are in the world in order that the conceptual thought be satisfied. Therefore, beliefs, judgments and assertions are satisfied when they are true.
2. *The things-to-mind direction of fit.* Desires and intentions, attempts to perform illocutionary acts, engagements (such as promises) and directives (such as orders) have the things-to-mind direction of fit. In this case, for there to be satisfaction, the things of the world must become as the mind thinks of them. Thus desires are satisfied when they are realized; intentions when they are carried out, attempts when they cause the attempted action. In the same way, promises when they are kept and orders when they are obeyed. The satisfaction of conceptual thoughts with the things-to-mind direction of fit requires more than correspondence. For example, to satisfy my intention of doing something, it is not sufficient that I do it later; I must do it with the intention of carrying out this intention. (If someone forces me against my will to do it, I am not

carrying out this intention.) Therefore, it is part of the conditions of satisfaction of thoughts with the direction of fit of things to the mind that they be the cause of their own satisfaction. This is why they have self referential conditions of satisfaction.

3. *The double direction of fit between the mind and things.* I believe, like Searle, that there are no attitudes that have a double direction of fit. On the other hand, there are non verbal mental acts of declaration that the mind is capable of performing by virtue of its capacity of symbolizing. The faculty of language is unique to human beings. They can, if need be, create their own private language or enrich the expressive possibilities of public languages by conducting a declaratory discourse. For example, we can, without saying a word, name, define, abbreviate and symbolize. As D. Vanderveken (1997c) remarked, theoretical discourses, be they private or public, contain declarations, such as the creation of symbols, abbreviations, definitions, and classifications. One cannot generate ideographies and make nomenclatures and axiomatizations without making declarations. We can also create new games by drawing up their constitutive rules. Finally, we can create institutional facts by declaration such as, money, justice, marriage, the church, government, and so on. This is the reason why language is, as Searle has underlined (1998, last section), the most important of all human institutions. First of all, its existence does not depend on other social institutions. Its symbolic character is indispensable to the creation of institutional facts. We are able to attribute to objects and physical entities, statutes and functions that they do not possess intrinsically. We are able to do this because of our capacity to symbolize and to make declarations. As I have argued, some of these declarations are purely mental.
4. *The empty direction of fit.* Pleasures and sadness, mental acts that express feelings, illocutionary expressive acts have this direction of fit. In this case, the mind does not wish to establish a correspondence between what it thinks and the world. It simply feels or expresses emotions or feelings that are appropriate or not.

Table 1 illustrates my reflexions.

Table 1

<i>Direction of fit</i>	<i>Non-verbal mental acts</i>	<i>Illocutionary Acts</i>	<i>Propositional Attitudes</i>
<u>Mind-world</u>	judgments	assertive illocutions	beliefs
<u>World-mind</u>	commitments and attempts directed towards the agent himself	commissive and directive illocutions	intentions, desires, etc.
<u>Double</u>	mental declarations: (abbreviations, names, definitions, classifications, etc.)	declarations (marriage, testaments, appointments, resignations, benedictions, etc.)	-----
<u>Empty</u>	expression of feelings: crying (sadness), congratulations, greetings)	expressives thanks	sorrow, pleasure, smiling(joy), etc.

In his writings, Searle adopts an evolutionist approach to the mind. In his opinion, intentionality is a natural pre-linguistic property that develops as the organism evolves. Human infants only have very primitive forms of intentionality. For example, they are hungry, thirsty and have pain that they express notably by crying. Like certain psycholinguists, Searle states that the development of intentionality is linked to the development of language. As children develop verbally, they are ready to develop other mental capabilities. As such, the learning of language is a necessary stage in the evolution of the mind. In learning language, they not only learn to express pre-linguistic thoughts by performing illocutionary acts but they especially learn to have more sophisticated thoughts. They learn, therefore, to structure the world they have experienced and to reason. In so doing they develop other types of intentionality that are much more complex. The evolutionist thesis does not limit itself to the notion that we need words to express our thoughts. But that language is also a means that the mind possesses to perfect (and have evolve) its mental capabilities. The mental evolution of human beings is the result of an interactive relationship between the mind and language.



## Part II

# Discourse and Interlocution



## Chapter 6

# Speech Acts and the logic of mutual understanding

Alain Trognon

*Laboratoire de Psychologie de l'Interaction (GRC)  
Université de Nancy 2*

### 1. Introduction

In recent work, David Good (1990: 143–144) writes that:

writers such as Sperber and Wilson place great emphasis on the internal cognitive aspects of utterance interpretation and pay little attention to the external interactional aspects. Clearly, though, context may be found as much through the latter route as through the former, and both are undoubtedly important in the communicative process. (...) Thus the interactional and intellectual demands would be reconciled. How these internal and external strategies relate to one another is obviously an open matter, but it would not be too unrealistic to suggest that through the acquisition process children learn about the creation of frameworks for interpretation and how to create them by being participants in conversations where these things are done externally.

Science could benefit a great deal from the option David Good suggests, as it may lead to models of mutual understanding that are less speculative, more parsimonious and descriptively more adequate than those habitually found in cognitive psychology. Indeed,

if we focus only on those internal processes, this may lead us to radically overestimate the scale of the problem which faces the hearer as a real-time participant in a dialogue. This may only mean that we propose a larger or



more powerful processor than is actually required, and not that we make some fundamental error in our description of its characteristics. However, the history of cognitive psychology and related disciplines is replete with examples of lines of enquiry where this kind of over-estimation has arisen. As a result, fundamentally different types of process have been proposed to solve problems which in practice do not exist. This was a recurrent theme in a number of the early attempts at simulating cognitive processes such as vision and problem solving. There is no reason why an incomplete or incorrect specification of the task which confronts some cognitive system designed for utterance interpretation should not suffer the same difficulty (ibidem: 144).

We will first describe this interactional process of mutual understanding *to show that it relies on semantic properties of speech acts*.

## 2. The interactional process of mutual understanding

### 2.1 *Mutual understanding as an interactive event*

In Conversational Analysis and more generally in Ethnomethodology, researchers have pointed out that mutual understanding was less a result of internal thinking processes than an exteriorized activity exploiting the “objective” properties of the interaction as resources for solving the problem of mutual understanding.

Since Garfinkel (1967) ethnomethodologist’s researchers have studied common sense reasoning used by members of a society to produce and make intelligible courses of action in which they are engaged. Understanding *how* social actors achieve a common, shared and intersubjective apprehension of the social world in which they live, that is the goal of Ethnomethodology :

an approach to investigating the normative structures of reasoning which are involved in understanding and producing courses of intelligible interaction. The objective is to describe the procedures by which speakers produce their own behaviour and understand and deal with the behaviour of others. (Heritage 1990: 27).

The answer that ethnomethodologists provide to the preceding question is that mutual intelligibility of behaviors is based on the fact that members of a community can use a set of reasoning methods which are tacit, presumed but nevertheless organized and socially shared.

Every topic of logic, order, reason, meaning, and method is to be discovered and is discoverable, and is respecified and respecifiable only as locally produced, naturally accountable phenomena of order. These phenomena are immortal, ordinary society's commonplace, vulgar, familiar, unavoidable irremediable and uninteresting "work of the streets" (Garfinkel 1990: 77).

These methods or "ethnomethods" have all the following properties. (1) They are fundamentally normative. (2) "Shared methods of reasoning are publicly available on the surface of social life because the results of their application are inscribed in the social action and interaction" (Heritage 1990: 26). (3) They are indissociable processes of reasoning and organized performances of the action (Garfinkel 1967); that is to say, they constitute embodied reasoning, or even better said *enacted* reasoning, therefore observable, or "accountable" to cite what Garfinkel nicely said. Consequently:

The central resource for analysis is interaction itself. Interaction forms such a resource because during its course the parties, whether intentionally or not, implicitly display their understanding and analysis of what is happening as it happens. They do this through the production of their own actions. CA represents the development of an analytic technology that capitalises on this fact. (...) Generically, CA is concerned with the study of the sequential organisation of interaction and of the reasoning that is inherently embedded within it (Heritage 1990: 27).

## 2.2 *The role of the sequential structure of interaction*

Here, the sequential organization of interaction plays an eminent role. As Heritage also wrote :

The relationship between actions in sequence thus provides an interpretive resource for both participants and for those who are concerned with the scientific analysis of interaction, because each action in a sequence inherently embodies and displays its producer's interpretation of the prior actions in the sequence (ibidem: 28).

Moreover, Sacks, in his readings, writes that in a dialogue "succession is interpreted as bringing into relationship" and adds that "the adjacent pairs constitute the institutional — namely formal — means of exploiting the relational power of adjacency". Consequently, given a sequence (ai, aj) the fact that aj belongs to an adjacent pair determines its interpretation and retroactively, the interpretation of the element ai which it succeeds. Suppose aj is an excuse. As excuses belong to pairs (reproach, (excuse or demand to

forget or justification or challenge)), the excuse will “interpret” *ai* as a re-proach. Suppose that *ai* is an acceptance. As acceptances belong to pairs (offers, (acceptance or refusals)), *ai* would retroactively be interpreted as an offer. This is exactly the reasoning proposed by Heritage(1990: 28) in the following examples.

a speaker responds to a question:

- (1) B: Why don't you come and *see* me some times ?  
A: I would like to.

Here A's response, in being shaped as an “acceptance”, treats B's initial question as an *invitation* geared to the *future* and this treatment is available both to B and to us (the analysts). However, suppose that A had responded as follow:

- (2) (variation invented from (1))  
B : Why don't you see me some times ?  
A: I'm sorry, I've been terribly tied up lately.

Given that this response takes the form of an “apology”, it would be clear to B (and to the analysts) that A had understood B's question as a *complaint* directed at A's conduct in the past. The relationship between actions in sequence thus provides an interpretive resource for both participants and for those who are concerned with the scientific analysis of interaction, because each action in a sequenced inherently embodies and displays its producer's interpretation of the prior actions in the sequence.

According to the preceding idea, mutual understanding would thus rely upon the knowledge that participants have of adjacent pairs. From our point of view, the idea is not incorrect but is superficial, as we can easily see when looking back at example 1 mentioned above. As a matter of fact, it is necessary to suppose that A's answer must be assumed to be an acceptance, so that, as acceptances belong to pairs (offers, acceptance), acceptance “interprets” the action which precedes it as an offer. However, nothing within the structure of the reply indicates that it is an acceptance. In other words, it is necessary to search for something more profound in this reply, which would be likely to support his interpretation as an acceptance.

As matters stand, Conversational Analysis provides no help because in its

principle, it cannot consider other events than those empirically given by the sequence.

Indeed, three theses govern the ethnomethodological problematics. The first one favors an inductive approach. The steps of this approach are the following: 1) The largest data base is chosen. 2) The regularities which structure the data and the types of problems that the interactants attempt to solve using these regularities are brought forward. 3) We investigate in what way they are methodically produced and in what way the participants are oriented towards them as a normative organization of action. In this respect, deviant cases are particularly enlightening as they provide a means to observe how the participants orient their actions when there is a lack of regularity. 4) Finally, we show in what way a certain organization supports the production and the reasoning concerning a social action. "Beyond this point, there is the theoretical task of specifying the role which the organization that has been discovered plays in the communicative and social matrix of interaction" (Heritage 1990: 30). The second thesis imposes that the inductively revealed categories are those which the interactants concretely appropriate during their interaction:

The movement arose in reaction (...) [against] the arbitrary imposition on the data of supposedly objective categories (...). In contrast, it was argued cogently, the proper object of sociological study is the set of techniques that the members of a society themselves utilise to interpret and act within their own social world (...). Out of this background comes a healthy suspicion of premature theorising and ad-hoc analytical categories: as far as possible, the categories of analysis should be those that participants themselves can be shown to utilise in making sense of interaction; unmotivated theoretical constructs and unsubstantiated intuitions are all to be avoided. In practice this results in a strict and parsimonious structuralism and a theoretical asceticism. The emphasis is on the data and the patterns recurrently displayed therein (Levinson 1983: 295).

Finally the third thesis prohibits the introduction of categories of analysis external to the analysis situation. These theses are all pertinent to the extent that they protect us from the importation of categories of analysis (Levinson 1983) which would not be empirically motivated. However, the last thesis is too strong: on the one hand, theoretically, because it is possible that the activities performed in *situ* by the interactants fulfill formal properties described outside this context and on the other hand, empirically, because in the previous case the last thesis prohibits an empirically motivated analysis of the interactive activities performed by the interactants.

### 3. Semantic properties of speech acts explain the role of sequencing in the process of mutual understanding

Searle (1992: 8) rightly notes

in a dialogue or a conversation, each speech act creates a space of possibilities of appropriate response speech acts. Just as a move in a game creates a space of possible and appropriate countermoves, so in a conversation, each speech act creates a space of possible and appropriate response speech acts. The beginnings of a theory of the conversational game might be a systematic attempt to account for how particular “moves”, particular illocutionary acts, constrain the scope of possible appropriate responses. *But when we investigate this approach, I believe we will see that we really do not get very far.*

This remark directly contradicts Heritage’s analysis (1990: 31) of example 1 above, as he writes: “In this case the invitation, *which projects an acceptance*, gets a simple unvarnished acceptance. No account is provided for the acceptance. In effect, the acceptance is treated as projected of “provided for” by the invitation”. He adds (note 8 p. 40) that

to avoid any misunderstanding, it is stressed that this is not an assertion about subjective feelings or attitudes. Persons may issue, and recipients may accept, invitations that both parties may “subjectively” wish to avoid giving and receiving. However the *formal act of invitation nonetheless projects the relevance of acceptance.*

Thus, how can the sequential character of conversation be used to define the interlocutionary force of a speech act if the act does not determine the speech acts that can follow it? The solution lies in taking into consideration the semantic properties of speech acts. This is what we shall now demonstrate. First we will carry out an intuitive study of a few examples.

#### 3.1 Intuitive study of a few examples

(Example 3a)

- a1 : There is a draft
- b1 : <b closes the window>
- a2 : Thank you
- b2 : You’re welcome

(Example 3b)

- a1 : There is a draft  
 b1 : The windows aren't double glazed  
 a2 : Oh, they need to be  
 b2 : Well yes

(Example 3c: Trognon and Brassac 1993, Ghiglione and Trognon 1993, Larrue and Trognon 1993)

- a1 : <a makes a gesture with his (her) hand>  
 b1 : Oh yes I'll stop talking (...)  
 a2 : I don't mean to cut you off, but yea... yea... I have a list of friends  
 um...  
 b2 : Oh yes

(Example 4a: Gumperz 1989: 32–33)

- a1 : Do you know where today's newspaper is?  
 b1 : I'll get it  
 a2 : No no, that's fine. Just tell me where it is, I will go and get it  
 b2 : No, I'll go

(Example 4b: Ghiglione and Trognon 1993: 196)

- a1 : "Within the left wing, the forces that have contributed to the electoral success on May 10th want to avoid confronting the Capital because they fear that the working class would play an important role, openly praise class collaboration, seeking to limit popular intervention...;to canalize the struggle...; to weaken our political party...; Who is it ?  
 b1 : It's the Socialist Party... the CFDT...FO for the structured forces ...the ORTF journalists/  
 a2 : I very well know who it is...I didn't expect you to answer me

In exchanges 3a, 3b and 3c, which according to Roulet *et al.* (1985) and Roule(1992) consist of interactionally complete exchanges (characterized by a double agreement) and according to Goffman (1973) of repairing exchanges, the successive actions performed after b1 apparently confirm an interpretation that b1 enacts (Trognon 1991a, 1991b; Trognon and Brassac 1993; Ghiglione and Trognon 1993). The interactants' belief, progressively acquired along this confirmatory activity, can be represented in the following manner, where B is a modal belief indicator, a and b are the speakers, and i is

the illocutionary force of the initial utterance *as it is elaborated in the interaction.*

	Niveaux	a	b
a1	1		
b1	2	BaBb(i)	
a2	3		BbBaBb(i)
b2	4	BaBbBaBb(i)	
	...	...	...

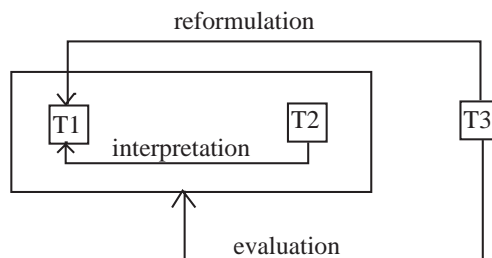
In 4a and 4b, the third phase of the interaction does not confirm the interpretation to which b1 seemed to react. However, the third phase comprises a supplementary element which qualifies in one manner or another the interpretation which a had (or has at the moment of the exchange, namely in the third phase) of the action when he performed during the first exchange phase. Indeed, in 4a, the agent formulates his initial action (*just tell me where it is*) whereas in 4b he denies the intention which was attributed to him by his interlocutor (*I know who it is*). Therefore, in the exchange, those “corrections” now explicitly formulate the interpretation which, according to a, fits his initial action.

3.2 *The conversational mechanism of mutual understanding*

The conversational mechanism of mutual understanding (Trognon and Saint-Dizier 1999) is made up of at least two speakers (L1 and L2), respectively first and second speakers, and three speech turns: T1, T2 and T3, successively distributed in the following manner:

- T1 : L1
- T2 : L2
- T3 : L3

The mechanism is composed of the two relationships organized in the diagram below:



(T1, T2) forms an interpretation relationship. Its second element enacts L2's interpretation of the action performed by L1 in T1. L2 thus makes this interpretation mutually obvious (Sperber and Wilson 1986). For instance, b1 makes it obvious that b interprets a1 as a request in 3a, a remark in 3b, a request in 3c, and as a question in 4b.

((T1, T2), T3) forms an assessment relationship. L2's interpretation of T1 being available to L1 in T2, he can compare it with his own interpretation and enact a ratification (such as a2 in 3a, 3b and 3c) if the two interpretations correspond, that is to say, if L1's interpretation of this initial utterance is equivalent to that enacted by L2 in T2. He can also reformulate T1 (as a2 in 4a and 4b) if the two interpretations diverge, that is to say if L1's interpretation of his initial utterance is not equivalent to that enacted by L2 in T2. However, in both cases, L2's interpretation of T1 has been shared between L1 and L2. L1 knows it in T2 and L2 knows that L1 knows it in T3. In short, as Schegloff (1991: 158) writes:

In turns at talk in ordinary conversation, speakers ordinarily address themselves to prior talk and, most commonly, to immediately preceding talk. In doing so, speakers reveal aspects of their understanding of the prior talk to which their own is addressed. And in doing so, speakers can reveal to speakers of the prior talk understandings that the latter find problematic, that is *misunderstandings*. When this occurs, speakers of the misunderstood talk can undertake to repair the misunderstanding, and this can thus constitute third position repair, repair after an interlocutor's response (second position) has revealed trouble in understanding an earlier turn (*repairable* turn in the first position). The ordinary sequential organization of conversation thus provides for displays of mutual understanding and problems therein, one running basis for the cultivation and grounding of intersubjectivity. Third position repair may be thought of as the last systematically provided opportunity to catch (among other problems) divergent understandings that embody breakdowns of intersubjectivity, that is, trouble in socially shared cognition of the talk and conduct in the interaction.



We shall now investigate the rules that govern the preceding structure.

### 3.3 *The laws governing the conversational mechanism of mutual understanding*

The laws which govern the conversational mechanism of mutual understanding and which belong to speech act semantics are successful performance and satisfaction of speech acts and the logical relationships between these two properties.

#### 3.3.1 *Successful performance and satisfaction of speech acts*

An illocutionary act of the form  $F(P)$  is *performed* in a context of utterance under a semantic interpretation if and only if, in that context, according to the interpretation:

- (1) the speaker *achieves the illocutionary point* of  $F$  on the proposition  $P$  with the *mode of achievement* of  $F$ , and  $P$  satisfies the *propositional content conditions* of  $F$  in that context;
- (2) the speaker moreover *presupposes* the propositions  $h(i, P)$  determined by the *preparatory conditions*  $h$  of  $F$ ; and
- (3) the speaker also *expresses* with the *degree of strength* of  $F$  the mental states of the form  $m(P)$  with the psychological modes  $m$  determined by the *sincerity conditions* of  $F$ . (Vanderveken 1990: 129)

The above conditions are necessary and sufficient conditions for successful performance of an illocutionary act. However a speaker can express a psychological state that he does not have or presupposes a proposition that turns out to be false. These acts are performed but defectively. For example, a lie is a defective assertion. A speaker performs a defective promise if he knows he is not capable of carrying the corresponding action. In this case, the preparatory condition of the promise is not satisfied.

The general notion of *satisfaction* is based on the notion of *correspondence*. Elementary illocutionary acts with a propositional content, like all intentional actions, are *directed* at objects and states of affairs in the world. They are satisfied *only if* their propositional content represents correctly how things are (at certain past, present, or future moments of time or intemporally) in the world. As I pointed out earlier, the existence of a correspondence between the propositional content of an utterance and the world is a necessary, but not always a sufficient, condition for the satisfaction of that utterance. Indeed, in order that a speech act be satisfied, the correspondence between its propositional content and the world must be established following the proper direc-

tion of fit of its illocutionary force. Thus the *conditions of satisfaction* of an elementary illocutionary act of the form  $F(P)$  are a *function* of both the *truth conditions* of its propositional content, and of the *direction of fit* of its illocutionary force (Vanderveken 1990: 132–133).

An illocutionary act is satisfied if and only if 1) its propositional content is true and if 2) it is true according to the direction of fit of its illocutionary force. The second condition is very important as it opposes the satisfaction of assertive acts which depends on the world and not the interlocutors, to the satisfaction of the directive and commissive acts, which is more restrictive, as these acts are satisfied if and only if their propositional contents are true on account of their performances.

### 3.3.2 *From illocutionary to interlocutionary logic*

Explaining why (T1, T2) constitutes an interpretation relationship is equivalent to explaining why T2 “inherently embodies and displays its producer’s interpretation of the prior actions in the sequence”. T2 can be defined in this manner as T2 is an action which creates a state of affairs available to each interactant, and as the state of affairs appears “after” T1, therefore, according to the communication rules (cooperation or pertinence), in response to T1. In General Semantics, T2 can be defined as an action which fulfils the satisfaction conditions of an illocution interpretation of T1. Thus, in 3a, 3c and 4a, b1 satisfies A1 interpreted as a question. It hence seems as if (T1, T2) illustrates the general semantics law according to which “utterances with the world-to-worlds direction of fit cannot be satisfied unless they are also successful” (Vanderveken 1990: 160), applying this law to all speech acts and not only to commissives and performative sentences.

The main consequence of ((T1, T2), T3) is the mutual knowledge of L2’s interpretation of T1. In T2, this interpretation is obvious to L1. In T3, it is obvious to L2 that the interpretation is obvious to L1. Here again, the reasoning that leads to this latter knowledge involves laws of General Semantics. There are two possibilities depending on whether T3 confirms or invalidates L2’s interpretation of T1. 3c illustrates the first possibility. In this example, a1 is mutually seen as a request because a2 explicitly formulates the intention which governs this speech act, using an expression (not x but y) which we shall not discuss here. In illocutionary logic (Searle and Vanderveken 1985), successful performance of an illocution illocutionary engages the speaker to have the intention associated with this illocution. It hence seems as if L1 has

applied the preceding formula in T3 and assuming the successful performance of his initial action, has inferred his engagement to the goal of this action. 4a and 4b illustrate the second possibility. These sequences reveal misunderstandings (Trognon and Saint-Dizier, 1999) as misunderstandings are interlocutory sequences in which L2 and L1's interpretations of the initial utterance of the sequence diverge. In 4a, L2's interpretation is invalidated by means of a complex illocutionary act which is comprised, among other things, of a question (*just tell me where it is*) and a prohibition. What could be L2's reasoning, facing this prohibition. In illocutionary logic, to forbid someone to do something is to order him not to do it. An order not to do P is relatively incompatible with its propositional negation. Thus unless he is not minimally consistent a speaker "cannot perform or even attempt to perform simultaneously two elementary speech acts of the form F1(P) and F2(nonP) with the aim of achieving success of fit between language and the world from a certain direction" (Vanderveken 1990: 141). If L2 rejects the inconsistency hypothesis, his reasoning leads him to understand that the interpretation updated in T2 is not that of L1. In example 4b, the relationships which articulate the properties of speech acts allow L2 to understand that his interpretation is not that of L1. If L1 asks for information, he is engaged to satisfy the point of this illocution. However, he denies this point. Therefore, unless he is inconsistent, he does not ask for information.

## 5. Conclusion

In what conditions can a speaker be certain that what his hearer understands is precisely what he/she (the speaker) wanted him to understand. In the absolute (Lewis 1969, Schiffer 1972), the speaker's intention should be mutual knowledge, that is to say, shared by the interlocutors and known to be shared. The problem is that the hearers can never reach such knowledge, as it is infinite. Therefore, a speaker can never be sure to have been understood. He must lower his expectations and be satisfied with less (Bach and Harnish 1979).

As conversation constitutes a domain for experimenting interpretations, he is however not totally deprived. Clark (1996: 213) recently wrote, in conversation

the notion "what the speaker means" is replaced by "what the speaker is to be taken to mean". The change is small, but radical. The idea is that speakers and

addressees try to create a joint construal of what the speaker is to be taken to mean. Such a construal represents not what the speaker means *per se* — which can change in the very process of communicating — but what the participants *mutually take* the speaker as meaning, what they *deem* the speaker to mean (see Grice 1982). The idea is captured in this principle:

*Principle of joint construal.* For each signal, the speaker and addressees try to create a joint construal of what the speaker is to be taken to mean by it.

By this principle, Kate isn't trying simply to identify what Jack means by "Sit down" [an order, a request, an offer, an advisory, AT]. She is trying to create a construction that the two of them are willing to accept as what he meant by it. She will usually try to infer his initial intentions, but the joint construal they arrive at will often be different from those intentions. Indeed, for many signals, the classical idea of "what the speaker means" doesn't even make sense, whereas "what the speaker is to be taken to mean" does.

Interpretations are experimentable and negotiable in conversation *because the law according to which satisfaction of a speech act leads to its success prevails in conversational sequencing*. Moreover, this general semantic law acquires original properties in conversation. First, it can be applied to assertive acts (Trognon and Brassac 1993, Trognon 1993) whereas in general semantics it is restrained to acts in which the direction of fit goes from the world to words (directives, commissives, and declarations) ; an assertive is verified in a conversation if the hearer considers it as true *of its objective truth*. In General Semantics, the preceding law is a monotone law, because it is interpreted monologically. In the conversational mechanism of mutual understanding (and in conversation in general), it is a law by default (Reiter 1980), "with exceptions", for this reason which is not possible to prove that the truth of propositional contents of an illocution is a consequence of its performance (Trognon and Brassac 1993, Ghiglione and Trognon 1993). However, as Livet (1994: 45) wrote "in the absence of (...) a refute, the impossibility of this demonstration becomes the best substitute possible of the certainty".



## Chapter 7

# Utterance acts and speech acts

Steven Davis

*Simon Fraser University*

I am talking to Ruth and in the course of our conversation, I pour myself a glass of water and say to her, 'Do you want a glass of water?' Nothing out of the ordinary here. A normal conversation. And one would think that in saying, 'Do you want a glass of water?' I have asked Ruth whether she wants a glass of water. That is, in performing the act of uttering the sentence, 'Do you want a glass of water?' I have performed the illocutionary act of asking Ruth whether she wants a glass of water. An illocutionary act, then, as J.L. Austin has taught us, is an act that we perform in saying something, an act which can be made explicit by the use of an explicit verb formula. If Ruth had not caught what I had said, I could say, 'I asked you whether you want a glass of water.'

A rough and ready test for illocutionary act verbs in English is that in saying 'I  $x$   $\ddot{o}$ ,' in appropriate circumstances, a speaker, thereby,  $x$ 's  $\ddot{o}$ , where  $\ddot{o}$  is to be filled in by the complement appropriate to the verb, if it takes a complement, and where  $x$  is present tense. There are corresponding forms for other languages, which yield the illocutionary act verbs for those languages. This in turn would give us a way for determining the set of illocutionary act types that are performed in a given culture. It would be the set of illocutionary acts that could be performed by the illocutionary act verbs in the language spoken by the people of that culture.

A characteristic of many ascriptions of illocutionary acts is that terms in their complements are not open to substitutivity and/or to existential generalization. For these reason the ascriptions are intensional. Consider reports of saying,

- (1) Ruth said that Harry went to Oz.

Let us suppose that Harry, unknown to Ruth, is the person who bullied her in grade school. Neither of the following are true.

- (2) There is a place to which Ruth said that Harry went.  
 (3) Ruth said that the person who bullied her in grade school went to Oz.

There are other illocutionary act ascriptions for which only one of these tests seems to apply. Take an ascription of ordering. Suppose that Alice orders Ruth to go to Oz with Harry. It would be true that,

- (4) Ruth ordered Alice to go to Oz with Harry.

But so too would (5) seem to be true, despite Ruth not being aware that Harry is the person who bullied her in grade school.

- (5) Ruth ordered Alice to go to Oz with the person who bullied her in grade school.

(6), however, would clearly be false.

- (6) There is a place to which Ruth ordered Alice to go with Harry.

Not all illocutionary act ascriptions have the features exhibited by reports of saying or ordering. If Ruth thanks Harry for his fine performance, then (7) and (8) are true.

- (7) Ruth thanked the person who bullied her in grade school for his fine performance.  
 (8) There is something for which Ruth thanked Harry.

The illocutionary acts I shall be interested in here are those the ascriptions of which are intensional, that is, the acts of the sort ascribed by (1) and (4), rather than acts like thanking someone for something.

The illocutionary acts the ascriptions of which are intensional are acts which have contents. Let us reconsider (1) and (4). In saying that Harry went to Oz, Ruth need not be expressing what she believes; she might be lying. But at least she expresses the belief that Harry went to Oz. Consequently, the content of the belief Ruth expressed, namely that Harry went to Oz, is the same as the content of what she said. Similarly for ordering. In ordering Alice

to go to Oz with Harry Ruth expresses the desire that Alice should go to Oz with Harry, although it need not be her desire. The content of the desire Ruth expressed is the same as the order which she gave. Because such illocutionary acts are acts which relate a speaker to a content, I shall take them to be intentional acts.

There are many philosophers who are no friend of contents and thus, of intentional states and acts. For this reason, they do not regard it as an acceptable outcome that there are acts that have the same sorts of contents which mental states like beliefs and desires have. One way of avoiding being committed to there being illocutionary acts which supposedly have such contents is to claim that each illocutionary act token is one and the same as an utterance act token. Consider Davidson's views on the matter. He holds that a satisfactory theory of action requires that we be able to talk about actions 'under different descriptions.' One of Davidson's examples of such an action is an illocutionary act. "Jones managed to apologize by saying, 'I apologize'; but only because, under the circumstances, saying 'I apologize' was apologizing." (Davidson 1969: 217) On Davidson's view in my initial example, my asking Ruth whether she wants a glass of water is then identical to my utterance of, 'Do you want a glass of water?' One way of putting this point is to say that the two act descriptions, 'my asking Ruth whether she wants a glass of water' and 'my uttering, 'Do you want a glass of water?'' are two descriptions which describe the same act in the context in which the conditions for my successfully asking a question are met. Davidson's view can be generalized to all illocutionary acts, even illocutionary acts without content. Thus, Ruth's thanking Harry for his fine performance is her uttering, 'Thank you for your fine performance.'

One of the things that I shall try to show is that Davidson's view is mistaken. That is, illocutionary act tokens that have contents are not identical to utterance act tokens. For this purpose I shall adapt an argument employed by Tyler Burge in which he shows that belief state tokens are not identical to brain state tokens. A necessary first step in Burge's argument is a Twin Earth argument that I shall apply to illocutionary acts, rather than to mental states. Before turning to these arguments, I would like to say a word about utterance acts.

An utterance act is a movement of the body. When Ruth utters,

(9) I order you to go to Oz with Harry,

her utterance of (9) is her moving of her lips, tongue and larynx in particular



ways, while expelling air, so that the phonetic sequence of sounds emitted is a token of 'I order you to go to Oz with Harry.' Uttering a sentence is not the only bodily movement by which an illocutionary act can be performed. A speaker can ask someone to do something by writing the request or signaling it using semaphores. But what these acts have in common is that their ascriptions are not ascriptions that ascribe a content to a person and thus, they are not intentional acts. This might seem to run counter to the fact that existential generalization and substitutivity do not apply to one way of describing them. Let us consider the following ascription of an utterance act.

(10) Ruth uttered, 'I order you to go to Oz with Harry.'

Neither substitutivity nor existential generalization applies to the sentence within quotation marks. This might lead someone to think that this marks (10) as intensional and thereby, a description which ascribes a content to Ruth's act of uttering the sentence. The reason for the failure of substitutivity and existential generalization, however, is that the phonetic sequence within the quotation marks plays the same sort of role that 'cat' plays within 'cattle'. That is, the parts of the phonetic sequence that are term like do not occur as terms. Consequently, I shall take utterance acts to be bodily movements, the ascription of which is non-intensional and which, therefore, do not have contents.

Utterance act types are distinguished by the sentence types that they contain. So two utterance tokens of the same sentence type count as utterance tokens of the same type. Thus, if I were to utter what Ruth had uttered in uttering 10, Ruth and I would have performed utterance acts of the same type, but if I had uttered, 'I order you to go to Oz with Barry,' even if Harry and Barry are the same person, I have performed a different utterance act type than Ruth.

Burge presents a number of arguments each of which has as a conclusion that the behaviour and internal states of a person, described non-intentionally, are not sufficient to individuate his mental states and acts which have content. Reference must also be made to the objects to which he is causally related and/or the linguistic practices of the community of speakers of which he is part. Burge presents two sorts of arguments the first of which emphasizes the role played by the objects to which a person is related in the individuation of his intentional states and acts and the second the role of his linguistic community. I shall concentrate my attention on the first sort of thought experiment which is a variation of Putnam's famous Twin Earth argument and adapt it to illocutionary acts (Putnam 1975:139–144). What I shall argue is that the

behaviour and the internal states of a person, non-intentionally described, are not sufficient to individuate what illocutionary acts he performs. In addition, reference must be made to the objects to which the person is causally related.

In Putnam's Twin Earth argument there are two different actual planets, one a twin of the other, on which there are two people who are type identical in their internal and external physical states, but where one of the planets has water and the other a substance, XYZ, which is qualitatively similar to water, but which differs from water in its molecular structure. A similar argument having the same conclusions can be mounted by considering one person and a single planet, the Earth, in which we keep fixed certain facts about the person's internal and physical states, but imagine changes in the physical makeup of the Earth. This sort of argument turns on imagining the way this world could be, or as some might put it, on considerations about possible worlds. I shall present Putnam's argument as a Twin Earth argument, rather than a possible worlds argument, since firstly, this is the way he presents it and secondly, it is more persuasive in this form. But it can easily be converted into a possible worlds argument. I shall use this version of the argument when I consider Burge's argument against one version of the identity theory for brain states and mental states, an argument which I shall adapt to use against the thesis that illocutionary act tokens with contents are identical to utterance act tokens. So I shall begin with Putnam's Twin Earth argument and then convert it into a possible worlds argument.

Let us imagine Ruth who inhabits Earth and who utters such English sentences as, 'Water is good to drink,' 'Water is the stuff in rivers and lakes' 'Water freezes in the winter and turns into snow and ice,' 'Water, when not frozen, is a clear liquid,' etc.<sup>1</sup> Ruth does not know that water is H<sub>2</sub>O, nor does anyone else in her linguistic community. Now let us imagine someone else, Twuth, on a planet, Twin Earth, which is type identical to Earth, except that where Earth has water, Twin Earth has XYZ which has the same superficial characteristics as water. It freezes; it is good to drink; it is the stuff in rivers and lakes; etc. Moreover, Ruth and Twuth are identical in the history of their stimulation patterns, their internal physical states, their bodily movements and their dispositions to behavior, all described non-intentionally. Hence, Twuth utters the same sentences in the same sort of circumstances as Ruth. She utters, 'Water is good to drink,' 'Water is the stuff in rivers and lakes,' 'Water freezes in the winter and turns into snow and ice,' and 'Water, when not frozen, is a clear liquid' in exactly the same contexts, leaving aside the difference between

Earth and Twin Earth with respect to water and XYZ. Moreover, Twuth, as ignorant of chemistry as Ruth, does not know that the stuff called ‘water’ is XYZ, nor do any members of her speech community. In addition, no one on Twin Earth has a theory about water. Since no one on Twin Earth has contact with water either directly or theoretically, it is clear that ‘water’ on Earth and Twin Earth have different extensions.

Let us suppose that Ruth and Twuth utter tokens of (11) in the course of a normal conversation.

(11) Water is good to drink.<sup>2</sup>

How would we report the beliefs that they express? There is no problem about Ruth who is a member of our speech community. It would appropriate to say,

(12) Ruth believes that water is good to drink.

But we could not use a similar ascription to report Twuth’s belief. The reason is that Twuth has no notion of water, since neither she, nor anyone else on Twin Earth has any connection with water, either causally or theoretically.<sup>3</sup>

The ascription of an illocutionary act token to Ruth is straight forward, since she is a member of our speech community. It would be true to say that,

(13) Ruth said that water is good to drink.

But it would not be correct to say of Twuth that she said that water is good to drink. The reason that it would be incorrect is similar to the reason that it is incorrect to ascribe to Twuth the belief that water is good to drink. The reason is that neither Twuth nor anyone in her speech community has a notion of water. Consequently, despite the fact that she uttered a token of the same sentence type as Ruth, she did not perform the same illocutionary act type as Ruth.<sup>4</sup>

There is a way to ascribe to Twuth what belief she expresses and what illocutionary act she performs in uttering (11). We can introduce a new word into English, ‘twater’, which has as its extension XYZ. Thus, we can say correctly that

(14) Twuth believes that twater is good to drink.

(15) Twuth said that twater is good to drink.

Let us pause to summarize where we are in the argument. On the assumption that intension determines extension, ‘water’ does not have the same intension on Earth and Twin Earth, since the extensions of the terms are not the same on

the two planets. Moreover, by hypothesis there is no relevant difference in the internal states and events of Ruth and Twuth, where these states and events are described non-intentionally.<sup>5</sup> Hence, the difference in the intensions of the terms on Earth and Twin Earth cannot be accounted for by appealing to anything in the internal states of Ruth and Twuth. The conclusion Putnam draws from the thought experiment is that meanings are not determined by internal states (Putnam 1975:135).

Burge draws a further conclusion from the thought experiment. Ruth's and Twuth's intentional states are not the same. We can attribute to Ruth the beliefs that water is good to drink; that water is the stuff which flows in rivers; that water freezes, etc. But we cannot attribute these beliefs to Twuth, since neither Twuth nor anyone in her community has the notion of water. The beliefs which we can attribute to Twuth in the case under consideration are beliefs which we ascribe using 'twater,' rather than 'water.' But these beliefs are not the same as Ruth's, for they are ascribed using terms that have different extensions. The extension of 'water' is water; the extension of 'twater' is XYZ. Burge's point is that two people can be type identical in their internal physical states, but because of differences in their external environment, there are differences in their intentional state types. Consequently, the criterion of individuation of intentional states cannot be solely stated in terms of a subject's internal states, non-intentionally described, but must make reference to objects that are external to the subject.

I would like to draw a similar conclusion about illocutionary acts. The illocutionary acts which Ruth and Twuth perform are not the same. Ruth, but not Twuth, said that water is good to drink; Twuth, but not Ruth, said that twater is good to drink. However, Ruth and Twuth by hypotheses performed the same utterance acts. Consequently, two people's bodily movements can be type identical, but yet they can differ in the type of illocutionary acts they perform.

The version of Putnam's argument I have considered is an argument which assumes that there are two actual planets on which there are two different people whose internal states are type identical. This argument can be turned into a possible worlds argument, the form of the argument to which I shall appeal in what follows, by supposing that there is only one person, Ruth, whose internal physical states and bodily movements remain constant, but whose world changes so that water is replaced with XYZ. We can then ask whether this brings about changes in the meanings of the terms in her idiolect, in her intentional states and in the illocutionary acts that she would perform.

Let us consider two possible worlds, the actual world, *E*, and a possible world, *TE*. We imagine *E* and *TE* as we described, respectively, Earth and Twin Earth in the version of the Putnam argument above, except in this case there is only one person, Ruth. Let us suppose, further, that in *E* Ruth utters, ‘Water is good to drink’ under conditions which are appropriate for her to be making a statement. The following are clearly true.

- (16) In Ruth’s idiolect, ‘water’ has as its extension water.
- (17) Ruth expresses the belief that water is good to drink.
- (18) Ruth said that water is good to drink.

In *TE*, however, none of these would be true, since Ruth in *TE* has no notion of water, nor would anyone else in her speech community. The difference between the two versions of the argument is that in the Twin Earth argument Ruth’s and Twuth’s internal physical states and bodily movements are type identical. When the argument is stated as a possible worlds argument, there is only one person, Ruth, and there is no change in her internal physical states and bodily movements from *E* to *TE*; her internal physical states and bodily movements in *E* are token identical to her internal physical states and bodily movements in *TE*.<sup>6</sup>

Let us turn to Burge’s argument against one version of the identity theory,<sup>7</sup> that is, against the view that a token thought event is identical to an internal physical event.<sup>8</sup> I propose to adapt the argument to show that illocutionary act tokens are not identical to our utterance act tokens. The way in which I shall proceed is to present each of the steps in Burge’s argument about thoughts and brain events and then recast it as an argument about illocutionary acts and utterance acts.

The first step in Burge’s argument follows from his criterion for the individuation of token thought events. According to Burge, a given thought event could not be the thought event that it is, if it were performed at a different time, by a different person or had a different content. These, then, give necessary conditions for the identity of thought events. Burge concentrates his attention on the content property of thought event tokens which gives him the first premise of his argument.

Premise (1) “...No occurrence of a thought (that is, no token thought event) could have a different (or extensionally nonequivalent) content and be the very same token.” (Burge 1979, 111 and Burge 1982, 105)

One way of interpreting ‘could’ in Premise (1) is as a modal such that Premise (1) attributes contents as essential properties to thought occurrences. In turn, this would allow individuation of thought occurrences, and similar intentional states, across possible worlds. It appears that Burge holds that Premise (1) need not be construed as taking contents to be an essential property of thought occurrences. He claims that “[his] argument does not depend on essentialism. All modal claims (including the one in the [first] premise) can be interpreted as supported by the best available methods of individuation.” (Burge 1993, 106 n. 7) However, appeal to content is, claims Burge, “...the fundamental means of identifying intentional mental states and events in psychological explanation and in our self-attributions.” (Ibid., 28)

It is not clear that it is sufficient that some property is individuating and deeply connected by our explanatory practices with a kind for it to provide a criterion for individuation across possible worlds. Take continents. We distinguish them by their current spatial locations. Moreover, spatial location plays a central role in our explanatory geological theories of continental drift. But spatial location does not enable individuation across possible worlds. North America might have had the global location that South America has and still be North America, although it might not have been called ‘North America.’ That is, spatial location is an individuating feature of continents, and a feature which plays a central role in our theories about continents, but it is not a property that could provide a criterion for intraworld individuation, since a continent can be the same continent even it had a different spatial location than it actually has.

There is a difference, however, between the spatial locations of continents and the contents of thought occurrences. As Burge points out, “... we have no other systematic way of identifying [mental] states and events.” (Burge 1993, 110) Continents, on the contrary, can be identified by not appealing to the spatial location they in fact presently have; they can be identified by their past histories that include their origin from a particular part of some ancient land mass. Even though spatial location plays an important role in our explanatory theories about continents, it does not play the same sort of fundamental role that contents do with respect to mental states and events. Without content attribution, we would have no way of describing such states and events that would allow for their individuation. Because of this, content gives us a way of individuation such states across possible worlds. That is, *C* designates the same mental state or event in *w* and *w*’ only if in *w* and *w*’ it

designates a mental state or event that has the same content. But this means that the content of a mental state or event is possessed by that mental state or event in every possible world in which that mental state exists. This, however, is the same as saying that contents are essential properties of mental states,<sup>9</sup> and I shall so construe them in what follows.<sup>10</sup>

A version of Premise (1) can be generated for illocutionary act tokens that I shall take as attributing essential properties to such acts. Let us consider Ruth's saying that water is good to drink. The particular act of Ruth's cannot be that very act if it were performed at a different time, at a different place or had a different content.

Premise (1') No occurrence of an illocutionary act (that is, no token illocutionary act event) could have a different (or extensionally non-equivalent) content and be the very same token.

The next premise in Burge's argument is provided by the supposition in the thought experiment above that Ruth's internal physical states do not change from *E* to *TE*.

Premise (2) Let '*B*' denote a plausible candidate that could be identified with a thought event. Then it denotes the same internal physical event in *TE*, the counterfactual situation as it does in *E*, the actual situation.<sup>11</sup>

Thus, *B* remains the same from the actual to the counterfactual situation, although there are changes in Ruth's physical environment, changes that do not affect *B* (Burge 1979, 111).

A corresponding premise for the illocutionary act argument is generated by the supposition that Ruth's bodily movements do not change from *E* to *TE*. Premise (2') Let '*B*' denote a plausible candidate which could be identified with Ruth's illocutionary act token, say her utterance of 'Water is good to drink,' that denotes the same event in *E* and *TE*.

What Burge's thought experiment shows is that it is conceivable that *B* occurs, but that Ruth does not have the thought that water is good to drink. In the counterfactual situation by hypothesis Ruth's internal states do not change, but since neither Ruth nor anyone in her linguistic community has the notion of water, Ruth does not have the thought that water is good to drink. This gives us the next premise in the argument.

Premise (3) It is possible that Ruth does not have the thought that water is good to drink and that *B* occurs.

What my adapting of Burge's thought experiment shows is that is possible that  $B'$  occurs, but Ruth does not say that water is good to drink. By hypothesis in *TE*, Ruth's bodily movements do not change, but since no one in Ruth's linguistic community, including Ruth, has the notion of water Ruth cannot say that water is good to drink. This then yields the corresponding premise of the illocutionary act argument.

Premise (3') It is possible that Ruth does not say that water is good to drink and that  $B'$  occurs.

Burge does not provide the steps in his argument from Premises (1) to (3) to the conclusion that "...  $B$  is not identical with the subject's [Ruth's] occurrent thought." (Burge 1979, 111) Rather than present the steps which lead to this conclusion I shall present an argument which leads from Premises (1') to (3') to the conclusion that  $B'$  is not identical to Ruth's illocutionary act of saying that water is good to drink.

I have construed Premise (1') as entailing that having a particular content is an essential property of an illocutionary act token. But if some event token,  $B'$ , is supposedly identical to a, given illocutionary act token, it follows that  $B'$  has all the properties of the illocutionary act token, including its essential properties. So this gives us the first step in my reconstruction of the argument.

Step (1) If  $B' =$  Ruth's saying that water is good to drink and the content that water is good to drink is an essential property of Ruth's illocutionary act token that water is good to drink, then it is an essential property of  $B'$ .

Step (2) If the content that water is good to drink is an essential property of  $B'$  and Premise (2'), then it is a property of  $B'$  in every possible situation.

Step (3) But from Premise (3') it follows that there is a possible situation, *TE*, in which  $B'$  occurs, but in which  $B'$  does not have the property of having the content that water is good to drink.

Step (4) Hence, it is false that (the content that water is good to drink is an essential property of  $B'$  and Premise (2')).

Step (5) Since Premise (2') is true, it follows that the content that water is good to drink is not an essential property of  $B'$ .

Step (6) Thus, it is false that ( $B' =$  Ruth's saying that water is good to drink and the content that water is good to drink is an essential property of Ruth's saying that water is good to drink).

Step (7) From Premise (1') and Step (6) it follows that  $B'$  is not identical to Ruth's saying that water is good to drink.



Let us call this argument *the illocutionary act token argument*. It can be generalized to any illocutionary act that has a content, for example, acts of promising, advising, warning, betting, asking, ordering, etc. In addition a similar argument can be mounted to show that certain perlocutionary act tokens are not identical to utterance act tokens, for example the act of threatening Michel to drink all the single malt scotch in his house, that is, any perlocutionary act which has a content. The consequence of this is that certain views about the nature of human actions are incorrect, namely those views that hold that all human actions are really only movements of our body described in various ways.

I would like to consider a criticism that might be raised against the illocutionary act token argument. Davidson claims that since Brutus' stabbing of Caesar resulted in Caesar's death, it is identical, although not necessarily so, with Brutus' killing of Caesar (Davidson 1969: 223). One might argue against the illocutionary act token argument by claiming that there is a parallel argument that has as its conclusion that this identity is false. Moreover, parallel arguments could be constructed, so the critic would claim, which would show that every supposed contingent identity is false. Now the critic could draw the conclusion that since there are contingent identities and the premises of the parallel argument are true, the parallel argument is invalid. This in turn, the critic could argue, would show that the illocutionary act argument is invalid. Let us consider the parallel argument.

Premise (1') is the premise that attributes an essential property to illocutionary acts, namely their content. A parallel premise for stabbings would attribute an essential property to them. An obvious candidate is having the property of being a stabbing. This, then, gives us Premise (1'').

Premise (1'') No occurrence of an act of stabbing could fail to have the property of being a stabbing and be the very same token.

The next premise in the argument, parallel to Premise (2'), is that there is a possible world, *TE*, in which Brutus kills Caesar, but not by stabbing him and that in both *E* and *TE* 'Brutus' killing of Caesar' denotes the same event. If we do not think that 'Brutus' killing of Caesar' has the same designation across the possible worlds, we can invent a name, *C*, which denotes Brutus' killing of Caesar in *E* and *TE*.

Premise (2'') Let '*C*' denote Brutus' killing of Caesar. Then it denotes the same event in *TE*, the counterfactual situation, as it does in *E*, the actual situation.

Premise (3') of the illocutionary act token argument arises from the Burge possible world thought experiment which shows that it is possible for Ruth to utter, 'Water is good to drink' without saying that water is good to drink. A parallel thought experiment would be to imagine the possibility of Brutus' killing of Caesar by some other means than stabbing him. So Brutus' killing of Caesar would occur without Brutus' stabbing of Caesar.

Premise (3'') It is possible that Brutus does not stab Caesar and that *C*, namely, Brutus' killing of Caesar, occurs.

Now we can proceed to the steps in the argument that will have as its conclusion that Brutus' killing of Caesar is not identical to Brutus' stabbing him.

Step (1') If *C* = Brutus' stabbing of Caesar and being a stabbing is an essential property of Brutus' stabbing of Caesar, then it is an essential property of *C*.

Step (2') If being a stabbing is an essential property of *C* and Premise (2'), then it is an essential property of *C* in every possible situation.

Step (3') But from Premise (3') it follows that there is a possible situation, *TE*, in which *C* occurs, but in which *C* does not have the property of being a stabbing.

Step (4') Hence, it is false that (being a stabbing is an essential property of *C* and Premise (2'))

Step (5') Since Premise (2') is true, it follows that being a stabbing is not an essential property of *C*.

Step (6') Thus, it is false that (*C* = Brutus' stabbing of Caesar and being a stabbing is an essential property of Brutus' stabbing of Caesar).

Step (7') From Premise (1'') and Step (6') it follows that Brutus' killing of Caesar is not identical to Brutus' stabbing of Caesar.

Since the conclusion is not true, although the premises are, the argument is not valid. Since this argument is supposedly parallel to the illocutionary act token argument, it shows, as well, that this argument is not valid.

The problem with this criticism is that the argument it presents is not parallel to the illocutionary act token argument. '*C*' does not designate the same token killing of Caesar in the actual world as it does in *TE*. *C*, Brutus' killing of Caesar, has as a part Caesar's death. If the ways of bringing about Caesar's death in the actual world, *E*, and in a possible world, *TE*, are substantially different, then what '*C*' designates in *E* is not identical to what it

designates in *TE*. In *E*, Caesar's death is caused by Brutus' stabbing him, but in *TE*, Caesar's death is not so caused. Since stabbing someone, rather than killing him in some other way, is a substantial difference in the way in which someone is killed, there are two different killings. Consequently, Brutus' killing of Caesar in *E* is not identical to Brutus' killing of Caesar in *TE* and hence, contrary to Premise (2''), 'C' does not designate the same act of killing in *E* and *TE*. This shows that Premise (2'') of the supposed parallel argument is false. Therefore, the argument above is not parallel to the illocutionary act argument in which Premise (2') is true and hence, it does not show that the illocutionary act argument is invalid.

Even though the criticism fails, perhaps it shows a way of defeating the illocutionary act token argument. What this argument requires is the truth of Premise (2'). That is, there must be some designator that designates the same act token, Ruth's utterance of, 'Water is good to drink,' in both *E* and *TE*. A critic might argue that the differences between *E* and *TE* that the Burge thought experiment describes are sufficient for the designator, *B'*, to designate different act tokens in the two possible worlds. A world in which there is water and one in which there is XYZ would have far reaching differences in their physical properties, differences which would bring about different causes of and effects on Ruth's uttering, 'Water is good to drink.' These differences in causes and effects, the critic might argue, are sufficient for there being different act tokens of Ruth's uttering, 'Water is good to drink,' across the two worlds. That is, we could envision our critic applying a transworld version of Davidson's criterion of event token individuation to the designations of *B'* in Premise (2') in the illocutionary act token argument.

This criticism proves too much. It would have as a consequence that any physical change imagined across possible worlds that brought about differences in the causes and effects that impinge on events would bring about different events. But this does not seem to accord with the way in which we talk about such counterfactual situations. We can ask about one and the same event whether it could have had different effects or causes. For example, we can suppose that the trade wars in the thirties contributed to the Great Depression. One can ask what would have been the course of the Depression if the trade wars had not been as severe. Here we are talking about the same event, the Great Depression, and asking about it what would have been its course had its causes been somewhat different from what they in fact were. If any change in causes and effects of some event across possible worlds brought about a

change in event tokens across those worlds, then it would make no sense to ask what would have been the case about an event had its causes and effects been different. This should not be taken to suggest that any change in causes and effects of an event token leaves the event token intact across the worlds. The thought is rather that we can vary some of the causes and effects of an event token from one possible situation to another and still have the same event token. What the Burge thought experiment and my adapting of it appeal to is this possibility. The effects of the differences between the worlds imagined on Ruth's uttering, 'Water is good to drink' are slight. And certainly not sufficient to bring about a different act token. So someone who wishes to criticize either the illocutionary act token argument or the original Burgean thought experiment on which it is based must provide a stronger reason for thinking that Premises (2) and (2') are false.

Let me close by saying something about the consequences that Burge's and my arguments have for the philosophy of psychology. There are philosophers, like Fodor, who hold that one of the outstanding problems in the philosophy of psychology is to show how our ordinary want and belief explanations can be made scientifically respectable. The reason that this problem is supposed to be so important is that these philosophers think that such explanations are at the heart of psychological explanations. The difficulty, it is argued, is that we can make use of such explanations in a scientific theory of human behaviour only if they can be reconciled with materialism. Without such reconciliation, we do not have a causal explanation, and thus, an explanation that passes muster as scientifically acceptable. It is thought that one way to guarantee that such explanations are causal is to adopt the token identity theory of intentional states and events. For it is the same token brain states and events that cause our behaviour.

Our ordinary want and belief explanations are not, however, just explanations of 'behaviour,' where 'behaviour' is construed merely as bodily movements. Rather among the sorts of things for which we offer explanations are why people perform the illocutionary and perlocutionary acts they do. We might ask why Ruth said that water is good to drink and be offered as an explanation that she thought that her lover has had too much scotch to drink and that she wanted her to stop. One way to fit this explanation into a causal story is to adopt some version of the identity theory for thought events and brain events. This, however, would not be sufficient; we, also, must be committed to a token identity theory applied to illocutionary and perlocutionary act tokens, that is, to

a theory which identifies tokens of illocutionary and perlocutionary acts with tokens of bodily movements.

I take it that Burge's argument against token identity theories of intentional states raises a problem for this view about how to make our intentional states scientifically respectable. I think that my argument against token identity theories of illocutionary and perlocutionary acts raises similar problems about adopting the same strategy for how an appeal to illocutionary and perlocutionary acts in a causal explanation can be made scientifically acceptable. I should not be taken to be suggesting that either Burge's argument, or my application of it to identity theories of illocutionary and perlocutionary acts, shows that intentional states and events and illocutionary and perlocutionary acts cannot be part of a scientific causal theory of human behavior. My only claim is that token identity theories are false and thus will not fit them into a causal explanatory theory that coheres with a materialist view of the world.

One way it might be thought to avoid the difficulties raised for token identity theories is to switch from identity to supervenience. The view would be that beliefs and similar mental states and acts supervene on brain states and processes and that illocutionary and perlocutionary acts supervene on bodily movements. The problem is that Twin Earth arguments show that supervenience will not do the trick. A necessary condition for *A* to supervene on *B* is that any variation in *A* should be mirrored by a change in *B*. But a lesson of the Twin Earth arguments is that brain states or bodily movements, *B*, can be kept constant and yet, there can be variations in beliefs or illocutionary acts, *A*.

Perhaps a way around the problem raised here lies in a reconsideration of one of the reasons for the attractiveness of identity theories, supervenience and narrow content, namely the problem about causation. It is thought that all causation is local. But if the identity conditions for mental states and illocutionary and perlocutionary acts are non-local, it is thought that they cannot stand in a causal relation, a relation required, if we wish to use our ordinary want and belief explanations as scientifically acceptable explanations. A possible resolution of the problem is to show that even if individuation of some entity is non-local, it does not follow that the entity's causal relations are non-local. This, however, is not a topic that I shall consider here.

## Chapter 8

# **An Ascription-Based Theory of Illocutionary Acts**

Tomoyuki Yamada  
*Hokkaido University*

### **1. Introduction**

My long-term ambition is to develop a philosophically sound and mathematically rigorous theory of illocutionary acts that provides an empirically adequate treatment of speech act phenomena both in English and in Japanese. In this paper, I shall present basic ideas of, and arguments for, a theory of illocutionary acts which has three important features.<sup>1</sup>

Firstly, it is “ascription-based” in the sense that its basic formulas are formulas ascribing actions to agents. They are used in order to state facts about particular utterances and illocutionary acts performed by agents. The language of the theory also contains formulas used for stating constraints upon possible combinations of types of contexts, types of utterances, types of possible illocutionary acts, and types of background conditions. It doesn’t contain, however, formulas for giving commands, making promises, making requests, and so on. It is not meant to be an all-purpose language in which all sorts of illocutionary acts could be performed, but is meant to be a special-purpose language for stating various theoretical assumptions, hypotheses and their consequences about speech acts performed in natural languages.

Secondly, it enables us to avoid assuming propositions (qua truth value

bearers) to be the common contents of statements, commands, promises, and so on. It contains a general theory of content for illocutionary acts which is based on a generalized version of J. L. Austin's theory of Truth. By extending Austin's notions of demonstrative and descriptive conventions so as to cover cases not only of assertives but also of illocutionary acts other than assertives, it specifies contents of contentful illocutionary acts through specifying conditions of their satisfaction without appealing to the notion of propositions. It respects the intuition that commands and promises are not things which can be true or false.

And lastly, it treats illocutionary acts as acts, i.e. that which change situations. It aims to characterize each illocutionary force in terms of types of changes in types of situations which illocutionary acts with those forces bring about. Analysis of this kind would be needed if we are to view speech acts in the context of a general theory of action.

I shall adopt a version of the language of Situation Theory as the language in which a precise formulation is to be given to a theory with the features above. I shall also try to show how Searle and Vanderveken's theoretical insights could be incorporated and utilized in such a theory.

## 2. Some Situation Theory

The version of the language I shall use in this paper is the language introduced and explained in Devlin(1991). In this section, I will give a brief summary of the concepts and the devices on which our discussion in subsequent sections depends. Though I will usually reproduce Devlin's definitions and explanations fairly faithfully in what follows, my notation is slightly different from Devlin's. (For example, I use “⟨⟩” and “⟩⟩” where Devlin uses “<<” and “>>“.)

### *Situations and Infons*

Basic formulas of this language have the following form:

$$(1) \quad s \models \sigma$$

The “ $s$ ” here stands for a particular situation and the “ $\sigma$ ” for a particular “infor”. We take situations to be parts of the world, and infons to be items of information. The formula (1) as a whole says that the situation  $s$  supports the

infor  $\sigma$ . We say that  $\sigma$  is a fact of  $s$  if  $s$  supports  $\sigma$ .

We also have formulas of the following form:

$$(2) \quad w \models s$$

The “ $w$ ” here stands for the world. We say that  $\sigma$  is a fact if  $w$  supports  $\sigma$ . Though we assume the world to be what supports all the facts, we do not take the world itself to be a situation.<sup>2</sup>

If  $I$  is a set of infons and  $s$  is a situation (or is the world  $w$ ), we write

$$(3) \quad s \models I$$

if  $s \models \sigma$  for every infor  $\sigma$  in  $I$ .

We assume that infons have the following form:

$$(4) \quad \langle\langle P, a_1, \dots, a_n, i \rangle\rangle$$

where  $P$  is an  $n$ -place relation (for some  $n$ ),  $a_1, \dots, a_n$  are objects appropriate for the respective argument places of  $P$ , and  $i$  is equal to 0 or 1. I shall write

$$(5) \quad \langle\langle P, a_1, \dots, a_n, 1 \rangle\rangle$$

to denote the infor that  $a_1, \dots, a_n$  stand in the relation  $P$ , and

$$(6) \quad \langle\langle P, a_1, \dots, a_n, 0 \rangle\rangle$$

to denote the infor that  $a_1, \dots, a_n$  do not stand in the relation  $P$ . For example, the infor that there is smoke at the location  $l$  at the time  $t$  is denoted by

$$(7) \quad \langle\langle \text{SMOKE} - \text{PRESENT}, l, t, 1 \rangle\rangle$$

and the infor that there is a fire at the location  $l$  at the time  $t$  is denoted by

$$(8) \quad \langle\langle \text{FIRE} - \text{PRESENT}, l, t, 1 \rangle\rangle$$

### *Parameters and Anchors*

The ontology of our theory involves objects of various types. For example, according to Devlin(1991: 52), we have objects of the following *basic types*:

- TIM* : the type of a temporal location;
- LOC* : the type of a spatial location;
- IND* : the type of an individual;
- REL<sup>n</sup>* : the type of an  $n$ -place relation;



<i>SIT</i>	:	the type of a situation;
<i>INF</i>	:	the type of an infon;
<i>TYP</i>	:	the type of a type;
<i>PAR</i>	:	the type of a parameter;
<i>POL</i>	:	the type of a polarity (i.e. the values 0 and 1).

Note that we have objects of type *PAR*, called parameters, in our ontology. They enable us to talk about arbitrary objects of given types, and thus play a special role in our theory.

For each basic type *T* other than *PAR*, Devlin(1991: 52) introduces an infinite collection  $T_1, T_2, T_3, \dots$  of basic parameters for objects of type *T*. For example,  $IND_3$  is a parameter for an object of type *IND*, and  $SIT_{56}$  is a parameter for an object of type *SIT*. The parameters  $T_i$  are themselves said to be of type *T*. As we only need basic parameters for objects of each of the types *TIM*, *LOC*, *IND*, and *SIT* in this paper, I will ignore parameters for the other basic types henceforth.

Following Devlin (1991: 52), I shall use the notation  $\dot{l}, \dot{i}, \dot{a}, \dot{s}$ , etc. to denote parameters. (The symbols “ $\dot{l}$ ”, “ $\dot{i}$ ”, “ $\dot{a}$ ”, and “ $\dot{s}$ ” denote parameters of type *LOC*, *TIM*, *IND*, and *SIT*, respectively.)

For any of the basic types *TIM*, *LOC*, *IND*, and *SIT*, we allow a parameter for an object of type *T* to appear wherever an object of type *T* may itself appear. This modifies our previous assumption about infons, and thus infons may involve parameters now. For example, the infon

$$(9) \quad \langle\langle SMOKE - PRESENT, \dot{l}, \dot{i}, 1 \rangle\rangle$$

involves two parameters,  $\dot{l}$  and  $\dot{i}$ .

The occurrences of the parameters  $\dot{l}$  and  $\dot{i}$  here are examples of free occurrences. Infons having one or more free occurrences of one or more parameters are called parametric infons, and infons that have no free parameters are called parameter-free. (Besides free occurrences, we have “bound” occurrences of parameters. Although parameters are not variables of our language, the analogy with free and bound (occurrences of) variables in predicate logic will be of considerable help in recognizing free and bound (occurrences of) parameters.)

Since the above infon (9) does not involve an actual location or an actual time, it is not enough to provide us with information about the world. But each free parameter can be anchored to an actual object by some “anchor”. Formally, an anchor for a set, *A*, of basic parameters is a function defined on *A*,

which assigns to each parameter  $v$  in  $A$  an object of the same basic type as  $v$ . If  $\sigma$  is a parametric infon and  $f$  is an anchor for some or all of the parameters that occur free in  $\sigma$ , we denote, following Devlin(1991: 54–5), by

$$(10) \sigma[f]$$

the infon that results from replacing each  $v$  in the domain of  $f$  that occurs free in  $\sigma$  by its image  $f(v)$ . For example, if  $f$  is an anchor for  $\dot{l}$  and  $i$ , and

$$(11) \sigma = \langle\langle \text{SMOKE} - \text{PRESENT}, \dot{l}, i, 1 \rangle\rangle$$

then

$$(12) \sigma[f] = \langle\langle \text{SMOKE} - \text{PRESENT}, f(\dot{l}), f(i), 1 \rangle\rangle$$

Since  $\sigma[f]$  here is parameter-free, it will supply us the information that there is smoke at the location  $f(\dot{l})$  at the time  $f(i)$ , if  $s \models \sigma$  for some situation  $s$ .

If  $I$  is a set of parametric infons and  $f$  is an anchor for some or all of the parameters that occur free in infons in  $I$ , we define

$$(13) I[f] = \{\sigma[f] \mid \sigma \in I\}$$

### *Restricted Parameters*

Parametric infons can be used to impose conditions on parameters. Let  $v$  be any basic parameter of type *LOC*, *TIM*, *IND*, or *SIT*. By a *condition* on  $v$  we mean any finite set of (parametric) infons. (At least one of the infons should involve  $v$ , otherwise the result would be degenerate.)

Given such a basic parameter,  $v$ , and a condition,  $C$ , on  $v$ , we define, following Devlin(1991:55), a new (complex) parameter,  $v \upharpoonright C$ , called a *restricted parameter*. (In the case where  $C$  consists of a single parametric infon,  $\sigma$ , we write  $v \upharpoonright \sigma$  instead of  $v \upharpoonright \{\sigma\}$  if there is no danger of confusion.) We will use  $v \upharpoonright C$  to talk about an arbitrary object of the same basic type as  $v$ , that satisfies the requirements imposed by  $C$ .

Imposing a condition on a parameter amounts to putting a requirement on anchors. Let  $\dot{r} = v \upharpoonright C$  be a parameter, and let  $s$  be a situation. According to Devlin(1991: 55), a function,  $f$ , is said to be an *anchor* for  $\dot{r}$  in  $s$  if:

- (i)  $f$  is an anchor for  $v$  and for every parameter that occurs free in  $C$ ;
- (ii) for each infon  $\sigma$  in  $C$ :  $s \models \sigma[f]$ ;
- (iii)  $f(\dot{r}) = f(v)$ .

For example, consider the parameter:

$$(14) \quad \dot{r}_1 = IND_1 \uparrow \langle \langle SPEAKING, IND_1, LOC_1, TIM_1, 1 \rangle \rangle$$

Suppose  $f$  is an anchor for  $\dot{r}_1$  in some situation  $s_1$ . Then by (i),  $f(IND_1) = a$ ,  $f(LOC_1) = l$  and  $f(TIM_1) = t$  are defined, and by (iii),  $f(\dot{r}_1) = a$ . Moreover, by (ii) we have

$$(15) \quad s_1 \models \langle \langle SPEAKING, a, l, t, 1 \rangle \rangle$$

Thus  $\dot{r}_1$  can only be anchored to an object of type  $IND$  which is speaking at some place at some time in some situation, and so can be used as a special parameter for a speaking individual.

### *Situation-Types and Constraints*

Another class of formulas important for our discussion are the formulas saying of some particular situation that it is of a certain type. If  $s$  is a situation and  $T$  is a situation-type, we use the formula

$$(16) \quad s : T$$

to state that situation  $s$  is of type  $T$ .

Situation-types are acquired through situation-type-abstraction. If  $\dot{s}$  is a parameter for an object of type  $SIT$  and  $I$  is a set of infons, then there is a corresponding situation-type

$$(17) \quad [\dot{s} \mid \dot{s} \models I]$$

This is the *type* of situation in which the conditions in  $I$  obtain. (In the case where  $I$  consists of a single infon,  $\sigma$ , we write  $[\dot{s} \mid \dot{s} \models \sigma]$  instead of  $[\dot{s} \mid \dot{s} \models \{\sigma\}]$  if there is no danger of confusion.)

For example, let  $S_0$  be the following situation-type:

$$(18) \quad [SIT_2 \mid SIT_2 \models \langle \langle SMOKE - PRESENT, \dot{l}, \dot{i}, 1 \rangle \rangle]$$

This is the type of situation in which there is smoke at some location at some time. It is an example of what is called a *parametric type* and we have here two free parameters,  $\dot{l}$  and  $\dot{i}$ . (But what about the parameter  $SIT_2$ ? It is the “abstraction parameter” used in the above type-abstraction, and it disappears when the type  $S_0$  is formed. Thus we have an example of a bound occurrence of a parameter here.)

Again, let  $S_1$  be the following situation-type:

$$(19) [SIT_3 \mid SIT_3 \models \langle \langle FIRE - PRESENT, \dot{i}, i, 1 \rangle \rangle]$$

This is the type of situation in which there is a fire at some location at some time.

If  $T$  is a parametric type and  $f$  is an anchor for some or all of the parameters that occur free in  $T$ , we denote, following Devlin(1991: 62), by  $T[f]$  the type that results from replacing each parameter  $v$  in the domain of  $f$  that occur free in  $T$  by its image  $f(v)$ . For example, consider the situation type  $S_0$  above. If  $f$  is an anchor for  $\dot{i}$  and  $i$ , then we have

$$(20) S_0[f] = [SIT_2 \mid SIT_2 \models \langle \langle SMOKE - PRESENT, f(\dot{i}), f(i), 1 \rangle \rangle]$$

Our two classes of formulas, those of the form (1) and those of the form (16), are closely related. Let  $s$  be a situation. If  $\sigma$  is a parameter-free infon, we have

$$(21) s : [\dot{s} \mid \dot{s} \models \sigma] \text{ iff } s \models \sigma$$

and if  $I$  is a finite set of parameter-free infons, we have

$$(22) s : [\dot{s} \mid \dot{s} \models I] \text{ iff } s \models I$$

If  $\sigma$  is a parametric infon, and  $f$  is an anchor for all of the free parameters in  $\sigma$ , we have

$$(23) s : [\dot{s} \mid \dot{s} \models \sigma][f] \text{ iff } s \models \sigma[f]$$

and if  $I$  is a set of parametric infons, and  $f$  is an anchor for all of the free parameters in infons in  $I$ , we have

$$(24) s : [\dot{s} \mid \dot{s} \models I][f] \text{ iff } s \models I[f]$$

Situation-types can be used to capture a class of relations which are of great importance to the theory of information, i.e. relations called constraints. Consider, for example, the regular relation between smoke and fire. If there is a situation where there is smoke, then there is a situation where there is a fire. This relation is an example of a constraint, and will be denoted by the expression

$$(25) S_0 \Rightarrow S_1$$

where  $S_0$  and  $S_1$  are the situation-types specified above. This is read as  $S_0$  involves  $S_1$ , and represents a fact:

$$(26) \langle\langle INVOLVES, S_0, S_1, 1 \rangle\rangle$$

Some situations will carry information relative to this constraint. Suppose that  $f$  is an anchor for the parameters in  $S_0$  and  $S_1$ , and that  $s_0$  is of type  $S_0[f]$ . Then the constraint in question enables us to infer that there is a situation, say  $s_1$ , which is of type  $S_1[f]$ . Though  $s_1$  can be numerically identical with  $s_0$ , they can be different from each other. And even if they are different,  $s_0$  carries information about  $s_1$  along this constraint.

Some constraints operate in a slightly different manner from this. For example, consider the constraint denoted by the expression

$$(27) S_2 \Rightarrow S_3$$

where

$$(28) S_2 = [s \mid s \models \langle\langle KISSING, \dot{a}, \dot{b}, \dot{l}, i, 1 \rangle\rangle]$$

and

$$(29) S_3 = [s \mid s \models \langle\langle TOUCHING, \dot{a}, \dot{b}, \dot{l}, i, 1 \rangle\rangle]$$

As Devlin(1991:92) points out, “if  $s$  is a situation in which (say) Bob is kissing Carol, then in *that very same* situation,  $s$ , Bob is touching Carol.” Thus, if  $s$  is of type  $S_2[g]$  for some anchor  $g$ ,  $s$  is also of type  $S_3[g]$ . This constraint is an example of what Devlin calls a reflexive constraint. It provides more information about the same situation.

This concludes the summary of the minimal part of situation theory we need in this paper. Equipped with the concepts and the devices introduced here, let us turn to the theory of illocutionary acts.

### 3. Illocutionary Commitment

As I have said in the introduction, the theory I have been trying to work out is a theory that treats illocutionary acts as acts. Situation theory seems to provide us with a fairly good framework in which such a theory might be developed. For example, one of the important findings of Searle and Vanderveken, i.e. illocutionary commitments, can be considered as examples of constraint.

According to Vanderveken,

An illocutionary act  $F_1(P_1)$  can *strongly commit* the speaker to another speech act  $F_2(P_2)$ :  
 first, because its illocutionary force  $F_1$  is stronger than the force  $F_2$ ;  
 second, because its propositional content  $P_1$  strongly implies the propositional content  $P_2$ ; or  
 third, because of both reasons. (Vanderveken 1990: 164)

As an example of illocutionary commitment, consider the relation between telling in the assertive sense and asserting. As telling that  $p$  strongly commits the speaker to asserting that  $p$ , we have:

$$(30) S_{TTP} \Rightarrow S_{ATP}$$

where  $S_{TTP}$  is the type of situation in which someone tells some other person that  $p$ , and  $S_{ATP}$  is the type of situation in which that person asserts that  $p$ .

In order to be able to specify these situation-types more exactly, we need to have a general theory of content for illocutionary acts. What I am going to present in this paper presently is a set of basic ideas which, I hope, can be developed into such a theory.

#### 4. Conventional Effects

Before discussing the theory of content, let me suggest another possible application of the notion of constraint.

As I have suggested in the introduction, I believe that it must be possible to characterize illocutionary forces in terms of changes which illocutionary acts with those forces bring about. Such a characterization will enable us to view illocutionary acts in the context of some general theory of action.

In order to do so, however, we need to distinguish carefully the conventional effects of illocutionary acts from possible consequences of those acts. Otherwise, we might end up blurring the distinction between illocutionary acts and perlocutionary acts. Devlin's treatment of directives seems to be in danger of doing this. According to Devlin (1991: 248), "the meaning of a directive is that link which, for a given utterance of the directive, connects the utterance with its compliance (in the sense of forming the intention to do as instructed)." But the act of getting someone to form an intention to do so and so by saying to him or her "Do so and so" is not an illocutionary act but a perlocutionary act.

Suppose, for example, a commander has ordered his men to do so and so. They might refuse to obey the order. But even if they refuse to obey it, that will not make the order void. Their refusal would not constitute disobedience if it made the order void. Therefore the order can be effective in a sense even if the commander has failed to get them to form the intention to do as ordered. It has changed the circumstance in such a way that in the changed circumstance their not doing so and so would constitute disobedience unless it is withdrawn.

A similar distinction is also important for commissives. For example, suppose a friend of mine has just said to me, “I will assume the payment of your debt.” I believe that he intends to assume the payment because I also believe that he has promised me that he would do so. Moreover, I am entitled to rely on him to do so, if he has really promised me that he would do so. But has he really thereby promised me that he would do so? Though we can easily imagine a story in which he has, we can also imagine an alternative story in which he hasn’t. Perhaps he cannot make such a promise without the approval of his guardian. In the latter story, I would not be entitled to rely on him to assume the payment of my debt unless he receives his guardian’s approval. I would like to emphasize the importance of the distinctions of this kind in view of the fact that there are theories of *rational interaction* which claim to be strong enough to treat communication, and to derive “effects” of illocutionary acts without recognizing illocutionary acts.<sup>3</sup>

Though the exact specification of conventional effects of illocutionary acts are beyond the scope of this paper, I would like to note that what Vanderveken calls conditions of success of an illocutionary act seem to be of central importance to our notion of conventional effect. According to Vanderveken (1991: 26f), they are “the conditions that must obtain in a possible context of utterance in order that the speaker succeed in performing that act in that context.” For example, “a condition of success of a promise is that the speaker commits himself to carrying out a future course of action in the world of the utterance.” This commitment seems to involve entitling the hearer to rely on the speaker to carry out that future course of action.

The relation between illocutionary acts and their conventional effects, I hope, can be formulated as conventional constraints. For example, if  $S_{PDA}$  is the type of situation in which some person  $\dot{p}_a$  promises some other person  $\dot{p}_b$  to do  $A$ , and  $S_{ERDA}$  is the type of situation in which  $\dot{p}_b$  is entitled to rely on  $\dot{p}_a$  to do  $A$ , we will have

$$(31) S_{PDA} \Rightarrow S_{ERDA}$$

The tools introduced in Devlin(1991) seem to be useful for specifying such a constraint, though more will turn out to be needed when we begin to study conventional effects more closely.<sup>4</sup>

## 5. An Austinian Theory of Content

Let us consider one concrete example, in order to illustrate basic ideas of an Austinian theory of content. Suppose there was a small meeting of philosophers at CSLI in November 1990 and imagine two conversations, one before the meeting, and the other after the meeting. Suppose in the first conversation, a Japanese philosopher, Syun Tutiya, (*ST*, hereafter), gave advice to me, Tomoyuki Yamada, (*TY*, hereafter), by uttering the sentence

(Φ) Don't make a joke in the meeting.

Suppose *TY* followed this advice. Though *ST* was not present at the meeting, his friend, John Perry (*JP*, hereafter) was present at the meeting. In the second conversation, *JP* told *ST* that *TY* had not made a joke in the meeting by uttering the sentence

(Ψ) Tomoyuki didn't make a joke in the meeting.

I would like to examine *JP*'s remark in the second conversation first. As it is supposed to be true in our example, we have

(32)  $m \models \langle\langle JOKING, TY, t_m, 0 \rangle\rangle$

where  $m$  is the meeting situation and  $t_m$  is the temporal location of the meeting. It says that the situation  $m$  supports the infon that *TY* and  $t_m$  do not stand in the relation called *JOKING*.<sup>5</sup>

Though (32) is based on *JP*'s remark, we need to note that the sentence used to make this remark, Ψ, can be used to make similar remarks on various meetings and various persons named "Tomoyuki". What is common to these various remarks can be captured (at least partly) by the following situation-type:

(33)  $AT_{\Psi} = [s \mid s \models \langle\langle JOKING,$   
 $\dot{p}_j \uparrow \langle\langle NAMED, \dot{p}_j, \text{"Tomoyuki"}, 1 \rangle\rangle,$   
 $\dot{t}_j \uparrow \{\langle\langle PRECEDES, \dot{t}_j, \dot{t}_w, 1 \rangle\rangle,$   
 $\langle\langle TEMP, \dot{t}_j,$   
 $\dot{m} \uparrow \langle\langle MEETING, \dot{m}, 1 \rangle\rangle, 1 \rangle\rangle\}, 0 \rangle\rangle]$



where the infon  $\langle\langle TEMP, i, e, 1 \rangle\rangle$  denotes the infon that  $i$  is the temporary location of an event  $e$ . The parameter  $\dot{p}_j$  here is a restricted parameter. It can only be anchored to a person who is named Tomoyuki. The parameter  $\dot{i}_j$  here is also a restricted parameter, and is restricted by two conditions. It can only be anchored to a temporal location which not only temporally precedes the temporal location of an utterance of the sentence  $\Psi$  to which the parameter  $\dot{i}_u$  is anchored, but also is the temporal location of a meeting to which the parameter  $\dot{m}$  is anchored. As the meaning of the sentence  $\Psi$  seems to require these conditions to hold in all remarks made by uttering  $\Psi$ , I take  $AT_\Psi$  to be the situation-type associated with sentence  $\Psi$  by the meaning of  $\Psi$  (the Associated Type of  $\Psi$ , for short).<sup>6</sup>

Note that, for some anchor  $f$ , we have

$$(34) \quad m : AT_\Psi[f]$$

where  $f(\dot{p}_j) = TY$ ,  $f(\dot{i}_j) = t_m$ ,  $f(\dot{m}) = m$ , and  $f(\dot{i}_u)$  is the temporal location of the utterance. According to J. L. Austin's theory of truth, (34) means that  $JP$ 's remark is true.

If there is to be communication of the sort that we achieve by language at all, ... there must be two sets of conventions:

*Descriptive* convention correlating the words (= sentences) with the types of situation, thing, event, &c., to be found in the world.

*Demonstrative* conventions correlating the words (= statements) with the *historic* situations, &c., to be found in the world.

A statement is said to be true when the historic state of affairs to which it is correlated by the demonstrative conventions (the one to which it 'refers' ) is of a type with which the sentence used in making it is correlated by the descriptive conventions.

(Austin 1950: 121–2)

Barwise and Etchemendy (1987: 28–29) have introduced the notion of Austinian proposition based on this account of truth. An Austinian proposition is a proposition claiming that a particular situation is of a particular type. The situation a proposition  $p$  is about is called the described situation of  $p$ , and is denoted by *About*( $p$ ). The type associated with the sentence by the descriptive conventions is denoted by *Type*( $p$ ). Since a general theory of content for illocutionary acts is concerned not only with those illocutionary acts which are true or false, but also with those illocutionary acts about which the question of truth will not arise, we cannot simply identify contents of illocutionary acts

with propositions understood as the bearers of truth values. So I suggest taking described situations to be situations illocutionary acts are about, and the relevant types to be constituents of illocutionary acts.

This suggestion amounts to an extension of Austin's account of truth. By extending Austin's notions of demonstrative conventions and descriptive conventions, it is possible to state general conditions of satisfaction for various kinds of illocutionary acts.<sup>7</sup>

As a first approximation, we can say that an illocutionary act  $i$  is satisfied iff the situation to which it is correlated by the demonstrative conventions is of a type with which the sentence used in making it is correlated by the descriptive conventions. The situation to which an illocutionary act  $i$  is correlated by the demonstrative conventions shall be called the described situation of  $i$  and denoted by  $About(i)$ , and the type with which the sentence used is correlated by the descriptive conventions shall be called the descriptive type of  $i$  and denoted by  $Type(i)$ . Then  $i$  is satisfied iff  $About(i)$  is of type  $Type(i)$ .<sup>8</sup>

But what is this  $i$  here? In order to answer this question, we need to look more closely at our example. Let  $s_t$  be the situation in which  $JP$ 's above remark is made. Then we have

$$(35) s_t \models \sigma_t$$

where

$$(36) \sigma_t = \langle\langle TELLING, JP, ST, m, AT_{\Psi}[f], t_t, 1 \rangle\rangle$$

$$(37) AT_{\Psi} = [s \mid \dot{s} \models \langle\langle JOKING, \\ \dot{p}_j \uparrow \langle\langle NAMED, \dot{p}_j, \text{"Tomoyuki"}, 1 \rangle\rangle, \\ \dot{i}_j \uparrow \{ \langle\langle PRECEDES, \dot{i}_j, \dot{i}_u, 1 \rangle\rangle, \\ \langle\langle TEMP, \dot{i}_j, \\ \dot{m} \uparrow \langle\langle MEETING, \dot{m}, 1 \rangle\rangle, 1 \rangle\rangle \}, 0 \rangle\rangle]$$

$$(38) f(\dot{p}_j) = TY$$

$$(39) f(\dot{i}_j) = t_m$$

$$(40) f(\dot{m}) = m$$

and

$$(41) f(\dot{i}_u) = t_t$$

where  $t_t$  is the temporal location of the act of telling. (35) says that in  $s_t$ ,  $JP$  tells  $ST$  at temporal location  $t_t$  that  $m$  is of type  $AT_{\Psi}[f]$ .

Similarly, let  $s_a$  be the situation in which  $ST$ 's advice is given. Then, for some anchor  $g$ , we have

$$(42) \quad s_a \models \sigma_a$$

where

$$(43) \quad \sigma_a = \langle \langle \text{ADVISING}, ST, TY, m, AT_\Phi[g], t_a, 1 \rangle \rangle$$

$$(44) \quad AT_\Phi = [\dot{s} \mid \dot{s} \models \langle \langle \text{JOKING}, \\ \dot{p}_j \uparrow \langle \langle \text{ADDRESSING}, \dot{a}gent, \dot{p}_j, \dot{i}_u, 1 \rangle \rangle, \\ \dot{i}_j \uparrow \{ \langle \langle \text{PRECEDES}, \dot{i}_u, \dot{i}_j, 1 \rangle \rangle, \\ \langle \langle \text{TEMP}, \dot{i}_j, \\ \dot{m} \uparrow \langle \langle \text{MEETING}, \dot{m}, 1 \rangle \rangle, 1 \rangle \rangle \}, 0 \rangle \rangle]$$

$$(45) \quad g(\dot{a}gent) = ST$$

$$(46) \quad g(\dot{p}_j) = TY$$

$$(47) \quad g(\dot{i}_j) = t_m$$

$$(48) \quad g(\dot{m}) = m$$

and

$$(49) \quad g(\dot{i}_u) = t_a$$

where  $t_a$  is the temporal location of the act of advising.

$AT_\Phi$  is slightly different from  $AT_\Psi$  before. The parameter  $\dot{p}_j$  here can only be anchored to an addressee in some utterance situation of the sentence  $\Phi$ , and the parameter  $\dot{i}_j$  here can only be anchored to a temporal location which is temporally preceded by the temporal location of the utterance to which the parameter  $\dot{i}_u$  is anchored. Though  $g(\dot{p}_j)$  is identical with  $TY$  in our example, it is because  $TY$  is the addressee of the first conversation we are considering.

(42) says that in  $s_a$ ,  $ST$  advises  $TY$  at time  $t_a$  to make  $m$  of type  $AT_\Phi[g]$ . Just as  $JP$ 's remark is true iff  $m$  is of type  $AT_\Psi[f]$ ,  $ST$ 's advice is followed iff  $m$  is of type  $AT_\Phi[g]$  and  $TY$  brings it about that  $m$  is of type  $AT_\Phi[g]$  in order to follow  $ST$ 's advice.

This observation suggests that the use of the phrase “is satisfied” in the previous general account is that of a dummy place holder. Consider the following list:

An assertion  $a$  is true iff  $About(a)$  is of type  $Type(a)$ .

A promise  $p$  is kept iff  $About(p)$  is of type  $Type(p)$  and the speaker brings it about that  $About(p)$  is of type  $type(p)$  in order to keep  $p$ .

A command  $c$  is obeyed iff  $About(c)$  is of type  $Type(c)$  and the addressee

brings it about that *About(c)* is of type *Type(c)* in order to obey *c*.

...

Each of these illocutionary acts seems to have its own mode of satisfaction determined by its illocutionary force.<sup>9</sup> With what objects can we identify *a*, *p*, and *c* here? My suggestion is that they should be identified with illocutionary acts themselves.

But what kind of objects can illocutionary acts be in our theory? Have we already seen them in our two examples? The answer seems to be in the affirmative. Just as events like meetings or football games can be considered as situations, so acts can also be considered as situations. In our two examples, we have two situations,  $s_a$  and  $s_t$ . The act of advising in our first conversation can be identified with  $s_a$ , or the smallest part of it that supports the infon  $\sigma_a$ . The act of telling in the second conversation can be identified with  $s_t$ , or the smallest part of it that supports the infon  $\sigma_t$ .

The infon  $\sigma_t$  tells us that *About(s<sub>t</sub>)* is the situation *m*, and *Type(s<sub>t</sub>)* is the situation type  $AT_\Psi[f]$ . Therefore  $s_t$  is true iff  $m : AT_\Psi[f]$ . The infon  $\sigma_a$  tells us that *About(s<sub>a</sub>)* also is *m*, and *Type(s<sub>a</sub>)* is  $AT_\Phi[g]$ . Therefore  $s_a$  is followed iff  $m : AT_\Phi[g]$  and *m* is made of type  $AT_\Phi[g]$  by *TY* in order to follow it. *Type(s<sub>t</sub>)* and *Type(s<sub>a</sub>)* are the anchored versions of the associated types of the sentences  $\Psi$  and  $\Phi$  respectively.

Note that the two illocutionary acts above, namely  $s_t$  and  $s_a$ , are supposed to be the sort of things that are satisfiable. It means that they are supposed to have contents. As states like beliefs and desires are satisfiable, I find it not particularly problematic to suppose that events like illocutionary acts are satisfiable. As the property of being about *m* and the property of being true iff *m* is of type  $AT_\Psi$  are properties of *JP*'s remark, I take them to be properties of  $s_t$ . As the property of being about *m* and the property of being followed iff *m* is of type  $AT_\Phi$  and *TY* brings it about that *m* is of type  $AT_\Phi$  in order to follow it are properties of *ST*'s advice, I take them to be properties of  $s_a$ .

## 6. Meaning as Constraint

All the discussions in the previous section are based on our intuitive understanding of the meaning of the two sentences,  $\Phi$  and  $\Psi$ . In order to make things a bit more systematic, we need to consider the relation between types of utterances and types of illocutionary acts. Let *IA* be the type of situation in

which a particular sort of illocutionary act is performed and  $U$  be the type of situation in which a particular sentence is uttered. If an illocutionary act of the type mentioned in defining  $IA$  can be performed by uttering the sentence mentioned in defining  $U$ , the following constraint might be expected to hold:

$$(50) \quad U \Rightarrow IA$$

But such a constraint will not hold unconditionally. As Austin (1955: 14ff) has pointed out, even if serious utterances are made, illocutionary acts can be void in various ways. For example, if I am to bequeath you a particular house, I must be the owner of it. If I am to call you out in a baseball game, I must be one of the umpires of the game.

This means that we have to consider conditional constraints of the form

$$(51) \quad [U \Rightarrow IA] / B$$

instead.  $B$  here denote a set of background conditions, and (51) as a whole denotes the constraint to the effect that  $U$  involves  $IA$  given that  $B$ .<sup>10</sup>

In order to examine how meanings put constraints upon possible illocutionary acts, however, it is possible to ignore background conditions by taking them for granted. I shall consider two constraints relating to our previous examples.

Let me consider first the following constraint:

$$(52) \quad U_{\Psi} \Rightarrow TELL_{\Psi}$$

where

$$(53) \quad U_{\Psi} = [s \mid \dot{s} \models \{ \langle \langle ADDRESSING, \dot{a}gent, \dot{a}ddressee, \dot{i}_u, 1 \rangle \rangle, \\ \langle \langle UTTERING, \dot{a}gent, \Psi, \dot{i}_u, 1 \rangle \rangle, \\ \langle \langle REFERRING, \dot{a}gent, \text{"did"}, \Psi, \dot{i}_j, \dot{i}_u, 1 \rangle \rangle, \\ \langle \langle EXPLOITING, \dot{a}gent, \text{"Tomoyuki"}, \dot{r}_T, \dot{i}_u, 1 \rangle \rangle, \\ \langle \langle REFERRING, \dot{a}gent, \text{"Tomoyuki"}, \dot{p}_j, \dot{i}_u, 1 \rangle \rangle, \\ \langle \langle EXPLOITING, \dot{a}gent, \text{"the meeting"}, \dot{r}_m, \dot{i}_u, 1 \rangle \rangle, \\ \langle \langle REFERRING, \dot{a}gent, \text{"the meeting"}, \dot{m}, \dot{i}_u, 1 \rangle \rangle, \\ \langle \langle TALKING - ABOUT, \dot{a}gent, \dot{d}s, \dot{i}_u, 1 \rangle \rangle \} ]$$

$$(54) \quad \Psi = \text{"Tomoyuki didn't make a joke in the meeting."}$$

$$(55) \quad TELL_{\Psi} = [s \mid \dot{s} \models \langle \langle TELLING, \dot{a}gent, \dot{a}ddressee, \dot{d}s, AT_{\Psi}, \dot{i}_u, 1 \rangle \rangle ]$$

and

$$(56) \quad AT_{\Psi} = [\dot{s} \mid \dot{s} \models \langle \langle JOKING, \\ \dot{p}_j \uparrow (\dot{r}_T \models \langle \langle NAMED, \dot{p}_j, \text{“Tomoyuki”}, 1 \rangle \rangle), \\ \dot{i}_j \uparrow \{ \langle \langle PRECEDES, \dot{i}_j, \dot{i}_u, 1 \rangle \rangle, \\ \langle \langle TEMP, \dot{i}_j, \\ \dot{m} \uparrow \{ \langle \dot{r}_m \uparrow \{ \langle \langle UNIQUE, \\ \dot{r}_m, MEETING, 1 \rangle \rangle \} \\ \models \langle \langle MEETING, \dot{m}, 1 \rangle \rangle \} \}, 1 \rangle \rangle, 0 \rangle \rangle ]$$

Note that the situation-type identified with  $AT_{\Psi}$  here is slightly different from that identified with  $AT_{\Psi}$  before. We have included the uniqueness requirement here.

We can see here how the meanings of expressions used impose complex conditions upon the structure of the utterance situation. The situation-type  $U_{\Psi}$  here contains some person, *agent*, who is addressing some other person, *addressee*, and talking about some situation,  $\dot{d}_s$ , at a time,  $\dot{i}_u$ . The use of “Tomoyuki” requires *agent* to exploit some resource situation,  $\dot{r}_T$  in which someone,  $\dot{p}_j$ , is named Tomoyuki. It also requires *agent* to refer to  $\dot{p}_j$  by “Tomoyuki.” The use of “the meeting” requires *agent* to exploit another resource situation,  $\dot{r}_m$ . The use of “the” in “the meeting” requires  $\dot{r}_m$  to be in the *UNIQUE* relation with the property *MEETING*. This means that  $\dot{r}_m$  is required to contain only a single exemplar,  $\dot{m}$ , of the property *MEETING*.<sup>11</sup> The use of “the meeting” also requires *agent* to refer to  $\dot{m}$ . The use of “did” and the use of “in the meeting” together require *agent* to refer to some temporal location,  $\dot{i}_j$ , which temporally precedes  $\dot{i}_u$  and is the temporal location of  $\dot{m}$ .

Let  $u_{\Psi}$  be the situation in which *JP*’s utterance of  $\Psi$  in the second conversation is made. If  $f$  is an anchor for all of the free parameters in the constraint (52), and is appropriate for our example, then we have

$$(57) \quad u_{\Psi} : U_{\Psi}[f]$$

and

$$(58) \quad s_i : TELL_{\Psi}[f]$$

This means that we have

$$(59) \quad u_{\Psi} \models \langle \langle ADDRESSING, f(\dot{a}gent), f(\dot{a}ddressee), f(\dot{i}_u), 1 \rangle \rangle$$

$$(60) \quad u_{\Psi} \models \langle \langle UTTERING, f(\dot{a}gent), \Psi, f(\dot{i}_u), 1 \rangle \rangle$$

$$(61) \quad u_{\Psi} \models \langle \langle REFERRING, f(\dot{a}gent), \text{“did”}, f(\dot{i}_j), f(\dot{i}_u), 1 \rangle \rangle$$

$$(62) \quad u_{\Psi} \models \langle \langle EXPLOITING, f(\dot{a}gent), \text{“Tomoyuki”}, f(\dot{r}_T), f(\dot{i}_u), 1 \rangle \rangle$$

- (63)  $u_\Psi \models \langle \langle \text{REFERRING}, f(\dot{a}gent), \text{“Tomoyuki”}, f(\dot{p}_j), f(\dot{i}_u), 1 \rangle \rangle$   
(64)  $u_\Psi \models \langle \langle \text{EXPLOITING}, f(\dot{a}gent), \text{“the meeting”}, f(\dot{r}_m), f(\dot{i}_u), 1 \rangle \rangle$   
(65)  $u_\Psi \models \langle \langle \text{REFERRING}, f(\dot{a}gent), \text{“the meeting”}, f(\dot{m}), f(\dot{i}_u), 1 \rangle \rangle$   
(66)  $u_\Psi \models \langle \langle \text{TALKING} - \text{ABOUT}, f(\dot{a}gent), f(\dot{d}s), f(\dot{i}_u), 1 \rangle \rangle$   
(67)  $s_t \models \langle \langle \text{TELLING}, f(\dot{a}gent), f(\dot{a}ddressee), f(\dot{d}s), AT_\Psi[f], f(\dot{i}_u), 1 \rangle \rangle$   
(68)  $f(\dot{r}_T) \models \langle \langle \text{NAMED}, f(\dot{p}_j), \text{“Tomoyuki”}, 1 \rangle \rangle$   
(69)  $w \models \langle \langle \text{PRECEDES}, f(\dot{i}_j), f(\dot{i}_u), 1 \rangle \rangle$   
(70)  $w \models \langle \langle \text{UNIQUE}, f(\dot{r}_m), \text{MEETING}, 1 \rangle \rangle$   
(71)  $f(\dot{r}_m) \models \langle \langle \text{MEETING}, f(\dot{m}), 1 \rangle \rangle$   
(72)  $w \models \langle \langle \text{TEMP}, f(\dot{i}_j), f(\dot{m}), 1 \rangle \rangle$

where

- (73)  $AT_\Psi[f] = [\dot{s} \mid \dot{s} \models \langle \langle \text{JOKING}, f(\dot{p}_j), f(\dot{i}_j), 0 \rangle \rangle]$   
(74)  $f(\dot{a}gent) = JP$   
(75)  $f(\dot{a}ddressee) = ST$   
(76)  $f(\dot{i}_u) = t_u^2$   
(77)  $f(\dot{i}_j) = t_m$   
(78)  $f(\dot{r}_T) = r_T$   
(79)  $f(\dot{p}_j) = TY$   
(80)  $f(\dot{r}_m) = r_m^2$   
(81)  $f(\dot{m}) = m$   
(82)  $f(\dot{d}s) = m$

where  $t_u^2$  is the temporal location of  $JP$ 's utterance,  $r_T$  is the resource situation  $JP$  exploited with his use of “Tomoyuki,” and  $r_m^2$  is the resource situation  $JP$  exploited with his use of “the meeting.”

As  $JP$ 's remark is true, we also have

- (83)  $m : AT_\Psi[f]$

This is equivalent to

- (84)  $m \models \langle \langle \text{JOKING}, TY, t_m, 0 \rangle \rangle$

Note that the infon that  $TY$  is named Tomoyuki, the infon that  $f(\dot{i}_j)$  precedes  $f(\dot{i}_u)$ , and so on are not required to be facts of  $m$ .

Then consider the following constraint:

- (85)  $U_\Phi \Rightarrow ADV_\Phi$

where

$$(86) \quad U_{\Phi} = [\dot{s} \mid \dot{s} \models \{ \langle \langle \text{ADDRESSING}, \dot{a}gent, \dot{a}ddressee, \dot{i}_u, 1 \rangle \rangle, \\ \langle \langle \text{UTTERING}, \dot{a}gent, \Phi, \dot{i}_u, 1 \rangle \rangle, \\ \langle \langle \text{REFERRING}, \dot{a}gent, \text{“do”}, \dot{i}_j, \dot{i}_u, 1 \rangle \rangle, \\ \langle \langle \text{EXPLOITING}, \dot{a}gent, \text{“the meeting”}, \dot{r}_m, \dot{i}_u, 1 \rangle \rangle, \\ \langle \langle \text{REFERRING}, \dot{a}gent, \text{“the meeting”}, \dot{m}, \dot{i}_u, 1 \rangle \rangle, \\ \langle \langle \text{TALKING – ABOUT}, \dot{a}gent, \dot{d}s, \dot{i}_u, 1 \rangle \rangle \}$$

$$(87) \quad \Phi = \text{“Don’t make a joke in the meeting.”}$$

$$(88) \quad ADV_{\Phi} = [\dot{s} \mid \dot{s} \models \langle \langle \text{ADVISING}, \dot{a}gent, \dot{a}ddressee, \dot{d}s, AT_{\Phi}, \dot{i}_u, 1 \rangle \rangle]$$

and

$$(89) \quad AT_{\Phi} = [\dot{s} \mid \dot{s} \models \langle \langle \text{JOKING}, \dot{a}ddressee, \\ \dot{i}_j \uparrow \{ \langle \langle \text{PRECEDES}, \dot{i}_u, \dot{i}_j, 1 \rangle \rangle, \\ \langle \langle \text{TEMP}, \dot{i}_j, \\ \dot{m} \uparrow \{ (\dot{r}_m \uparrow \{ \langle \langle \text{UNIQUE}, \\ \dot{r}_m, \text{MEETING}, 1 \rangle \rangle \} \\ \models \langle \langle \text{MEETING}, \dot{m}, 1 \rangle \rangle \}, 1 \rangle \rangle \}, 0 \rangle \rangle]$$

Note that the situation-type identified with  $AT_{\Phi}$  here is also different from that identified with  $AT_{\Phi}$  before. We have included the uniqueness requirement here, too, and we have substituted  $\dot{a}ddressee$  for

$$\dot{p}_j \uparrow \langle \langle \text{ADDRESSING}, \dot{a}gent, \dot{p}_j, \dot{i}_u, 1 \rangle \rangle$$

as we already have an equivalent condition in  $U_{\Phi}$ .

Let  $u_{\Phi}$  be the situation in which  $ST$ 's utterance of  $\Phi$  in the first conversation is made. If  $g$  is an anchor for all of the free parameters in the constraint (85), and is appropriate for our example, then we have

$$(90) \quad u_{\Phi} : U_{\Phi}[g]$$

and

$$(91) \quad s_a : ADV_{\Phi}[g]$$

This, again, means that we have

$$(92) \quad u_{\Phi} \models \langle \langle \text{ADDRESSING}, g(\dot{a}gent), g(\dot{a}ddressee), g(\dot{i}_u), 1 \rangle \rangle$$

$$(93) \quad u_{\Phi} \models \langle \langle \text{UTTERING}, g(\dot{a}gent), \Phi, g(\dot{i}_u), 1 \rangle \rangle$$

$$(94) \quad u_{\Phi} \models \langle \langle \text{REFERRING}, g(\dot{a}gent), \text{“do”}, g(\dot{i}_j), g(\dot{i}_u), 1 \rangle \rangle$$

$$(95) \quad u_{\Phi} \models \langle \langle \text{EXPLOITING}, g(\dot{a}gent), \text{“the meeting”}, g(\dot{r}_m), g(\dot{i}_u), 1 \rangle \rangle$$



- (96)  $u_\phi \models \langle\langle \text{REFERRING}, g(\dot{a}gent), \text{“the meeting”}, g(\dot{m}), g(\dot{t}_u), 1 \rangle\rangle$   
 (97)  $u_\phi \models \langle\langle \text{TALKING – ABOUT}, g(\dot{a}gent), g(\dot{d}s), g(\dot{t}_u), 1 \rangle\rangle$   
 (98)  $s_a \models \langle\langle \text{ADVISING}, g(\dot{a}gent), g(\dot{a}ddressee),$   
 $g(\dot{d}s), AT_\phi[g], g(\dot{t}_u), 1 \rangle\rangle$   
 (99)  $w \models \langle\langle \text{PRECEDES}, g(\dot{t}_u), g(\dot{t}_j), 1 \rangle\rangle$   
 (100)  $w \models \langle\langle \text{UNIQUE}, g(\dot{r}_m), \text{MEETING}, 1 \rangle\rangle$   
 (101)  $g(\dot{r}_m) \models \langle\langle \text{MEETING}, g(\dot{m}), 1 \rangle\rangle$   
 (102)  $w \models \langle\langle \text{TEMP}, g(\dot{t}_j), g(\dot{m}), 1 \rangle\rangle$

where

- (103)  $AT_\phi[g] = [\dot{s} \mid \dot{s} \models \langle\langle \text{JOKING}, g(\dot{a}ddressee), g(\dot{t}_j), 0 \rangle\rangle]$   
 (104)  $g(\dot{a}gent) = ST$   
 (105)  $g(\dot{a}ddressee) = TY$   
 (106)  $g(\dot{t}_u) = t_u^1$   
 (107)  $g(\dot{t}_j) = t_m$   
 (108)  $g(\dot{r}_m) = r_m^1$   
 (109)  $g(\dot{m}) = m$   
 (110)  $g(\dot{d}s) = m$

where  $t_u^1$  is the temporal location of  $ST$ 's utterance, and  $r_m^1$  is the resource situation  $ST$  exploited with his use of “the meeting.” In our example,  $r_m^1$  can be, though doesn't have to be, identical with  $r_m^2$  above.

As  $TY$  followed  $ST$ 's advice, we also have

- (111)  $m : AT_\phi[g]$

This is equivalent to

- (112)  $m \models \langle\langle \text{JOKING}, TY, t_m, 0 \rangle\rangle$

Note that (112) is identical with (84). As (83) is equivalent to (84), and (111) is equivalent to (112), we have

- (113)  $m : AT_\psi[f]$  iff  $m : AT_\phi[g]$

This means that  $JP$ 's remark is true if  $ST$ 's advice is followed, though the converse does not hold because of the self-referential condition of satisfaction of  $ST$ 's advice.

Here we have succeeded in capturing one of the important logical relations between illocutionary acts with different forces. While  $JP$ 's remark is an example of what is either true or false,  $ST$ 's advice is not a thing of this kind.

The notion of situations having certain types enables us to state what is common in their contents. The described situation of *JP*'s remark is identical with that of *ST*'s advice and their descriptive types have common features such that one and the same described situation can be of both types at once.

This means that we can avoid identifying contents of illocutionary acts with propositions understood as truth value bearers. As we have a pair of a described situation and a descriptive type in each of our examples, we could have an corresponding Austinian proposition for each of the illocutionary acts we are considering. But what is important about our analysis is the fact that we don't have to identify the contents of the illocutionary acts in question with these Austinian propositions. In the case of *JP*'s remark, such identification is not problematic because *JP*'s remark itself is what is either true or false, but in the case of *ST*'s advice, identifying its content with an Austinian proposition seems to be identifying what is not either true or false with what is true or false. For each illocutionary act *i*, *About(i)* and *Type(i)* can be used to characterize under what conditions *i* will be satisfied. In order to do so, however, we don't have to identify content with a proposition.<sup>12</sup>

## 7. Meaning Relations

The constraints (52) and (85) in the previous section are meant to capture partially the meanings of the sentences  $\Psi$  and  $\Phi$  respectively as abstract relations between types of situations. The meaning characterizations they give us are partial because these sentences can be used to perform illocutionary acts other than telling and advising. For example, consider the following constraint:

$$(114) U_{\Psi} \Rightarrow \text{ASSRT}_{\Psi}$$

where

$$(115) \text{ASSRT}_{\Psi} = [\dot{s} \mid \dot{s} \models \langle \langle \text{ASSERTING}, \text{agent}, \dot{d}s, \text{AT}_{\Psi}, \dot{i}_u, 1 \rangle \rangle]$$

It also can be considered as partially characterizing the meaning of  $\Psi$ .<sup>13</sup>

Since the sentence  $\Psi$  can be used to perform illocutionary acts with various illocutionary forces, there will be many such constraints, and so its meaning can be considered as what is common across these constraints. One thing that is common across them is the regular relation between features of

the circumstances of utterance and descriptive types of illocutionary acts performed in those circumstances. I propose to examine  $AT_\Psi$  in this light. In situation semantics, the meanings of linguistic expressions are usually considered as relations between contexts of their utterance and various objects taken as their semantic values in those contexts. Following Gawron and Peters (1990), I shall treat a context of an utterance as a situation called a “circumstance”. In the case of sentences, the relevant semantic values seem to be situation-types. Let  $\llbracket S \rrbracket$  denote that part of the meaning of a sentence  $S$  which is responsible for determining the related situation type for each circumstance. Then, consider our sentence  $\Psi$ . If  $c$  is a situation, and  $T$  is a situation-type, we seem to have

- (116)  $c \llbracket \Psi \rrbracket T$  iff for some anchor  $f$
- $c \models \langle \langle \text{REFERRING}, \dot{a}_{\text{gent}}, \text{“did”}, \dot{i}_j, \dot{i}_u, 1 \rangle \rangle [f]$
  - $c \models \langle \langle \text{EXPLOITING}, \dot{a}_{\text{gent}}, \text{“Tomoyuki”}, \dot{r}_T, \dot{i}_u, 1 \rangle \rangle [f]$
  - $c \models \langle \langle \text{REFERRING}, \dot{a}_{\text{gent}}, \text{“Tomoyuki”}, \dot{p}_j, \dot{i}_u, 1 \rangle \rangle [f]$
  - $c \models \langle \langle \text{EXPLOITING}, \dot{a}_{\text{gent}}, \text{“the meeting”}, \dot{r}_m, \dot{i}_u, 1 \rangle \rangle [f]$
  - $c \models \langle \langle \text{REFERRING}, \dot{a}_{\text{gent}}, \text{“the meeting”}, \dot{m}, \dot{i}_u, 1 \rangle \rangle [f]$

and

$$\begin{aligned}
 DO = [\dot{s} \mid \dot{s} \models \langle \langle \text{JOKING}, \\
 & \dot{p}_j \uparrow (\dot{r}_T \models \langle \langle \text{NAMED}, \dot{p}_j, \text{“Tomoyuki”}, 1 \rangle \rangle), \\
 & \dot{i}_j \uparrow \{ \langle \langle \text{PRECEDES}, \dot{i}_j, \dot{i}_u, 1 \rangle \rangle, \\
 & \quad \langle \langle \text{TEMP}, \dot{i}_j, \\
 & \quad \quad \dot{m} \uparrow \{ \langle \langle \text{UNIQUE}, \\
 & \quad \quad \quad \dot{r}_m, \text{MEETING}, 1 \rangle \rangle \} \\
 & \quad \models \langle \langle \text{MEETING}, \dot{m}, 1 \rangle \rangle \}, 1 \rangle \rangle, 0 \rangle \rangle [f]
 \end{aligned}$$

Note that  $u_\Psi \llbracket \Psi \rrbracket AT[f]$  and  $AT_\Psi[f] = \text{Type}(s)$  for the anchor  $f$  mentioned in the last section. (See (56), (61)–(65), and (67).) This should be expected as  $AT_\Psi$  is the situation-type which is associated with the sentence  $\Psi$  by the descriptive conventions of English. Let  $AT_S$  denote the situation type associated with the sentence  $S$  by the descriptive conventions of the language to which  $S$  belongs. Generally, I suggest, when an illocutionary act  $i$  is performed in a circumstance  $c_u$  by uttering a sentence  $S$ , the meaning of  $S$  constrains  $\text{Type}(i)$  to be identical with  $AT_S[f]$  for some  $f$  such that  $c_u \llbracket S \rrbracket AT_S[f]$ .

Similarly, in the case of our sentence  $\Phi$ , if  $c$  is a situation, and if  $T$  is a situation-type, we seem to have

- (117)  $c \models \llbracket \Phi \rrbracket T$  iff for some anchor  $f$
- $c \models \llbracket \langle \langle \text{ADDRESSING}, \dot{a}gent, \dot{a}ddressee, \dot{i}_u, 1 \rangle \rangle \rrbracket [f]$
  - $c \models \llbracket \langle \langle \text{REFERRING}, \dot{a}gent, \text{"do"}, \dot{i}_j, \dot{i}_u, 1 \rangle \rangle \rrbracket [f]$
  - $c \models \llbracket \langle \langle \text{EXPLOITING}, \dot{a}gent, \text{"the meeting"}, \dot{r}_m, \dot{i}_u, 1 \rangle \rangle \rrbracket [f]$
  - $c \models \llbracket \langle \langle \text{REFERRING}, \dot{a}gent, \text{"the meeting"}, \dot{m}, \dot{i}_u, 1 \rangle \rangle \rrbracket [f]$

and

$$T = [\dot{s} \mid \dot{s} \models \llbracket \langle \langle \text{JOKING}, \dot{a}ddressee, \\ \dot{i}_j \uparrow \{ \langle \langle \text{PRECEDES}, \dot{i}_u, \dot{i}_j, 1 \rangle \rangle, \\ \langle \langle \text{TEMP}, \dot{i}_j, \\ \dot{m} \uparrow \{ (\dot{r}_m \uparrow \{ \langle \langle \text{UNIQUE}, \\ \dot{r}_m, \text{MEETING}, 1 \rangle \rangle \} \\ \models \langle \langle \text{MEETING}, \dot{m}, 1 \rangle \rangle \}, 1 \rangle \rangle \}, 0 \rangle \rangle \rrbracket [f]$$

Again,  $u_\Phi \models \llbracket \Phi \rrbracket AT_\Phi[g]$  and  $AT_\Phi[g] = Type(s_a)$ , for the anchor  $g$  mentioned in the last section. (See (89), (92), (94)–(96), and (98).)

One of the tasks of a systematic theory of meaning is to give a compositional account of meaning relations of this kind. In order to have such an account, we need some notion of the structure of utterance. As Barwise and Perry (1983: 122) have pointed out, there is a necessary structural constraint on saying: saying a compound expression  $(\alpha\beta)$  at spatio-temporal location  $l_u$  involves saying  $\alpha$  at sublocation  $l_1$  and saying  $\beta$  at another sublocation  $l_2$  such that  $l_1, l_2 \subseteq l_u$  and  $l_1$  precedes  $l_2$ . Along such a structure, the meaning relations  $\llbracket (\alpha\beta) \rrbracket$  can be built, starting with the meaning relations  $\llbracket \alpha \rrbracket$  and  $\llbracket \beta \rrbracket$ . Examples of such an account can be found in Gawron and Peters (1990) and Suzuki and Tutiya (1991).

## 8. Conclusion

I have presented here the basic ideas of, and argument for, an ascription based theory of illocutionary acts. It is called ascription based because its basic formulas are formulas ascribing actions to agents. For example, the following formula ascribes an act of telling to the agent  $f(\dot{a}gent)$ :

$$(118) s_t \models \llbracket \langle \langle \text{TELLING}, f(\dot{a}gent), f(\dot{a}ddressee), f(\dot{d}s), AT_\Psi[f], f(\dot{i}_u), 1 \rangle \rangle \rrbracket$$

Similarly, the following formula ascribes an act of uttering to the agent  $g(\dot{a}gent)$ :

$$(119) u_\Phi \models \langle\langle UTTERING, g(\dot{a}gent), \Phi, g(\dot{i}_u), 1 \rangle\rangle$$

In this paper, I have also presented a set of basic ideas which can be developed into a general theory of content for illocutionary acts. By extending Austin's theory of truth, I have re-introduced the notion of described situation and the notion of descriptive type of an illocutionary act. When an illocutionary act  $i$  is performed in a circumstance  $c_u$  by uttering a sentence  $S$ , the meaning of  $S$  constrains  $Type(i)$  to be identical with  $AT_S[f]$  for some  $f$  such that  $c_u \models S \parallel AT_S[f]$ . The meaning relation,  $\parallel S \parallel$ , here is that part of the meaning of the sentence,  $S$ , which corresponds to the descriptive conventions of the language to which  $S$  belongs.

The meaning of a sentence as a whole, on the other hand, is interpreted as being partially captured by constraints relating the type of situation in which that sentence is uttered and the type of situation in which a particular sort of illocutionary act is performed. Our examples were the constraints

$$(52) U_\Psi \Rightarrow TELL_\Psi$$

and

$$(85) U_\Phi \Rightarrow ADV_\Phi$$

Although they are not factual, they work as far as background conditions are taken for granted.

By treating illocutionary acts as acts, it becomes possible to incorporate insights from general theories of action into a theory of illocutionary acts. Tools, I hope, can be developed for characterizing conventional effects of illocutionary acts within some such framework.

## Chapter 9

# **An approach for modelling and simulating conversations**

Bernard Moulin

*Département d'Informatique, Université Laval*

Daniel Rousseau

*DIRO, Université de Montréal*

### **1. Introduction**

Unless you are living alone on an isolated island or on the top of a mountain, it is almost certain that conversation is the most common activity in which you are involved daily. This social activity is so familiar and apparently effortless that people take the ability to carry on a conversation for granted. However, a closer examination reveals that these social interactions are highly complex activities requiring from those who are involved in them the ability to apply an amazing amount of diverse knowledge like linguistic knowledge (lexical, grammatical, semantic, pragmatic), world knowledge, rules of etiquette and politeness, conversational practices, etc.

From an analytical point of view, conversations are fascinating linguistic entities which usually unfold in a coherent way, thanks to the tacitly coordinated contributions of participants, although they may have diverse knowledge as well as quite different goals. A conversation results from the speech acts performed by the locutors participating in it. Most works in traditional speech act theory (Austin 1962a, Searle 1975a, Searle and Vanderveken 1985) considered illocutionary acts as isolated units of meaning. Vanderveken (1994a) writes:

Speech act theory is an essential part of the theory of discourse and the analysis of conversations. Until now, syntax and semantics have been confined to the generation and the interpretation of isolated sentences. Speech act theory has likewise been mainly confined to the analysis of isolated illocutionary acts, performed by locutors by uttering single sentences. However, most of our utterances are made in the course of entire conversations where several speakers cooperate and generate a sequence of utterances and illocutionary acts with the collective intention of achieving common discursive goals.

In figure 1 we present a simple example of conversations taking place between four robots in a workshop: Dartagnan, Portos, Atos and Aramis. They perform various mechanical tasks, communicate together, move around in the workshop and are able to lift loads up to a given weight that depends on the robot’s strength. Dartagnan must carry a 500 kg box to the machine shop, but he is not strong enough. So, he asks Portos for help, but Portos is not available. Then, Dartagnan asks Atos for help. But Atos is not strong enough to lift the box with Dartagnan and must request Aramis to help them. This example will be used to illustrate various concepts in the following sections.

Speech acts are the building blocks of conversations. But, are there other structural elements in conversations? How can we explain conversational coherence? Do conversations have distinctive components? How are locutors

Dartagnan (to Portos):	Portos! I need your help to bring a 500 kg box to the machine shop by 1:00 PM.
Portos (to Dartagnan):	Sorry! I cannot help you because I have work to do between 12:00 PM and 2:00 PM.
Dartagnan (to Portos):	Never mind.
Dartagnan (to Atos):	Atos! I need your help to bring a 500 kg box to the machine shop by 1:00 PM. Portos is not available.
Atos (to Dartagnan):	I am free before 1:00 PM. We need another robot to carry the box. Wait a minute! I will ask Aramis to help us.
Dartagnan (to Atos):	OK.
Atos (to Aramis):	Aramis! Can you help me and Dartagnan bring a 500 kg box to the machine shop by 1:00 PM.
Aramis(to Atos):	I am busy until 12:30 PM. I promise to come and help you by 12:45 PM.
Atos (to Aramis):	I am counting on you.
Atos (to Dartagnan):	Dartagnan! I promise to come with Aramis by 12:45 PM.
Dartagnan (to Atos):	Thank you. I am relying on both of you.

Figure 1: Conversations between the four robots

able to coordinate smoothly when interacting? Are there rules that govern conversational practices? Many scholars from various disciplines have proposed empirical and theoretical accounts that aim at answering these questions and several others. However, we do not have yet a complete and well-structured theory of conversations as we have a theory of speech acts.

Conversations are primary examples of language use (Dascal 1992). Jucker (1992) indicates: "Conversations are interactive: there must be at least two participants actively contributing to it and the contributions are unscripted, that is to say not planned, at least not in their exact wording, before the start of the conversation". Two or more locutors may interact in a conversation by performing utterances and gestures. Utterances can correspond to complete or incomplete illocutionary acts as well as to more primitive communicative acts such as backchannel responses (i.e. Uhh, OK). Gestures may be part of the conversation and replace some illocutionary acts (i.e. nodding instead of saying 'yes'). A locutor has access to a mental model that organizes her knowledge about her environment, other locutors and herself. Locutors use their mental models in order to decide which linguistic or non-linguistic actions they will perform. In addition, they use their linguistic knowledge to formulate utterances and to interpret utterances made by other locutors. An observer of a conversation (be she a participant or not) has access to the information conveyed by the utterances and gestures of locutors as well as to the information related to their environment, but has no access to locutors' mental models.

In the next section we give a brief review of the main research works related to the analysis of conversations from the perspective of different disciplines. In section 3, we propose a framework for studying conversations that is based on several guidelines: a conversation is a cooperative activity; multichannel communications take place between locutors who monitor several levels of interaction at once; locutors reason about mental states and perform speech acts to transmit their mental states to other agents.

In section 4, we propose an approach for modelling and simulating conversations where locutors' speech acts are transformed into so-called conversational objects (COs) corresponding to mental states associated with agents' positionings. These COs are managed by a special agent which embodies for locutors a persistent and common memory of the conversation. Section 5 presents the main categories of mental states and relations which can be included in locutors' mental models or in the CO network. In section 6, we



present the negotiation life cycle specifying which state transitions are allowed when locutors manipulate COs. Section 7 introduces the life cycles associated with two special objects, the conversation-object and the initiative agenda which are used to monitor the different phases of a conversation as well as turn-taking. It also describes the negotiation agenda used to manage the conversational demand on locutors. Finally, section 8 deals with the interpretation of speech acts in terms of COs and gives a brief illustration of a conversation simulation.

## **2. Review of some approaches used to model conversations**

Several researchers have studied from different perspectives the interactions of agents participating in conversations or dialogues. In this section we present a review of some of the prevalent theories on conversations proposed in Sociology, Philosophy of Language, Artificial Intelligence and Computational Linguistics.

Ethnomethodologists, also called conversation analysts, study natural conversations from the observer's point of view (McLaughlin 1984) (Atkinson *et al.* 1984). Their central goal is the description and explication of the competence that ordinary speakers use in participating in conversations. They have studied various aspects of conversations such as turn-taking in conversational interactions (Sacks *et al.* 1978), interrelated utterance patterns like adjacency pairs, special sequences or "access rituals" like openings and closings of conversations, storytelling, techniques used by conversants to prevent or reverse negative typifications of themselves (disclaimers, preventatives, self-repairs), the various kinds of acts (direct and indirect speech acts, management acts, framing moves, etc.). In fact, they have tried to find "rules" or "practices" (Schegloff 1992) in order to analyse the coherence of conversations and to explain how people interact together. Unconstrained conversations have been analyzed as well as several types of constrained conversations: phone conversations, interviews, conversations in special settings (see for example Boden *et al.* 1991, Coulthard 1992). Sinclair and Coulthard (1975) proposed a descriptive system for analyzing classroom interactions. Francis and Hunston (1992) generalized it for analyzing more general conversations such as phone talks. Although discourse analysts do not propose formal or empirical models of conversations, they provide a wealth of

experimental results for other disciplines.

Extending works by Austin (1962a) and Grice (1957), Searle (1979) proposed to distinguish five types of speech acts: assertive, commissive, directive, declarative, expressive. Searle and Vanderveken (1985) created an illocutionary logic that is used to specify the various kinds of speech acts and to reason about them on the basis of their conditions of success and of satisfaction. However, this theory cannot be used to model conversations for several reasons: only isolated speech acts are considered whereas a conversation results from interdependent speech acts; the emphasis is put on the speaker only though all participants in a conversation should be considered; no mechanism is provided to explain how locutors choose the speech acts they perform.

Searle (1992) suggested that a conversation has no proper structure as it is the case for speech acts. He claimed that a conversation does not follow specific rules because it is too context-dependent. However, Vanderveken (1993) thinks that it is possible to enrich the illocutionary logic to analyze the logical structure of a conversation. He believes that a logical theory could be applied to conversations where a collective goal (called a conversational goal) is set *a priori*. A conversation may be decomposed into sub-conversations that can be viewed as complex illocutionary acts aggregating elementary illocutionary acts. Future developments of this approach will show how it can be applied to the modelling of conversations.

Reichman-Adar (1984) proposed a set of communication rules that can be used in a system for managing person/machine dialogues. Following Grice (1975), she supposed that the conversational process is composed of 'stages' with the execution of each *conversational move* taking the locutors to another stage of the discourse. However, some constraints restrict the transitions from one stage to another: Grice's *conversational maxims* are used to define these constraints. A conversation is decomposed into sub-conversations, each being associated with a main topic. Grosz and Sidner (1986) noted the lack of structures to represent locutors' intentions and means to differentiate them from utterance sequences.

Trognon and Brassac (1993) proposed interpreting locutors' reactive acts in the light of illocutionary logic, noting that a reactive act which satisfies another speaker's initiating illocutionary act implies the success of that act. Hence, the function of a first speaker's illocutionary act is undetermined until the performance of the reactive act by the addressee which determines the

interpretation of the first act. This approach provides a *dialogical extension of illocutionary logic* which is primarily a monological theory.<sup>1</sup> Roulet (1992) suggested that the interpretation of sequences of acts such as adjacency pairs must take into account constituents of conversation called *moves* which are composed of several interrelated speech acts. Moves and exchanges, conceived in a similar way as in (Sinclair and Coulthard 1975), provide a structure to the conversation thought of as a negotiation process between locutors.

Grosz and Sidner (1986) proposed an approach analyzing utterances in a discourse whose structure is composed of three interrelated components: the linguistic structure, the intentional structure and the attentional state. The *linguistic structure* is composed of discourse segments of naturally aggregating utterances. The *intentional structure* is composed of the goals (or intentions) that have been expressed in discourse segments, as well as the relations linking the goals. These goals are related in some ways to the global discourse goal and should be recognized by locutors. Each goal is associated with the agent who initiated the discourse segment. The *attentional state* dynamically records in *focus spaces* the most salient objects, properties and relations of each discourse segment. This model notably influenced research on discourse structuration and locutors' intentions, but it remained purely theoretical, but Litman and Allen (1987) criticized the fact that domain-level and discourse-level intentions are not distinguished. Grosz and Sidner (1990) enriched the previous model in order to enable locutors to recognize other agents' intentions. During a conversation, a locutor pursues a number of plans and wishes that some of them be recognized by other agents. In order to facilitate reasoning about intentions, plans are viewed as mental states composed of intentions and beliefs (Pollack 1990).

Cohen (1978), Allen (1979) and Perrault elaborated an influential approach to generate and recognize speech acts using planning techniques. This approach is based on the ability of an agent to recognize another agent's plan in order to decide upon the best answer to be given. Allen (1979, 1983b) suggested that the identification of a direct or indirect speech act (Searle 1975a) is the result of the recognition by a locutor of another agent's plan along with the obstacles preventing its performance. This approach was applied to cooperative dialogues and showed that planning techniques can be used to simulate the reasoning activities of agents involved in a conversation. For dialogue analysis, Litman and Allen (1987) distinguished *domain-level plans* which contain domain information relevant for the conversation and

*discourse-level plans* that relate locutors' utterances with domain-level plans. They applied their approach to person/machine dialogues clarifying the different types of plans involved in a conversation. However, a domain-level plan is successful only if it is appropriate in the current activity context.

Cohen and Levesque (1990a and b) proposed a theory of rational interaction in which a speech act is performed by an agent in order to change the state of the world by affecting its locutors' mental states (beliefs, intentions, etc.). This approach is based on a possible-worlds logic and a logic of attitudes. Agents are supposed to be rational. Speech acts are expressed in terms of agents' mental states. This theoretical approach provided one of the most formal frameworks for modelling agents' speech acts and mental states. However, it cannot be used to model discourse-level information in conversations, and it treats time in a limited way (Allen 1990).

Levinson (1983) suggested that a context-change theory would be a promising approach for speech act theory. In such a theory speech acts are characterized in terms of their context-changing effects. In Beun (1993) communicative acts are expressed in terms of linguistic and non-linguistic features of utterances (propositional content, mood, prosodics, connecting particles, non-verbal accompaniment) that contribute to reveal particular attitudes of the speaker in terms of beliefs and intentions with respect to certain propositions. Communicative acts are connected by default rules (Perrault 1990) to the conditions, expressed in terms of beliefs and intentions, that must be fulfilled by a speaker in order to perform the act felicitously. Successful communication is accomplished if a listener recognizes the felicity conditions from the speaker's act, based on her knowledge of the conventional relation existing between the utterance features and its felicity conditions. Default rules are used to enable a locutor to draw inferences without complete knowledge of the situation.

Reasoning about mental states and planning techniques provide fundamental tools for the implementation of artificial agents participating in conversations.

### **3. A framework for modelling conversations**

The preceding approaches emphasize different characteristics of conversations and propose complementary solutions for modelling them. However, we

do not have yet a complete theory explaining all the characteristics of natural conversations. Our research aims at proposing a conceptual framework to model and simulate conversations supporting interactions between artificial agents and person/machine interactions. These conversations should display most of those features that characterize natural conversations and have been recorded by ethnomethodologists.

This research should enable us to obtain an implementable model of conversation management, to develop advanced interaction protocols between artificial agents that simulate conversations and to propose communication protocols for person/machine interactions that display conversational features. Finally, such an approach provides an empirical model of conversations that could be used to experiment with conversational practices observed by conversation analysts.

### 3.1. *Conversation as a cooperative activity*

A conversation is a *cooperative activity* (Gibbs *et al.* 1990) in which several locutors participate, trying to achieve common goals, called *conversational goals*, that can be explicitly stated or left implicit. However, conversants may have quite different individual goals: an agent may try to share with other locutors her views about various subjects or to convince them to adopt some goals that will benefit her. Hence, conversants try to influence other agents' *mental states* (beliefs, intentions, desires, expectations, emotions, etc.).

Some conversations such as chaired meetings are structured: their topics are set before the meeting and turn-taking is controlled according to strict rules. Everyday conversations are apparently unstructured, but how can we explain that conversants generally manage their interactions quite smoothly? A conversation is a complex process in which locutors perform several activities at once: they jointly control turn-taking; they agree on the topics they discuss and manage them jointly; they comply with various social rules or practices and monitor other agents' compliance with these rules; they share their mental states with other agents. A conversation can be thought of as a *language game* (Wittgenstein 1958) in which each locutor plays her moves according to tacitly accepted turn-taking rules and other social practices.

Locutors interacting in a conversation (locutor-agents) can be thought of as composing a *multiagent system* that can be represented using distributed artificial intelligence techniques (Bond Gasser 1988, Chaib-draa *et al.* 1992).

Speech acts are not performed independently of each other, but they participate in conversational structures (Winograd and Flores 1986) which are often influenced by societal conventions. In a conversation, locutors must behave in a cooperative way (Grice 1975) to decide the sequence of their interventions. They must have understanding, planning and reasoning capabilities. They must be able to recognize speech acts that are performed by other agents and identify the intentions and plans that lie behind these acts. They must also detect when a conversation is initiated, suspended, resumed and terminated (De Vito 1992).

### 3.2. *Multichannel communication and monitoring*

During a “conversational game”, we consider that a locutor plays a *move* between the time she gets the turn and the time she releases it. Hence, a locutor can perform several verbal and non-verbal acts during a move. Speech acts have been the primary focus of studies on conversations. However, human locutors communicate using *several channels*: verbal utterances, gestures, body and facial attitudes. In our approach we consider that agents communicate through the performance of communicative acts. A *communicative act* is composed of the various verbal and non-verbal elementary acts that are performed by an agent in a move.

Not only locutors use multiple channels to communicate, but communication takes place at several levels at once. Locutors’ communicative acts convey the different kinds of information that are necessary to maintain the communication channel opened during the conversation, to manage turn-taking, to control information quality, to transfer concepts (mental states), to express emotions and to manage interpersonal relationships. We claim that a conversant is aware of all these levels at once, that she monitors them during her interactions, and that her communicative acts can aggregate several elementary acts, each addressing one of these levels.

We consider that interagent communication takes place at three different levels. The first level is the *communication level* where agents perform activities related to communication maintenance, turn-taking management and information quality control. The second level is the *conceptual level* where agents transfer concepts (mental states and their relations) and manage macro-components of the conversation (topics, utterance sequences influenced by social conventions, etc.). At the third level, called the *social level*,

agents manage and monitor the elements that govern their social relationships. Quite often an agent's communicative act can address several of these levels at once. Consider the following example in which John interrupts Mary's utterance in a vindictive tone (*emotion display*): "Please! (*turn-taking act*) Let me tell you that I am the boss (*interpersonal relationship*) and that you must obey me" (*concept transfer*).

### 3.3. *Mental states and conversational objects*

We believe that the understanding process consists of extracting from the various signals conveyed by communicative acts the information that characterizes the transferred concepts. For instance, Gibbs and Mueller (1990) indicate: "Many studies have shown that people are very likely to remember a pragmatic implication of an utterance rather than the utterance itself or what it directly asserts or logically implies". In our view, these concepts are interpreted as mental states that correspond not only to beliefs or intentions, but also to any object considered relevant by the agents: facts, plans or constraints applying on objects, rules or emotions, etc. (Rousseau *et al.* 1993). This approach is in line with several works done in cognitive psychology (Johnson-Laird 1983), linguistics (Langacker 1991, Fauconnier 1985) and artificial intelligence (Cohen and Levesque 1990a and b, Perrault 1990, Beun 1993).

We think of a conversation as a game in which locutors negotiate about the mental states they propose to their interlocutors. They propose some mental states (belief, intention, emotion, etc.) and other locutors react to these proposals, accepting or rejecting the proposed mental objects, asking for further information or justifications, etc. In addition, locutors are able to differentiate the conceptual objects proposed during a conversation from the mental states present in their own mental model. An evidence of that claim is that conversants routinely use sentences of the type "You said that ..." that directly refer to the mental states that their interlocutors transmitted during the conversation.

In our approach we view locutor-agents' interactions at the concept transfer level as exchanges of what we call *conversational objects (COs)*. A CO is a mental state transferred by one agent to one or several agents during a given conversation. In addition to transferring a CO, the agent positions herself relatively to the corresponding mental state by performing actions like "accepting" or "rejecting": such an action establishes a relationship between the CO and the agent that is called an *agent's positioning*.

Usually human conversants are able to recall at least the most important COs that have been exchanged during a conversation along with locutors' positionings. In our approach we consider that the COs exchanged during a conversation are recorded in a conceptual network by an autonomous agent called the *conversational agent*. This agent embodies for the locutor-agents a collective and persistent memory of the conversation. The CO network is a collection of COs linked together by specific relations like "motivation conditions", "preconditions", "effects". A conversation can dynamically unfold in various directions authorized by the CO network, thanks to the addition or modification of COs contributed by locutor-agents while performing their speech acts. Hence, we are able to model various phenomena related to sub-conversations without postulating an *a priori* knowledge of discourse plans (Litman and Allen 1987). We do not need to memorize a hierarchy of dialogues and sub-dialogues (Reichman-Adar 1984, Grosz and Sidner 1986).

In our approach a locutor-agent is able to reason about her own mental states as well as about the COs contained in the CO networks of the conversations in which she participates. The formalism used to reason about mental states is inspired by the works of Sowa (1984), Perrault (1990) and Beun (1993).

#### **4. Mental models and conversation modelling**

In this section we propose an approach for modelling conversations on the basis of the guidelines presented in section 3. We model and simulate a conversation using a multi-agent system (figure 2) composed of the locutor-agents involved in that conversation, of a *conversational agent* that manages COs and communicative acts performed by locutor-agents, and of an *environmental agent* that simulates the environment in which locutor-agents operate.

When a locutor-agent decides to start a conversation with other agents, the conversational agent is activated and creates a conversation model that will contain all the COs exchanged during that conversation. Indeed, this is a simplification with respect to real conversations, since this approach supposes that all locutor-agents interpret communicative acts in the same way. However, our aim in this paper is to show how a conversation can be modelled as a negotiation process at a conceptual level and how the various levels of communication between locutor-agents can be managed concurrently.



In a more general approach, each locutor-agent would be associated with a specific component called a *conversation manager* to be able to interpret differently the communicative acts they receive. Different interpretations of the same utterance could result in the creation of different COs by the agents' conversation managers. In order to simplify the current presentation, we use only one conversational agent which manages the CO network of the conversation. This proposal is relevant to model and simulate conversations in which artificial agents communicate together by transferring COs at the conceptual sub-level where no problem of differential interpretation arises.

Since we don't aim at developing a natural language processing system, we further simplify the approach, considering that locutor-agents perform communicative acts (see section 3.2), whose propositional content is expressed in a predicative form using conceptual graphs (Sowa 1984). However, as we will see in section 8, communicative acts contain other parameters that capture several pieces of information typical of a natural language utterance that are useful for interpreting agents' speech acts.

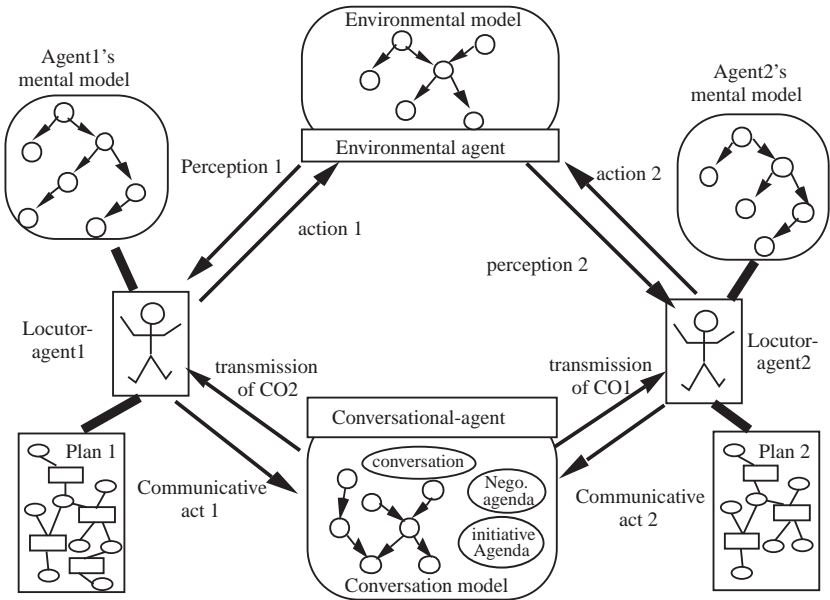


Figure 2: A multi-agent system for simulating conversations

Communication maintenance is done by the conversational agent thanks to a special object called "*conversation*" which is created when a conversation starts. As we will see in section 7 this object can take on different states characteristic of the communication channel opened between locutors: we say that the conversation is "started", "suspended", "resumed", etc. Note that this approach enables us to manage any number of simultaneous or overlapping conversations, each having its own conversation model containing an instance of the conversation-object characterizing the conversational state.

Turn-taking management is done by the conversational agent thanks to a special object called "*initiative agenda*" which is used to manage the initiative-demands of locutor-agents. The initiative-demand of a locutor-agent can go through different states: we say that the turn is "taken", "released", "kept", "asked", "refused", etc. For each locutor-agent there is an entry in the initiative-agenda which specifies the current state of the initiative-demand of that agent.

When an agent A1 performs a communicative act directed toward another agent A2, the conversational agent receives it and interprets it by creating or updating a CO in the CO network. The conversational agent then notifies the addressee agent A2 of the changes that occurred in the CO network. So, during all the exchanges taking place between agents, the conversation evolves through updates of the CO network. This network can be thought of as an organized memory that is common and accessible by the locutor-agents.

Each CO is a persistent entity that is negotiated by locutor-agents. A CO can go through several states that indicate the degree with which locutor-agents accept or reject the object in the context of the conversation: this is called the *positioning* of agents in relation to the CO. A CO which is proposed by an agent A1 is recorded by the conversational agent in the CO network. Agent A2, to which the CO is directed, may react in several ways: she may accept it, reject it, negotiate it or ignore it. This positioning is recorded by the conversational agent in the CO network after agent A2 performs its communicative act.

In a CO network, COs are linked together by specific relations (motivation conditions, preconditions, etc.) and related to locutor-agents by so-called *positioning relations* like acceptance, denial, etc. These positioning relations may have a value that indicates the degree with which an agent accepts or denies a given CO. Each conversational object CO1, proposed by a locutor-agent, may be negotiated by other agents in various ways: they can ask for explanations about CO1 or propose another object CO2 without revealing their degree of acceptance of CO1, and therefore orient the conversation in another direction.

In our approach another special object called the "*negotiation agenda*" is managed by the conversational agent in order to monitor the *conversational demand* on locutor-agents. When a new CO is proposed by a locutor-agent, an element is added to the negotiation agenda relating the CO and the identifiers of the agents concerned by this object. When the addressee locutor-agent positions herself definitively with respect to the CO (accepts or rejects it), the corresponding entry in the negotiation agenda is deleted. A CO entry can also be deleted when a locutor-agent abandons the corresponding CO. Hence, by examining the content of the negotiation agenda, locutor-agents can identify the conversational demands that are currently placed on them.

A conversation is terminated when locutor-agents agree on finishing it or when the negotiation agenda is empty: all the COs and their relations have been accepted, refused or abandoned by locutor-agents and nobody proposes a new CO to the conversational agent. In summary, the conversational agent is responsible for the management of the communication between locutor-agents through the CO network and the maintenance of a model of the conversation through the special conversation, initiative and negotiation agenda objects.

When a conversation is finished, agents may adopt one of two main attitudes, depending on the importance they award its content: they may keep it in memory to be able to access the details of the conversation (historic memory of a conversation); they may select some knowledge that is relevant to their purposes and integrate it into their own mental models (selective and integrative memory).

Each locutor-agent possesses her own mental model which is a conceptual network composed of objects such as facts, mental states, plans, actions, constraints and rules (see section 5) which model the knowledge needed by an intelligent planner. An agent's mental states evolve over time. Some facts and actions may be directly perceived by an agent while others are obtained through the understanding of communicative acts. An agent can also use several kinds of rules (goal activation rules, inference rules, emotion activation rules, etc.) to create objects after reasoning about mental objects available in her mental model.

Locutor-agents are intelligent planning systems (Wilkins 1988, Lizotte and Moulin 1989, Allen *et al.* 1991). They reason about mental states such as their own beliefs, goals and plans, as well as about knowledge about other agents. To reach their goals, locutor-agents construct plans that contain non-linguistic actions and speech acts. When an agent activates one of her plans,

she must take into account the temporal constraints of the plan's activities, before performing non-linguistic actions transmitted to the environmental agent and the communicative acts communicated to the conversational agent.

The environmental agent simulates the world (or environment) in which agents evolve and the effects of their actions in this world as well as the changes taking place in it. The characteristics of the environment are described in the environment model that is composed essentially of facts and rules. The environmental agent also simulates the perception capabilities of a locutor-agent, by informing her about all the environmental changes that are perceivable from the locutor-agent's point of view. Since no agent is "omniscient", the mental models of locutor-agents may be partially different from the environment model.

Our approach can also be used to model and simulate a conversation taking place among a group of locutor-agents. Several conversational roles may be distinguished: an agent is the initiator of the conversation while other agents are participants. A conversation is decomposed into periods. A period is characterized by a stable group of locutor-agents in the conversation. As soon as an agent quits or joins the conversation, the conversational agent creates a new period. A locutor-agent may participate in several conversations simultaneously. Each conversation is managed by a conversational agent that maintains its own list of participants and the CO network.

## 5. Conceptual objects and relations

We have identified the main conceptual object types that should be contained in an agent's mental model and eventually communicated by performing communicative acts.

### 5.1. Primitive conceptual objects

Primitive conceptual objects correspond to an agent's mental states and are specified by the generic structure:

*?type(?object-id, ?description, [?begin-time, ?end-time], ?intensity-degree)*

where terms starting with a question mark are variables to be instantiated.

- *?object-id* is the object identifier.
- *?type* is the object type.
- *?description* describes the object by means of conceptual graphs (Sowa 1984). Such a graph emphasizes the conceptual relations and concepts that semantically characterize the object.<sup>2</sup>
- *?begin-time* and *?end-time* describe the lower and upper bounds of the temporal interval associated with the object. These variables may be instantiated when appropriate.
- *?intensity-degree* corresponds to a rational number with values between -1 and +1. The interpretation of this argument depends on the object type.

We present here the various primitive conceptual objects that we have selected and briefly justify our choice.

A *fact* is used to record a valid state of the world in an agent's memory. It corresponds to the classical notion of belief. Anything that can be perceived by an agent is considered to be a fact, as for instance, "*Dartagnan has a mobility problem*" and "*Dartagnan asks Atos to help him*". The pattern of a fact is:

*FACT* (*?fact-id, ?description, ?state, [?t1, ?t2], ?belief-degree*)

- *?state* indicates how the fact has been obtained: *perceived, inferred* or *communicated*.
- *?belief-degree* measures the strength with which the agent believes that the fact is true: +1 indicates that the fact is believed to be true between times *?t1* and *?t2*; while -1 means that it is not believed during the same temporal interval.

A *goal* is thought of as a potential state that an agent wishes to reach at a given time. Goals motivate an agent's behaviour. During a conversation, a goal is usually invoked whenever an agent A1 proposes an agent A2 to adopt a goal G; agent A1 expects to reach another goal or to be able to activate a plan if G is satisfied. For instance *Dartagnan proposes to Atos to carry him to the repair shop*. A goal is described by the following structure:

*GOAL* ( *?goal-id, ?description, ?state, [?t1, ?t2], ?priority-degree* )

A goal may assume different states (*?state*). A goal is *active* when an agent wishes to reach the goal. A goal is *engaged* when the agent commits itself to reach it by trying to find and execute an appropriate plan, or when it promises

another agent that it will accomplish a task related to the goal. A goal can also be *successfully* or *unsuccessfully achieved*, *suspended*, *resumed* or *abandoned*. An agent associates priority degrees to its goals, depending on their importance.

A *capability* refers to an ability that an agent possesses. It is often used as a precondition for the execution of certain actions. It can also be invoked by an agent to justify why it refuses to accomplish a certain action (i.e. “*I cannot help you because I don’t know how to repair a robot*”). A capability is specified using the following structure:

*CAPABILITY* ( ?*capability-id*, ?*description*, [?t1, ?t2], ?*ability-degree*)

?*ability-degree* indicates how competent an agent is to achieve an activity described by ?*description*. -1 indicates that the agent is not competent, while +1 indicates that the agent is an expert in this activity.

A *preference* specifies how much an agent likes or dislikes an object (described as a concept) or a given activity. Any preference may influence an agent’s behaviour, and during a conversation an agent may choose to disclose some of its preferences to justify its behaviour. For instance, “*I like to play tennis. So, I registered at a tennis club next to my house*”. A preference is specified by:

*PREFERENCE* (?*preference-id*, ?*description*, [?t1, ?t2], ?*appreciation-degree*)

If ?*appreciation-degree* = -1, an agent strongly dislikes the concept described by ?*description*. The value 0 corresponds to a lack of interest and the value +1 indicates that the agent strongly likes the concept.

A *social role* describes a behaviour pattern that an agent adopts in relation to other agents (Berlo 1960). Behavioural constraints and emotions can be associated with a social role. An interpersonal relation involving some agents specifies which social roles are played by the agents as well as the related behavioural constraints and emotions. An interpersonal relation does influence the behaviour of an agent who will usually try to preserve it while respecting the behavioural constraints characterizing its social role. An interpersonal relation can be mentioned in a conversation when a new relation is established, when it changes or when it is violated. In this last case, an agent may refer to a social role part of the interpersonal relation rather than invoke the relation (i.e. “*You cannot decide. I am the boss*”). The following structures

are used to specify interpersonal relations and social roles:

INT-RELATION (?id-relation, ?social-role-list, [?t1, ?t2], ?importance-degree)

SOCIAL-ROLE (?role-id, ?agent-id, ?description, [?t1,?t2], ?importance-degree)

An *emotion* is a mental state which is evaluated with respect to another agent, an event or a situation whose nature is determined by its cognitive origin (Ortony *et al.* 1988). Several factors may trigger emotions: satisfying a preference or not; achieving a goal or not; respecting or violating an interpersonal relation. For instance, happiness appears within an agent if a certain positive state affects it or another agent it likes. During a conversation, emotions are disclosed especially when they are strongly experienced. An emotion is described by the following structure:

EMOTION (?emotion-id, ?description, [?t1, ?t2], ?intensity-degree)

## 5.2. Plans, rules and constraints

A *plan* is viewed as a state change method that an agent intends to use in order to reach a given goal. It is usually decomposed into several actions and can involve one or several agents. A plan can be invoked in a conversation, especially when several agents are trying to build a common plan, or when an agent involved in a group plan does not know which activities it should perform. A plan is specified by the structure:

PLAN (?plan-id, ?description, [?t1,?t2], ?priority-degree)

?priority-degree corresponds to the priority of a goal that the plan contributes to achieve.

*Activation rules* indicate the necessary conditions that should be satisfied by an object in order to be included in an agent's mental model. We selected four types of activation rules.

- A *goal activation rule* states conditions that motivate an agent to pursue a goal.
- An *inference rule* enables an agent to deduce new facts on the basis of known facts.
- An *emotion activation rule* defines necessary conditions for an agent to feel a given emotion.

- An *interpersonal activation rule* mentions necessary conditions for an agent to be involved in an interpersonal relation with another agent.

Activation rules are described by the following format:

*?ACT-RULE* (?rule-id, ?condition-list, ?activated-object)

The predicate *?ACT-RULE* varies depending on the type of activation rule that is specified.

A *constraint* is a rule stating that some conditions must be respected by an object or a group of objects in order to avoid conflicts or problems. It is described by the following structure:

*CONSTRAINT-RULE* (?constraint-id, ?conditions)

Some constraints apply to the instantiation of certain arguments of an object (i.e. constraints on the weight of an object, temporal constraints, etc.). Other constraints deal with incompatibilities between objects or object instances (i.e. “*an agent cannot be at two different places at the same time*”). Behavioural and temporal constraints are two important categories of constraints. A constraint is usually mentioned in a conversation when it is violated (i.e. “*I cannot help you because I cannot lift a weight greater than 50 kgs*”).

### 5.3. Conceptual relations between objects

Conceptual objects are not isolated. They are part of a network. Several types of conceptual relations may link objects. They may be the result of an agent’s reasoning activity or explicitly communicated by another agent through the performance of a speech act. A relation linking two objects is specified by:

*?type-relation* (?relation-id, ?object1, ?object2)

where *?type-relation* is the predicate characterizing the relation type, *?relation-id* is the identifier of the relation and *?object1* and *?object2* are the objects linked by the relation. Some relations may involve more than two objects. In this section we present the main conceptual relations that can link conceptual objects and can be communicated by means of speech acts performed during a conversation.

An *instantiation relation* relates any object and one of its instances. An object instance should contain at least one instantiated argument relatively to the corresponding object predicate. In a conversation, ‘who?’, ‘what?’,



‘where?’, ‘when?’ questions aim at instantiating at least one of the object arguments.

Some specific relations link a primitive conceptual object or a plan to a constraint. A constraint is linked to one or several primitive conceptual objects or plans by a *restriction* relation. A *violation* relation links one or several objects or plans to a constraint when the constraint is not respected. All the primitive objects and plans can be associated with *temporal* relations such as ‘before’, ‘after’, ‘during’, etc.

A few conceptual relations involve activation rules. A *satisfaction* relation links one or several primitive conceptual objects to an activation rule if these objects are part of the premise of the rule. An *activation* relation points toward a goal, a fact, an emotion or an interpersonal relation affected by the activation rule.

Goals are related together by the *sub-goal* relation. A *realization* relation links a low-level goal with the plan that it triggers. A *precondition* relation links a primitive conceptual object O to a goal G or a plan P, if O is an element of a condition that should hold in order to activate the goal G or the plan P, and if O cannot become an intermediate goal for the system. For instance the fact “*Atos is free*” is a precondition of the activation of the goal “*Atos helps an agent A*”.

A *prerequisite* relation links a primitive conceptual object O to a goal G or a plan P, if O is an element of a condition that should be valid in order to activate the goal G or the plan P, and if O can become an intermediate goal for the system. For instance, “*to be at the airport*” is a prerequisite to the goal “*to take the plane*”. If “*to be at the airport*” is not verified in the agent’s mental model, it becomes an intermediate goal that the agent will try to achieve.

A *motivation* relation links a goal to a primitive conceptual object when the agent knows that the achievement of the goal will result in the creation of the corresponding primitive object. For instance, Dartagnan knows that the goal “*to solve a mobility problem*” motivates the fact “*Dartagnan is mobile*”. A motivation may be certain or uncertain. For instance, winning the lottery does not guarantee becoming rich.

A *postcondition* relation links a goal, a plan or an expected action to a primitive conceptual object if this object is an effect of the goal achievement and if the object is not a motivation of the goal. A postcondition may be desired or not, certain or uncertain.

A *causality* relation is established between a set of facts and another fact F when the agent knows (or is informed) that this set of facts caused F, without

being able to deduce that fact using an inference rule. For instance, *Atos may learn that Dartagnan cannot move because “his engine is out of order”*.

A *content* relation links an interpersonal relation with the corresponding social roles. A behavioural constraint is linked to a social role by a *restriction* relation and to a plan by an *inhibition* relation if this constraint prevents the plan from being activated.

## 6. Conversational objects and agents' positionings

In section 5 we presented the various objects and conceptual relations that are used to build an agent's mental model. Let us recall that conversational objects (COs) are managed by the conversational agent. They can be linked together by the same kind of conceptual relations that relate primitive conceptual objects in an agent's mental model. In this section we present the characteristics of COs. A conversation unfolds as a consequence of locutor-agents creating or updating COs through the performance of speech acts. We consider that the status of COs is negotiated by locutor-agents. Hence, a CO can go through different states that represent the evolution of its negotiation. Only certain CO state transitions are allowed. Each CO state provides an indication of an agent's positioning in relation to the negotiated CO. These state transitions are modelled using a *CO negotiation life cycle* represented in figure 3.

Each circle represents a state that the object can potentially reach during its life in the CO network. We indicate in its upper part the role of the agent initiating the CO state that is specified in the lower part. The symbol  $\mapsto$  indicates that the CO may be created in the corresponding state whereas the symbol  $\rightarrow\downarrow$  means that this is a final state for the CO. Permitted transitions between states are represented by arrows. Usually, a CO is created in the state *proposed* by the locutor-agent playing the role of proposer (*prop* in the upper part of the circle). From this state the locutor-agent playing the role of addressee (*addr*) can react in different ways: it can put the CO into the states *negotiated*, *to-be-instantiated*, *to-be-specified*, *accepted* or *refused*. For instance, when the CO is *accepted* or *refused*, it reaches a final state and the negotiation on this CO is terminated. The proposer (*prop*) can react to the addressee's *negotiated* positioning by setting aside this CO; the CO is at the same time *set-aside* by the addressee to end the negotiation. The addressee can further refine its positioning by transferring the CO into the states *to-be-*

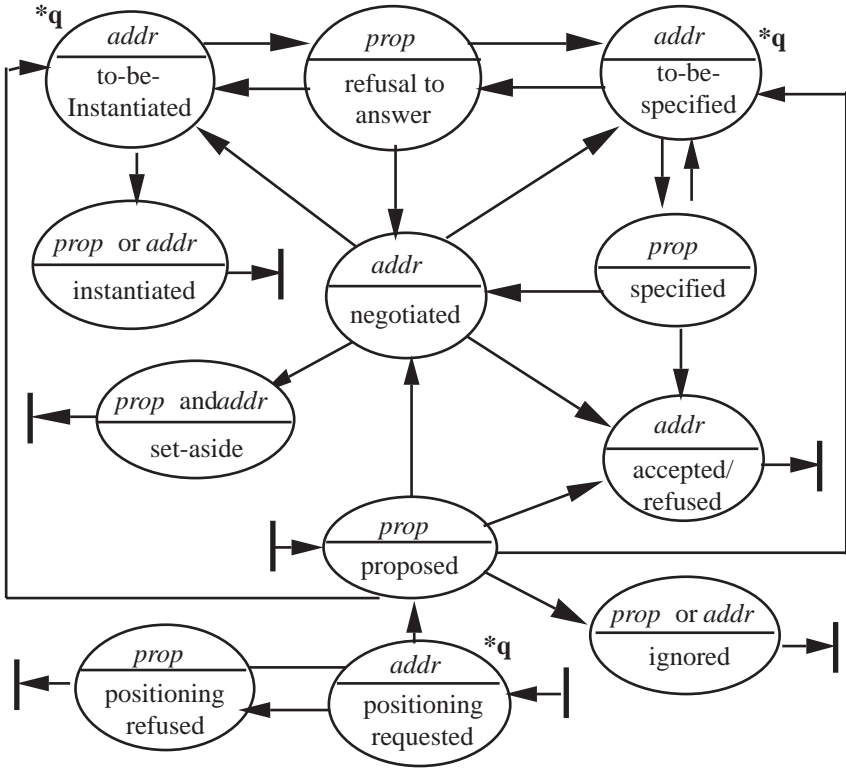


Figure 3: The negotiation life cycle of a conversational object

*instantiated* or *to-be-specified*. Again the proposer can react in different ways and transfer the CO into the states *instantiated* (ending the negotiation for both agents), *specified* or *refusal to answer* which the addressee can transfer again into the *negotiated* state. The three states that are marked by the symbol \*q correspond to the locutor-agents' queries.

Conceptually, a CO is specified by the two structures:

- ?object-type (?object-id, ?description, [?t1,?t2], ?positioning-list)*
- ?nego.position-id (?agent, ?state, ?evaluation-degree, ?comm.act-id, [?t3, ?t4])*

The first structure resembles the primitive object structure (section 5.1). The difference concerns the last argument *?positioning-list* which refers to one or several positionings of locutor-agents in relation to the CO *?object-id*. The

second structure specifies a negotiation positioning for a locutor-agent (*?agent*) with a given state (*?state*), an evaluation degree indicating the strength of the positioning, a reference to the communicative act that created the positioning and the time interval during which the positioning remains true. Von Martial (1992) also proposed using transition diagrams to model the evolution of a negotiation taking place between autonomous agents. Although he calls his transitions “conversation rules”, his approach takes place at a global level of a negotiation and does not take into account the fact that a conversation consists of negotiating each CO proposed by locutor-agents.

## 7. Monitoring conversation and initiative

Considering communication maintenance, we notice that any conversation evolves through different states that we model with the allowed transitions in figure 4. This is the *life cycle of the conversation-object* monitored by the conversational agent. A conversation is in the state *start* when it is initiated by a locutor-agent. It may stay in the state *start* if the locutor-agents engage in an opening sequence of utterances (loop over the state *start* in figure 4). Then it goes into a state called *body* which is the conversation state where negotiations about COs take place (loop over the state *body*). When locutor-agents want to terminate their exchanges, the conversation goes into the state *terminate* which can sustain a termination sequence of utterances (loop over the state *terminate*). Then, it goes into the *terminated* state which is a terminal state ( $\rightarrow$ ).

If an agent wishes to suspend the conversation, it may go from the state *body* into the state *suspend*. Here again we can have a suspension sequence of utterances (loop over the state *suspend*). If locutor-agents agree on the suspension, the conversation goes into the state *suspended*. If they don't agree, the conversation goes back into the *body* state. The conversation goes into the state *resume* when the locutor-agent who interrupted it resumes it. It can stay in this state if locutor-agents enter in a sequence of utterances for resuming the conversation. If not, it goes back into the *body* state.

A conversation interruption may be caused by something external to the locutor-agents: the conversation-object goes into the state *interrupted*. When an agent reopens the communication channel, the conversation-object goes into the state *resume*. In some cases an agent may decide to *reactivate* a

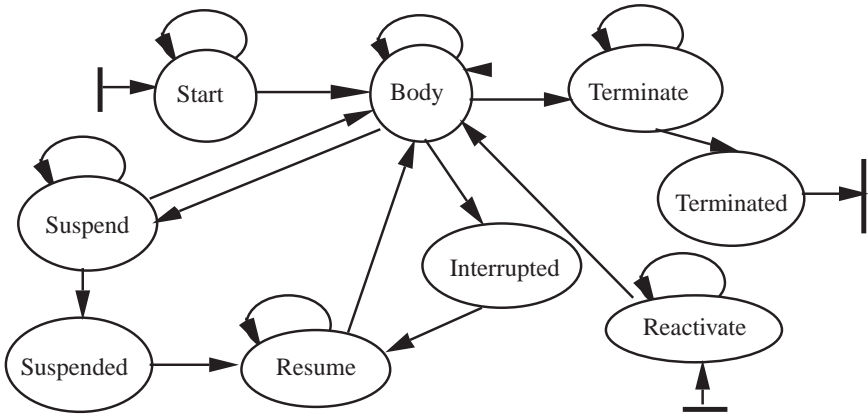


Figure 4: A conversation life cycle

conversation that was considered as terminated. Again locutor-agents may enter a sequence of utterances to discuss the opportunity of reactivating the conversation (loop over the state *reactivate*). From the *reactivate* state the conversation goes into the *body* state in which it progresses again.

Any conversation is described by a structure in which we find the conversation identifier, the state of the conversation and the associated time interval:

*CONVERSATION* ( ?*conversation-id*, ?*state*, [?*t1*,?*t2*])

A conversation is characterized by one or several periods. A period is characterized by the list of involved locutor-agents and their roles, and the time interval during which the period is valid:

*PERIOD* ( ?*period-id*, ?*conversation-id*, ?*agent-role-list*, [?*t3*,?*t4*])

The system may monitor several conversations at once, each being assigned an identifier and going through specific states characterizing its progression. Locutor-agents are competing to get a turn. This competition is managed by the conversational agent thanks to the special object called "*initiative agenda*". For each locutor-agent there is an entry in the initiative agenda which specifies the current state of the initiative-demand of that agent.

The initiative-demand of a locutor-agent can go through different states

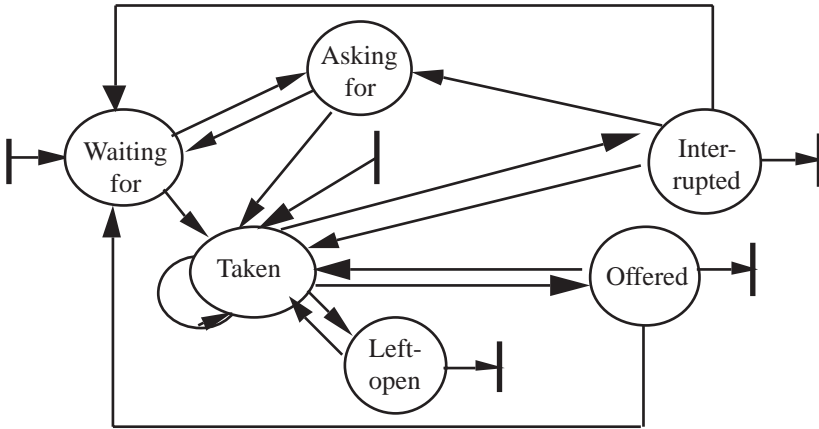


Figure 5: Initiative life cycle

as it is presented in figure 5. The locutor-agent may be in a state *waiting-for* a turn. From that state a turn may be *taken* if another locutor-agent passes it, or the agent may be *asking-for* a turn. When a turn is asked for, it can be either denied and the locutor-agent goes back in the *waiting-for* state, or it can be granted and the agent's initiative goes into the *taken* state. When an agent's initiative is in the *taken* state, the agent can either keep her turn and stay in that state or offer a turn to another locutor-agent (state *offering*) or release it without asking any agent to follow up (state *left-open*). When the agent's initiative is in the *offering* or *left-open* states, it can either go back in the *taken* state if no agent wants to take a turn, or go into the state *waiting-for* if the locutor-agent wants to prepare to take a turn later or even quit the conversation (state  $\rightarrow$ ).

A locutor-agent who has a turn (state *taken*) may be *interrupted*. From that state she may either ask for a turn (*asking-for* state) or go back in the *waiting-for* state or even quit the conversation (state  $\rightarrow$ ). A locutor-agent who does not have a turn can try to take it by self-assignment. Then, it can either go into the state *taken* if no locutor-agent opposes the self-assignment or stay in the state *denied* if the self-assignment is rejected. The entries in the initiative agenda have the following form:

*INITIATIVE* (?conversation-id, ?agent, ?state, [?t1,?t2])

The conversational agent keeps only the latest entry for each locutor-agent in the initiative agenda.

Another special object called *negotiation agenda* is managed by the conversational agent in order to monitor the *conversational demand* on locutor-agents. When a new CO is proposed by a locutor-agent, an element is added in the negotiation agenda joining the CO and the identifiers of the agents concerned by this object. The structure of the negotiation agenda is simple:

*NEGO-AGENDA* (?conversation-id, {[?object-id, ?agent-prop, ?state, ?agent-addr]})

where {[?object-id, ?agent, ?state]} is a list of objects ?object-id in their current states ?state. ?agent-prop corresponds to the agent who proposed the object in this state and ?agent-addr represents the agent to which the object is proposed.

## 8. Communicative acts

Locutor-agents perform communicative acts in order to convey their mental states to other agents through different channels: verbal utterances, gesture, body and facial attitudes.<sup>3</sup> A communicative act (CA) has an internal structure composed of elementary communicative acts (ECAs) of various types (verbal, non-verbal, silences) which compose the utterances and/or gestures conveyed by the CA<sup>4</sup> during the agent's move. For instance in Dartagnan's sentence, "*Portos! I need your help!*" there are two ECAs: the first ECA, "*Portos!*", is a summons that starts Dartagnan's CA and is immediately followed by a second ECA, "*I need your help!*", that transfers a CO conveying Dartagnan's request.

In a CA a locutor-agent can perform several ECAs of different types, but there are some restrictions applying on the order and the types of the ECAs that can be included in a particular CA. We cannot place a summons, a greeting or an acknowledgement anywhere in a CA during a conversation. Sinclair and Coulthard (1975) proposed a generic framework (later enhanced by Francis and Hunston 1992) to hierarchically decompose the component parts of a conversation. In their approach an "exchange", if it is complete, is composed of at least two moves. Each move is performed by one of the conversants and is composed of one or several elementary acts. There are several kinds of exchanges (organizational, conversational etc.). In an ex-

change of a given type we can find only certain kinds of moves: for instance, in an organizational exchange we can find either a framing move or an opening move followed by an answering move. A move has an internal structure whose components are elementary acts of different types (summons, greeting, inquire, confirm, etc.). The findings of these works can be easily incorporated in our approach.

A communicative act can be composed of one or several utterances (verbal acts) and possibly one or several gestures (non-verbal acts). Utterances and gestures are related by temporal relations existing between the time intervals associated with the acts: BEFORE, DURING, START, FINISH and EQUAL.<sup>5</sup> Successive utterances are related by a BEFORE relation (*BEF*) which can have a certain delay (*lap* parameter) representing a pause of a certain duration occurring between the utterances.

An *utterance* has a structure<sup>6</sup> composed of ECAs of different types depending on the communication level<sup>7</sup> they address: turn-taking act, preparatory act, main act, complementary act and turn-releasing act. All are optional except the main act. A *turn-taking act* can take different types: summons (like "Atos!"), interruption (like "May I interrupt you?"), etc. The *preparatory* and *complementary* acts correspond to elementary acts similar to those proposed in (Francis and Hunston 1992). The *main act* corresponds to the utterance of one or several elementary propositions related by rhetorical or argumentative relations (Mann 1987, Moeschler 1989, Rambow 1993): it is represented by COs along with agent's positionings and relations linking the corresponding mental states. The *turn-releasing act* ends the utterance and offers an opportunity for other locutor-agents to take a turn. For instance it may be marked by a rising intonation at the end of an interrogative sentence or by an expression like "What do you think?" or even by a silence. This act corresponds to a "transition relevance place" in Sacks *et al.* (1978) model. It is optional because a locutor-agent may wish to keep a turn and immediately start her next utterance without giving other agents the opportunity to take a turn.

As an example consider Portos' answer to Dartagnan's request (figure 1): there is no specific turn-taking act; "Sorry!" corresponds to a starter act used to mark Portos' sadness; the main act is composed of two propositions, "I cannot help you" and "I have to do a work between 12:00 PM and 2:00 PM" related by the connector "because". The turn-releasing act is not explicit and corresponds to a pause after Portos' utterance.

Here is the general structure of a communicative act:



*COM-ACT* (?*Com.act-id*, ?*Locutor*, ?*Addressee*, ?*conversation-id*,  
 {[*Utterance*, ?*Utterance-id*], [*BEFORE*, ?*ulap*]}, {[*Gesture*, ?*Gesture-id*],  
 [*BEFORE*, ?*glap*]}, {[*Temporal-rel*, ?*relation*, ?*Utterance-id*,  
 ?*Gesture-id*]}, [?*t1*, ?*t2*])

where ?*Com.act-id* is the identifier of the act; ?*Locutor* binds with the identifier of the agent who performs the act; ?*Addressee* binds with the addressee agent's identifier; ?*conversation-id* corresponds to the conversation identifier in which the act takes place. The braces introduce sub-structures that can be duplicated. [*Utterance*, ?*Utterance-id*] identifies of the CA's utterances and [*BEFORE*, ?*ulap*] denotes the relation with the next utterance, ?*ulap* showing the length of the pause between the utterances. There is a similar structure for gestures. When there are gestures in a CA we need at least one relation [*Temporal-rel*, ?*relation*, ?*Utterance-id*, ?*Gesture-id*] temporally relating the appropriate utterance and gesture. [?*t1*, ?*t2*] is the time interval associated with the CA.

An utterance is composed of one or several ECAs (*Elem-CA*) related by temporal relations [*BEFORE*, ?*elap*]. Its general structure is:

*UTTERANCE* (?*Utter-id*, ?*Com.act-id*, {[*Elem-CA*, ?*Elem-CA-id*], [*BEFORE*, ?*elap*]}, [?*t3*, ?*t4*])

A verbal ECA<sup>8</sup> is characterized by its type ?*Elem-CA-type* and is composed of one or several propositions [?*Proposition-id*] which can be related by rhetoric relations [?*Rhetoric-rel-type*, ?*Rhetoric-rel*]. Its structure is:

*ELEM-CA* (?*Elem-CA-type*, ?*Elem-CA-id*, ?*Utter-id*, {?*Proposition-id*,  
 [?*Rhetoric-rel-type*, ?*Rhetoric-rel*]}, [?*t5*, ?*t6*])

A proposition is represented by the structure:

*PROPOSITION* (?*Proposition-id*, ?*Elem-CA-id*, ?*Propositional-content*,  
 ?*Sentence-type*, ?*Tense*, ?*Markers*, ?*Prosody*)

where the propositional content is represented using a linear form of conceptual graphs (Sowa 1984); the sentence type is declarative, interrogative or exclamative; ?*Tense* marks the tense of the verb of the proposition. ?*Markers* is a list of elements that modify the proposition (particles like "therefore", "so", indexicals like "today", "tomorrow", etc.). ?*Prosody* provides several useful prosodic characteristics of the proposition [?*Intonation*, ?*Accentuation*, ?*Intensity*].

For example Portos' reply, "*Sorry! I cannot help you because I have work to do between 12:00 PM and 2:00PM*" is represented by:

UTTERANCE (Utter-4, Com.act-2, [Elem-CA, Elem-CA-41], [BEFORE, 0], [Elem-CA, Elem-CA-42] }, [t31, t34])

ELEM-CA (Starter, Elem-CA-41, Utter-4, Proposition-5, [t31, t32])

PROPOSITION(Proposition-5,Elem-CA-41, [EXPRESSION:"Sorry"], exclamative, \_, \_, [rising, \_, 4])

ELEM-CA (Refusal, Elem-CA-42, Utter-4,

{Proposition-6, [CAUSE, "because"], Proposition-7}, [t33, t34])

PROPOSITION (Proposition-6,Elem-CA-42,

NEG-POS [Help (AGT (Portos), RCPT (Dartagnan)), assertive, Present, \_, [even, \_, 2])

PROPOSITION (Proposition-7,Elem-CA-42, OBL [Do (AGNT (Portos), OBJ (Work, #), BEGIN-T (12:00PM), END-T (2:00PM)), assertive,

*Future*, \_, [even, \_, 2])

When the conversational agent receives a communicative act, she creates or updates the instances of the conversation-object and the initiative agenda and transforms the communicative act into the appropriate conversational objects. For instance, after Dartagnan's utterance "*Portos! I need your help to bring a 500 kg box to the machine shop by 1:00 PM*" the conversational agent creates the following objects:

CONVERSATION (*conv1*, *started*, *period1*, [t1, ?t180])

PERIOD (*period1*, (Dartagnan-initiator, Portos-participant), [t1, ?t200])

INITIATIVE (*conv1*, Dartagnan, self-assigned, [t1, ?t201])

INITIATIVE (*conv1*, Portos, waiting-for, [t1, ?t301])

GOAL (g1, [Help (AGT (Portos), RCPT (Dartagnan))],

[t21, ?t121], [NEGO-POSIT1, COMMIT-POSIT1])

NEGO-POSIT1 (Dartagnan, proposed, 1, Com.act-1, [t2, ?t202])

RELATION (r1, (GOAL, g1) -> RESULT -> (FACT, f1))

FACT (f1, [Carry (AGT ({Dartagnan, Portos}), OBJ (box # @500kg),

DEST (Machine-shop), BEGIN-T (?t30), END-T (1:00PM)),

NEGO-POSIT2)

NEGO-POSIT2 (Dartagnan, proposed, 1, Com.act-1, [t2, ?t204])

NEGO-AGENDA (*conv1*, [g1, Dartagnan, proposed, Portos])

INITIATIVE (*conv1*, Dartagnan, offering, [t3, ?t205])

When Portos replies “*Sorry! I cannot help you because I have work to do between 12:00 PM and 2:00PM*”, the conversational agent updates the CO network:

CONVERSATION (*conv1, body, period1, [t4, ?t181]*)

INITIATIVE (*conv1, Portos, obtained, [t4, ?t206]*)

GOAL (*g2, NOT [Help (AGT (Portos), RCPT (Dartagnan)], [t22, ?t122], [NEGO-POSIT3]*)

NEGO-POSIT3 (*Portos, propose, 1, Com.act-2, [t4, ?t207]*)

RELATION (*r2, (GOAL, g1) -> OPPOSITE -> (GOAL, g2)*)

RELATION (*r3, (FACT, f2) -> JUSTIFY -> (GOAL, g2)*)

FACT (*f2, MUST [Do (AGNT (Portos), OBJ (work, #), BEGIN-T (12:00PM),*

END-T (2:00PM)], [NEGO-POSIT4]

NEGO-POSIT4 (*Portos, proposed, 1, Com.act-2, [t5, ?t209]*)

INITIATIVE (*conv1, Portos, offering, [t6, ?t210]*)

NEGO-AGENDA (*conv1, [g1, Dartagnan, proposed, Portos], g2, Portos, proposed, Dartagnan)*)

With his utterance “*Never mind!*”, Dartagnan performs several elementary communicative acts: he accepts Portos’ refusal, abandons his goal *g1*, and closes the conversation. So, the conversation model is updated by the conversational agent to register all these changes. The conversational agent uses different rules to transform the communicative acts into the appropriate conversational objects and to update the conversation-object and the initiative agenda. These rules take into account the parameters that characterize the utterances, elementary communicative acts and propositions. Due to space limitations we will not be able to present the rules in this paper.

## 9. Conclusion

In this paper, we proposed an approach that can be used to model conversations taking place between autonomous agents considered as intelligent planners. Its originality with respect to previous theories stems from the introduction of conversational objects (CO) as a way to structure in a shared memory the contributions that locutor-agents make to the conversation by performing their communicative acts. COs may correspond to various mental

states: goals, facts, expected actions, aptitudes, preferences, emotions, etc. The unfolding of a conversation results from the creation (and update) of COs and the positioning of agents with respect to these COs. So, a conversation is viewed as a negotiation on COs performed by locutor-agents. When negotiated, a CO can go through different states, thanks to the transitions allowed by the CO negotiation life cycle. Plans and goals also depend on a commitment life cycle. A conversation as well as the agents' initiatives also go through different states. These life cycles enable us to simulate and explain any conversational move without the need to artificially introduce structures representing conversations and sub-conversations along with specific discourse-level plans as was done in previous conversation modelling methods.

Locutor-agents are able to reason about their mental states as well as about the COs that they have exchanged. For this purpose we use a formalism that was proposed by Perrault (1990) and extended by Beun (1993). We developed a multiagent system that implements this approach for the simulation of conversations taking place between autonomous agents.

### **Acknowledgements**

This research is supported by the Natural Sciences and Engineering Council of Canada and FCAR (Fonds pour la formation de chercheurs et l'aide à la recherche) through grants and scholarships.



Part III

**Speech Acts in Linguistics**



## Chapter 10

# Illocutionary Morphology and Speech Acts

Susumu Kubo

*Matsuyama University, Japan*

### 1. Introduction

It is generally observed that a Japanese speaker can keep his intention secret till the end of his utterance. Thus, the hearer has to wait till then to know if the speaker is for or against the question under discussion in an interaction. In the theory of speech acts, this case can be rephrased as follows: on the one hand a speaker can express the illocutionary force of his utterance by adding another element which has some illocutionary property at the end of the utterance, on the other hand a hearer has to wait till the end of the utterance to know the illocutionary force that the speaker intends to convey. This is a reflection of the typological characteristics of Japanese language whose sentence final verbals can be followed by particles or affixes one after another. (1a) shows how a sentence final verb, *shiraseru* ‘report’ is followed by a perfective affix, *teiru*, a polite auxiliary, *masu* and a sentence final particle of question, *ka*. Moreover, (1a) and (1b) are taking the two distinct *illocutionary force identifying devices* (henceforth IFID’s) at the end of the sentences. They are respectively a *sentence final particle* (henceforth SFP) and a perfective *illocutionary affix* (henceforth IAF).<sup>1</sup>

- (1) a. *Anata-wa watashi-ni sore-wo shirase-tei<sup>2</sup>-masu ka.*  
You-TOP I-DAT it-ACC report-PERF-POL Q  
‘Have you reported it to me?’



- b. *Watashi-wa anata-ni sore-wo shirase-tearu.*  
 I-TOP            you-DAT it-ACC    report-have-PERF  
 ‘I assert that I have reported it to you.’
- c. *Saiwainimo, Mari-wa shiken-ni goukakushi-ta*  
 Fortunately Mary-TOP exam.-DAT pass-PAST  
 ‘Fortunately, Mary passed the examination.’

When we Japanese hear the sentences (1a) and (1b), we automatically recover their illocutionary forces and understand what the speaker intends to convey, in addition to their propositional contents. Namely, we understand “questioning” and “asserting” as their illocutionary forces, respectively, because IFID’s with these illocutionary meanings are present at the end of the sentences. As for SFP’s, a large number of studies have been made in different theoretical frameworks. In general, an SFP is treated as a syntactic element which functions just like a sentence adverb, *saiwainimo* ‘fortunately’ in (1c): a sentence adverb is conjoined with a sentence to produce another sentence (cf. Cresswell 1973:140–141).<sup>3</sup> In contrast, an IAF seems to be a pragmalinguistic notion which is waiting for analysis.

Here, we have to ask (i) why the illocutionary force of (1b) is that of the IAF, but is not that of the main verb of the sentence that is itself an illocutionary verb (*i.e.* an illocutionary verb of reporting), and (ii) how we can recover the illocutionary force of utterances with IAF’s in the process of illocutionary force understanding. The theory of speech acts has to give answers to these questions.

Kubo (1993) observes that there are three types of IAF’s,<sup>4</sup> and states processes by the application of which the illocutionary force of an utterance with an IAF can be predicted and understood by the hearer in conversation.

In this paper, I would like to extend the study of Kubo (1993) in the framework of *Illocutionary Categorical Morphology* (henceforth ICM) in order to gain a theoretical generalization.<sup>5</sup> ICM is designed to be a theoretical interface between morphology and pragmatics. Hence, this study will contribute to the study of *Morphopragmatics* for illocutionary force understanding.

In addition to the introduction, this paper contains two sections and a tentative conclusion. In the second section, the meaning of the Japanese IAF, *teyaru* will be analyzed. *Teyaru* serves to give the hearer the benefit of the act represented in the propositional content by revising and extending the previous analysis given in Kubo (1993). In the third section, ICM will be sketched, then general proposals for illocutionary force understanding will be offered. The tentative conclusion and some remarks for further studies are given in the

fourth section. This paper will be written on the basis of the philosophical ideas of speech act theory proposed in Searle and Vanderveken (1985), and Vanderveken (1990).

## 2. Preliminary observations and an analysis

This section serves to clarify the illocutionary features of verbs modified by IAF's focusing on the combination of verbs with an IAF, *teyaru*. To carry out this task, the well-formedness of the utterances whose matrix verbs are affixed with the IAF, *teyaru* will be observed. Here, 10 Japanese expressive illocutionary verbs were selected out of the Japanese counterparts of 28 English expressive illocutionary verbs chosen in Vanderveken (1990).<sup>6</sup> Expressive verbs were chosen for this task because expressive forces have the *empty direction of fit*. On the other hand, the IAF, *teyaru* names either commissive or declarative illocutionary forces which have the world-to-words and the double direction of fit, respectively. Those expressives are listed in (2).

(2) ENGLISH	JAPANESE COUNTERPARTS
a. compliment	<i>home-tataeru</i>
b. boast	<i>jiman-suru</i>
c. complain	<i>nageku</i>
d. blame	<i>togameru</i>
e. reprove	<i>tashinameru</i>
f. protest	<i>monnku-wo-iu</i>
g. condole	<i>kuyamu</i>
h. congratulate	<i>iwau</i>
i. thank	<i>kansha-suru</i>
j. apologize	<i>ayamaru</i>

These verbs name expressive illocutionary acts whose point is to express the speaker's mental states. However, not all of them can be used in performative utterances. Henceforth, the symbol \$ will be used to indicate the verbs without performative use. Consider the following utterances in (3) and (4).

- (3) a. (*Watashi-wa*) (*anata-ni*) *ayamaru*.  
 I-TOP            you-DAT    apologize  
 'I apologize to you for having done this.'

- b. *Anata-no-go-koui-ni kansha-suru.*  
 you-GEN-POL-favor-DAT thank  
 ‘I thank you for your favor.’
- c. *Anata-no-seikou-wo iwau.*  
 you-GEN-success-ACC congratulate  
 ‘I congratulate you on your success.’
- d. *Anata-no-seikou-wo home-tataeru.*  
 you-GEN-success-ACC compliment  
 ‘I compliment you on your success.’
- e. *Go-shujin-no-go-fukou-ni-taishi o-kuyami-mousiageru.*  
 POL-husband-GEN-POL-misfortune-ACC-on condole  
 ‘Please accept my condolences on your husband’s death.’

All the sentences in (3)<sup>7</sup> are performative. In uttering such sentences, the speaker expresses the attitude specified by the expressive verb by way of declaration at the time of utterance (*sincerity condition*). For instance, in uttering the sentence (3a), the speaker expresses his mental state of regret to the hearer for something that he has done. And similarly for all other sentences in (3).

In contrast, in uttering every sentence in (4), the speaker does not express the attitude specified by the expressive verb by way of declaration at the time of utterance. Instead, he commits himself to carrying out the future course of action represented by the propositional content. Thus, the sentences in (4) are not performatives. Their literal utterances have a commissive illocutionary force.

- (4) a. \$(Anata-ni) heya-no-koto-de monku-wo-i-itai.  
 you-DAT room-GEN-matter-about protest-DES  
 ‘I will protest about the room.’
- b. \$(Anata-ni) jibunn-no-seikou-wo jiman-suru.  
 you-DAT SELF-GEN-success-ACC boast  
 ‘I will boast of my success.’
- c. \$ Anata-wo okureta-koto-de tashinameru.  
 you-ACC being-late-matter-for reprove  
 ‘I will reprove you for your delay.’
- d. \$ anata-no-shippai-wo nageku.  
 you-GEN-failure-ACC complain  
 ‘I will complain about your failure.’

- e. \$*Anata-no-shippai-wo togameru.*  
 you-GEN-failure-ACC blame  
 ‘I will blame you for the failure.’

Now, let us compare the sentences in (5) and (6) whose matrix verbs are affixed with an IAF, *teyaru*. Sentences in (5) contain the second person pronoun in polite form, *anata* ‘you’ or an honorific prefix, *go* which tends not to be used with expressions with impolite or arrogant implications. In other words, it is illocutionarily inconsistent to use honorific/polite expressions and impolite/arrogant expressions in the same sentence. Thus, sentences in (5) are awkward because the IAF, *teyaru* implies speaker’s arrogance toward the hearer.<sup>8</sup> Here, the symbol @ is used to indicate that the sentence with the symbol is awkward. In contrast, sentences in (6) are natural and consistent since they contain the derogatory second person pronoun, *omae*, and do not have honorific prefixes. Moreover, in (6) the first person pronoun in polite form, *watashi* ‘I’ is replaced with that in derogatory form, *ore*. In (6e), an honorific noun, *shujin* ‘husband’ is replaced with a noun, *teishu* which shares the same linguistic meaning but is less honorific.<sup>9</sup>

- (5) a. @(*Watashi-wa*) (*anata-ni*) *ayama-t-teyaru* .  
           I-TOP                  you-DAT  apologize-IAF  
           ‘@In my capacity as your superior, I hereby apologize to you  
           for your benefit.’
- b. @*Anata-no-go-koui-ni*  *kansha-shi-teyaru* .  
           you-GEN-POL-favorDAT  thank-IAF  
           ‘@In my capacity as your superior, I hereby thank you for your  
           favor for your benefit.’
- c. @*Anata-no-seikou-wo*  *iwa-t-teyaru* .  
           you-GEN-success-ACC  congratulate-IAF  
           ‘@In my capacity as your superior, I hereby congratulate you  
           on your success for your benefit.’
- d. @*Anata-no-seikou-wo*  *home-tatae-teyaru* .  
           you-GEN-success-ACC  compliment-IAF  
           ‘@In my capacity as your superior, I hereby compliment you  
           on your success for your benefit.’
- e. @*Go-shujin-no-go-fukou-ni-taisi*                  *kuyam-deyaru.*  
           POL-husband-GEN-POL-misfortune-ACC-GOL  condole-IAF  
           ‘@In my capacity as your superior, I hereby express my con-  
           dolences on your husband’s death for your benefit.’

- (6) a. (*Ore-wa*) (*omae-ni*) *ayama-t-teyaru* .  
 I-TOP you-DAT apologize-IAF  
 ‘In my capacity as your superior, I hereby apologize to you for your benefit.’
- b. *Omae-no-koui-ni kansha-shi-teyaru* .  
 you-GEN-favor-DAT thank-IAF  
 ‘In my capacity as your superior, I hereby thank you for your favor for your benefit.’
- c. *Omae-no-seikou-wo iwa-t-teyaru* .  
 you-GEN-success-ACC congratulate-IAF  
 ‘In my capacity as your superior, I hereby congratulate you on your success for your benefit.’
- d. *Omae-no-seikou-wo home-tatae-teyaru* .  
 you-GEN-success-ACC compliment-IAF  
 ‘In my capacity as your superior, I hereby compliment you on your success for your benefit.’
- e. *Omae-no-teishu-no-fukou-wo kuyam-deyaru* .  
 You-GEN-husband-GEN-misfortune-ACC condole-IAF  
 ‘In my capacity as your superior, I hereby express my condolences on your husband’s death for your benefit.’

Here, the comparison of the sentences in (5) and with those in (6) shows that the IAF, *teyaru* is used in particular contexts of use in which *the speaker invokes a position of the authority over the hearer (mode of achievement of illocutionary point)*.

Thus, in uttering each sentence in (6), the speaker performs the act specified by the expressive verb by declaration. In other words, each utterance has *the double direction of fit* in the sense that the state of affairs represented in the proposition comes into being simply by virtue of the utterance. Hence, each illocutionary force obtained in (6) is not the force of each matrix verb, but is that of the IAF. In other words, in uttering each sentence in (6), the speaker declare that he performs an expressive illocutionary act with an authoritative mode of achievement, preparatory condition that it is beneficial to the hearer and sincerity condition that he is rather reluctant to carry out the action. For instance, in uttering (6a), the speaker brings about the state of affairs which realizes speaker’s apology with a stronger additional authoritative attitude by the performance of his declaration.<sup>10</sup>

Thus, the IAF, *teyaru* in (6), is called *an affix of authority* in the sense that it names an authoritative mode of achievement of the illocutionary point in the utterance in which it is used.

Now, let us compare the utterances in (6) with those in (7).

- (7) a. *\$Heya-no-koto-de monku-wo-i-t-teyaru.*  
 room-GEN-matter-about protest-IAF  
 ‘In my capacity as your superior, I will protest about the room to your disadvantage.’
- b. *\$Jibunn-no-seikou-wo jiman-shi-teyaru.*  
 SELF-GEN-success-ACC boast-IAF  
 ‘In my capacity as your superior, I will boast of my success to your disadvantage.’
- c. *\$Omae-wo okureta-koto-de tashiname-teyaru.*  
 you-ACC being-late-matter-for reprove-IAF  
 ‘In my capacity as your superior, I will reprove you for your delay to your disadvantage.’
- d. *\$Omae-no-shippai-wo nage-i-teyaru .*  
 you-GEN-failure-ACC complain-IAF  
 ‘In my capacity as your superior, I will complain to you about your failure to your disadvantage.’
- e. *\$Omae-no-shippai-wo togame-teyaru .*  
 you-GEN-failure-ACC blame-IAF  
 ‘In my capacity as your superior, I will blame you for the failure to your disadvantage.’

Like sentences in (4), in uttering each sentence in (7), the speaker does not perform the act named by the expressive verb in the utterance at the time of utterance. Instead, the speaker is commissively announcing what he is going to do. Thus, the utterances of sentences in (7) are commissive and have *the world-to-words direction of fit*. The speaker commits himself to carrying out the act specified by the expressive verb and presupposes that it is bad for the hearer at the time of utterance. Thus, utterances in (7) express the commissive illocutionary force of threatening. For instance, in uttering (7e), the speaker does not blame the hearer for something he has done at the time of utterance, but rather blame him for that later.

From these observations above, an analysis as follows can be given: in uttering a sentence with a verb in group (6) with *teyaru*, the speaker invokes his

authority over the hearer (*mode of achievement*), presupposes that the state of affairs represented by the propositional content is good for the hearer (*preparatory condition*), and expresses that he is generous enough to carry out the action represented by the propositional content (*sincerity condition*). In contrast, in uttering a sentence with a verb in group (7) with *teyaru*, the speaker invokes his authority over the hearer (*mode of achievement*), presupposes that the represented state of affairs is bad for the hearer (*preparatory condition*), and expresses without reluctance that the speaker is glad or happy to carry out the action represented by the propositional content (*sincerity condition*).

In replacing a verb of one group from that of the other, the total illocutionary force of an utterance with an IAF, *teyaru* changes. Hence, the verbs in (6) and (7) are named *pro-listener* context realizing verbs and *con-listener* context realizing verbs, respectively. The illocutionary force of the IAF, *teyaru* is determinable according to the verbs with which it is conjoined as shown in (8).

- (8) (i) The illocutionary force of an utterance with an IAF, *teyaru* is not that of the matrix verb of the utterance, but that of the IAF.  
 (ii) The illocutionary force of the IAF, *teyaru* is  
 a. declarative if its matrix verb is a pro-listener context realizing verb.  
 b. commissive if its matrix verb is a con-listener context realizing verb.

However the proposal given in (8) is not general enough to explain the illocutionary force of an utterance whose force marker is richer than the complex verb with an IAF. Consider the utterances in (9). Here, only (9a) has the declarative illocutionary force. Others have commissive illocutionary force. In (9), each sentence contains a noun which lexically implies the action represented by the propositional content is either good or bad for the listener. There is a special *preparatory condition* in the illocutionary force of the utterance. Here, we assume the noun, *seikou* ‘success’ and the verb, *iwau* ‘congratulate’ have the property of pro-listener-ness (*i.e.* [+PRO-L]), and the noun, *shippai* ‘failure’ and the verb, *nageku* ‘complain’ have that of con-listener-ness (*i.e.* [-PRO-L]).

- (9) a. *Boku-wa kimi-no seikou-wo iwau-teyaru.*  
 I-TOP you-GEN success-ACC congratulate  
 ‘In my capacity as your superior, I congratulate you on your success for your benefit.’

- b. *Boku-wa kimi-no seikou-wo nagei-teyaru.*  
 I-TOP you-GEN success-ACC complain  
 ‘In my capacity as your superior, I will complain of your success to your disadvantage.’
- c. *Boku-wa kimi-no shippai-wo iwat-teyaru.*  
 I-TOP you-GEN failure-ACC congratulate  
 ‘In my capacity as your superior, I will congratulate you on your failure to your disadvantage.’
- d. *Boku-wa kimi-no shippai-wo nagei-teyaru.*  
 I-TOP you-GEN failure-ACC complain  
 ‘In my capacity as your superior, I will complain about your failure to your disadvantage.’

- (10) a.  $seikou[_{+PRO-L}] \times iwau [_{+PRO-L}] = seikou-wo iwau [_{+PRO-L}]$   
 b.  $seikou[_{+PRO-L}] \times nageku [_{-PRO-L}] = seikou-wo nageku [_{-PRO-L}]$   
 c.  $shippai[_{-PRO-L}] \times iwau [_{+PRO-L}] = shippai-wo iwau [_{-PRO-L}]$   
 d.  $shippai[_{-PRO-L}] \times nageku [_{-PRO-L}] = shippai-wo nageku [_{-PRO-L}]$

(10) shows how the combination of a noun with a verb having both the property of pro/con-listener-ness generates a verb phrase with the property of pro/con-listener-ness. Thus, it can be assumed that the distinctive property of pro/con-listener-ness functions just like the truth-functional connective of conjunction. This is really an interesting logical consequence, and can be generalized as follows.<sup>11,12</sup>

- (11) if  $\alpha \in E_T$  and  $\beta \in E_{T|V1}$ , and  $\gamma \in E_{V1}$ ,  
 then  $@PRO-L(\gamma) = @PRO-L(\alpha) \cap @PRO-L(\beta)$ .  
 #: @ = +/-

In other words, “if  $\alpha$  is an expression of the category T (=Term phrase),  $\beta$  is an expression of the category T|V1 (= transitive verb), and  $\gamma$  is an expression of the category V1, then the pro/con-listener-ness of the expression  $\gamma$  is the result of truth functional conjunction (or Boolean operation of intersection of preparatory condition) of the pro/con-listener-ness of the expression  $\alpha$  and that of the expression  $\beta$ .” This rule categorizes the function of the property, pro/con-listener-ness of a thematic nominal and that of a verbal in a verb phrase construction and guarantees the pro/con-listener-ness of a verb phrase. Thus, (8) can be reformulated as follows:

- (12) (i) The illocutionary force of an utterance with an IAF, *teyaru* is not that of the matrix verb of the utterance, but that of the IAF,



- (ii) The illocutionary force of the IAF is
  - a. declarative if its matrix verb is a pro-listener context realizing verb, and
  - b. commissive if its matrix verb is a con-listener context realizing verb, when the matrix verb is an illocutionary intransitive verb,
- (iii)
  - a. it is declarative if its verb phrase is a pro-listener verb phrase.
  - b. it is commissive if its verb phrase is a con-listener verb phrase, when the matrix verb is an illocutionary non-intransitive verb.

Actually, (12ii) is absorbed into (12iii) since an intransitive verb phrase is itself a verb phrase. Thus, (12) can be generalized as follows:

- (13) (i) The illocutionary force of an utterance with an IAF, *teyaru* is not that of the matrix verb of the utterance, but that of the IAF,
- (ii) The illocutionary force of the IAF is
  - a. declarative if its verb phrase is a pro-listener verb phrase, and
  - b. commissive if its verb phrase is a con-listener verb phrase.

As the third step, our analysis will be extended to the verbs in general. For example, the sentence like (14) where *teyaru* modifies a non-illocutionary verb and expresses a commissive but not declarative illocutionary force.

- (14) (*Ore-wa*) (*omae-wo*) *koroshi -teyaru*  
 I-TOP    you-ACC    kill-IAF  
 'I will kill you.'

The number of non-illocutionary verbs is far larger than that of illocutionary verbs. Thus it can be concluded that most utterances of a sentence containing the IAF, *teyaru* have a commissive illocutionary force. In other words, the declarative case is rather a rule of exception. (13) is thus generalized as follows:

- (15) (i) The illocutionary force of an utterance with an IAF, *teyaru* is not that of the matrix verb of the utterance, but that of the IAF,
- (ii) The illocutionary force of the IAF is commissive except that it is declarative if its verb phrase is a pro-listener verb phrase.

Consequently, the illocutionary force of an utterance with an IAF, *teyaru* is determinable.<sup>13</sup>

### 3. Compositional treatment of Illocutionary Affixes in ICM

In this section, a compositional treatment of IAF's within complex verb constructions will be proposed. First, an affix is considered illocutionary if and only if it expresses at least one illocutionary point and some relevant illocutionary components such as a mode of achievement, preparatory and sincerity conditions and some degree of strength. Unlike an SFP, an IAF is not a syntactic but a morphological expression which modifies a verb so as to compose morphologically a complex verb. In order to make clear its morphological status, ICM which I advocate will be sketched. ICM is a minimal morphology which is designed to explain morpho-pragmatic properties of complex verb constructions. ICM consists of a set of basic and derived categories, combinatory formation rules and an illocutionary force percolation rule. For the sake of simplicity, I will not go into semantic interpretation but remain in Morpho-syntax in this paper. Semantic interpretation could be handled in Illocutionary logic.<sup>14</sup>

#### 3.1 *Basic and derived categories*

Like ordinary categorial syntax, a morphological structure of a complex verb is characterized in a bottom-up fashion. In ICM, various categories and the expressions having these categories are defined inductively:

- (16) (i) V1, V2, and V3 are basic categories.  
 (ii) if  $\alpha$  and  $\beta$  are basic categories, either  $\alpha|\alpha$  or  $\alpha|\beta$  is also a category, a derived category.  
 (iii) Nothing else is a category.

Two symbols, V2 and V3 will be used to name derived categories, T|V1 and T|V2 in ICM, simply for descriptive convenience. Hence, basic categories are the categories of either basic verbs or complex verbs given in (16i): V1 (=intransitive verbs), V2 (=transitive verbs) and V3 (=di-transitive verbs). Let us neglect any syntactic requirements, if any, regarding syntactic types excepting the case which affects the derivational processes and results.

Affixal categories such as  $V^*|V^*$  and  $V_n|V_m$  which are defined in (17) are derived categories:

- (17) a.  $V^*|V^*$ : an expression of the category  $V^*|V^*$  takes as its argument an expression of  $V^*$  to produce a derived expression of the same verbal category, where  $V^*$  is a member of the closed set of verbal categories  $W^*$  and  $W^*$  is composed of three categories,  $V_1$ ,  $V_2$  and  $V_3$ :  $V^* \in W^* \wedge W^* = \{V_1, V_2, V_3\}$ ,
- b.  $V_n|V_m$ : an expression of the category  $V_n|V_m$  takes as its argument an expression of  $V_n$  to produce either an expression of the category  $V_{n+1}$ , where  $n$  is either 1 or 2, or an expression of the category  $V_n$ , where  $n$  is 3.

Table Categories in ICM and Categorial Syntax

I. Basic Categories in ICM		
Categories	Description	Definition
V1	intransitive (complex-)verb	V1
V2	transitive (complex-)verb	T V1
V3	di-transitive (complex-)verb	T V2
II. Categories in Categorial Syntax		
A: Basic categories		
Categories	Description	Definition
S	declarative sentence	t
CN	common noun	CN
V1	intransitive verb (phrase)	V1
B: relevant derived categories		
V2	transitive verb (phrase)	T V1
V3	di-transitive verb (phrase)	T V2

Since arguments and the values of affixal categories are syntactic, an affixal category has the property of interface between morphology and syntax. For instance, (18), (19) and (20) show that *teiru* 'have experienced', *tearu* 'have done', *teoku* 'do something for the time being' and *teyaru* belong to the first (*i.e.*  $V^*|V^*$ ) and *temorau* 'be given the benefit described in the proposition by someone' and *temiseru* 'shows someone something described in the proposition' belong to the second functional category (*i.e.*  $V_n|V_m$ ) and show how they are conjoined with their arguments. Their arguments are the verbs such as *aruku* 'walk' of the category V1, *kowasu* 'break' of the category V2 and *oshieru* 'teach' of the category V3 which are concatenated with successive IAF's.

- (18) a. *arui-teiru*,V1  
/ |  
*aruku*,V1 *teiru*,V\*|V\*
- c. *arui-teoku*,V1  
/ |  
*aruku*,V1 *teoku*,V\*|V\*
- e. *arui-temiseru*,V2  
/ |  
*aruku*,V1 *temiseru*,Vn|Vm
- b. *arui-tearu*,V1  
/ |  
*aruku*,V1 *tearu*,V\*|V\*
- d. *aruite-morau*,V2  
/ |  
*aruku*,V1 *temorau*,Vn|Vm
- f. *arui-teyaru*,V2  
/ |  
*aruku*,V1 *teyaru*,V\*|V\*
- (19) a. *kowashi-teiru*,V2  
/ |  
*kowasu*,V2 *teiru*,V\*|V\*
- c. *kowashi-teoku*,V2  
/ |  
*kowasu*,V2 *teoku*,V\*|V\*
- e. *kowashi-temiseru*,V3  
/ |  
*kowasu*,V2 *temiseru*,Vn|Vm
- b. *kowashi-tearu*,V2  
/ |  
*kowasu*,V2 *tearu*,V\*|V\*
- d. *kowashi-temorau*,V3  
/ |  
*kowasu*,V2 *temorau*,Vn|Vm
- f. *kowashi-teyaru*,V3  
/ |  
*kowasu*,V2 *teyaru*,V\*|V\*
- (20) a. *oshie-teiru*,V3  
/ |  
*oshieru*,V3 *teiru*,V\*|V\*
- c. *oshie-teoku*,V3  
/ |  
*oshieru*,V3 *teoku*,V\*|V\*
- e. *oshie-temiseru*,V3  
/ |  
*oshieru*,V3 *temiseru*,Vn|Vm
- b. *oshie-tearu*,V3  
/ |  
*oshieru*,V3 *tearu*,V\*|V\*
- d. *oshie-temorau*,V3  
/ |  
*oshieru*,V3 *temorau*,Vn|Vm
- f. *oshie-teyaru*,V3  
/ |  
*oshieru*,V3 *teyaru*,V\*|V\*

### 3.2 Combinatory rules in ICM

The following combinatory rules are valid in ICM:

- (21) a. if  $\alpha \in E_{V^*}$  and  $\beta \in E_{V^*|V^*}$ ,  
 $morph(\alpha,\beta)=\gamma$  and  $\gamma \in E_{V^*}$ ,  
where  $V^* \in W$ .
- b. if  $\alpha \in E_{V_n}$  and  $\beta \in E_{V_n|V_m}$ ,  
then  $morph(\alpha,\beta)=\gamma$  and  $\gamma \in E_{V_{n+1}}$ , where  $n \leq 2$   
otherwise  $\gamma \in E_{V_n}$ .

In other words, if  $\alpha$  is an expression of the category  $V^*$  and  $\beta$  is an expression of the category  $V^*|V^*$ , then the result  $\gamma$  of a concatenation operation *morph* is an expression of category  $V^*$ . There, the category  $V^*$  is a member of the set of basic categories. Moreover, if  $\alpha$  is an expression of the category  $V_n$  and  $\beta$  is an expression of the category  $V_n|V_m$ , then  $\gamma$  is an expression of the category  $V_{n+1}$ , and there, the number  $n$  is smaller than 2 or equivalent to 2 (*i.e.*  $n \leq 2$ ). Otherwise, the  $\gamma$  is an expression of the category  $V_n$ . ICM thus predicts the categorial change when one of the combinatorial rules in (21) is applied recursively to an expression of a verbal category. Examine (22).

- (22) a.
- |   |                                   |   |
|---|-----------------------------------|---|
| / | arui-temorat-teoi-teyat-teiru, V3 |   |
| / | arui-temorat-teoi-teyaru, V3      | teiru, V* V*                            |
| / | arui-temorat-teoku, V2            | teyaru, V* V*                           |
| / | arui-temorau, V2                  | teoku, V* V*                            |
| / | aruku, V1                         | temorau, V <sub>n</sub>  V <sub>m</sub> |
- b.
- |   |                                      |   |
|---|--------------------------------------|---|
| / | kowashi-teoi-temorat-teyat-teiru, V3 |   |
| / | kowashi-teoi-temorat-teyaru, V3      | teiru, V* V*                            |
| / | kowashi-teoi-temorau, V3             | teyaru, V* V*                           |
| / | kowashi-teoku, V2                    | temorau, V <sub>n</sub>  V <sub>m</sub> |
| / | kowasu, V2                           | teoku, V* V*                            |
- c.
- |   |                                    |   |
|---|------------------------------------|---|
| / | oshie-teyat-teoi-temorat-teiru, V3 |   |
| / | oshie-teyat-teoi-temorau, V3       | teiru, V* V*                            |
| / | oshie-teyat-teoku, V3              | temorau, V <sub>n</sub>  V <sub>m</sub> |
| / | oshie-teyaru, V3                   | teoku, V* V*                            |
| / | oshieru, V3                        | teyaru, V* V*                           |

In these examples, thanks to the combinatory rules, the syntactic categories of complex verbs can be predicted at every stage of the concatenation.

### 3.3 *Illocutionary force percolation rule*

As we have seen in (15), the illocutionary force of an utterance is not always that of the matrix verb but that of an IAF. Once the illocutionary force of IAF is understood, that of an utterance can be computed. Thus, ICM has to prepare a mechanism with which any illocutionary force of the constituent of a complex verb can be delivered up to the complex verb. This rule is named *illocutionary force percolation rule* (henceforth IFPR) which is defined as (23) based on the definition of the categories and the rules in (16) and (21).

- (23) If  $\alpha \in E_X$ ,  $\beta \in E_{X|Y}$ ,  $morph(\alpha, \beta) = \gamma_Y$ , and  $f_\theta \in F$ ,  
then  $f_\gamma = f_\beta$

where: X is either a category of a matrix verb or a category of a complex verb with more than one illocutionary affixes,

X|Y is a category of an illocutionary affix,

Y is a category of a derived complex verb,

$f_\theta$  is an illocutionary force of any expression  $\theta$ , and

F is a set of illocutionary forces.

In other words, if  $\alpha$  is an expression of category X which is either a matrix verb or a complex verb,  $\beta$  is an expression of category X|Y which is an illocutionary affix,  $\gamma$  is an expression of category Y of a derived complex verb, and  $\theta$  is an illocutionary force marker of  $f_\theta$ , then the force expressed by the derived complex verb obtained in combining the previous expressions is the same as that of an illocutionary affix. (23) will apply if and only if the value of IAF's illocutionary force is given. As we have seen, the illocutionary force of an IAF can be determined in virtue of the rule given in (15). Hence, IFPR defined in (23) is applicable to every utterance with an IAF, *teyaru* in order to recover the illocutionary force of the utterance. Since the IAF, *teyaru* is a member of the most complex type among IAF's, the recoverability of *teyaru* applies to the other IAF's as well. Consequently, this proposal can be generalized for the analysis of any IAF.

#### 4. Tentative conclusion and some remarks for further studies

I have discussed in this paper the reasons why the illocutionary force of an utterance is that of an IAF, but not that of the main verb of the utterance. I have also proposed a compositional mechanism with which we can generally predict and recover the illocutionary force of utterances with IAF's. Through the analysis of an IAF, *teyaru*, it has been observed that the IAF is illocutionarily polysemous, which is caused by the difference in preparatory and sincerity conditions of its illocutionary force, even though those polysemous meanings share their core illocutionary meaning which is a particular mode of achievement of its illocutionary force. As Vanderveken (1990, 1994a) pointed out, there is no one-to-one correspondence between illocutionary forces and the illocutionary force markers in natural languages. The existing polysemy of an IAF in its illocutionary force understanding is an instantiation of his generalization.

This paper does not go into any formal semantics of illocutionary force understanding. In the general semantics of success and satisfaction of Vanderveken (1990), completed illocutionary acts are not isolated proposition but are basic units of meaning and understanding. Moreover, there is a generalization of Kaplan's double semantic indexation:

In the first step, each sentence is evaluated as expressing in every context a certain literal illocutionary act whose nature is entirely determined by the linguistic meaning of that sentence as well by the relevant contextual aspect.... In the second step, each illocutionary act that is the meaning in a context of a sentence is then evaluated in its turn in every interpretation as having a success and a satisfaction value in each possible context of utterance.

However, in his definition nothing is mentioned about the process in which a sentence comes to have its possible literal illocutionary force(s) out of its constituents. A linguistic theory has to clarify how illocutionary force markers play roles in identifying the possible illocutionary force of a sentence. Our present analysis can be connected with a model, which is a *morpho-syntactic adaptation* of his *generalized double semantic indexation*. There, the illocutionary process of a literal interpretation of an utterance will be represented as a morpho-syntactic process of concatenation of intra-sentential illocutionary and/ or non illocutionary elements, the formers of which are illocutionary force markers or embodiments of possible illocutionary potentials. Thus, our proposal will play the role of an interface between the morpho-syntax and the formal semantics of illocutionary acts.

## Chapter 11

# Speech-Act Constructions, Illocutionary Forces, and Conventionality

Masa-aki Yamanashi  
*Kyoto University*

### 1. Introduction

Studies of quotation phenomena in the past have mainly focused on clarifying the interrelationship between so-called ‘direct’ and ‘indirect’ speech. Special attention has been paid to the elucidation of such problems as person-deixis shift, changes of tense and mood involved in the quoted and quoting parts of direct and indirect speech (cf. Quirk *et al.* 1985: 1020–1032). However, little attention has been paid to the pragmatic study of quotation phenomena, especially that of the illocutionary and pragmatic functions which characterize the underlying semantic and pragmatic mechanisms of quoting phenomena.

Among the crucial issues concerning such phenomena are: (i) What kind of relationship holds between the propositional meaning of the quoted part and that of a quoting verb?, (ii) What kinds of illocutionary and pragmatic forces can be involved in the quoted part of a sentence?, (iii) What kinds of illocutionary and pragmatic forces can be reflected in the quoting part (especially in the quoting verb)?, (iv) What kinds of verbs can be used as predicates of quotation in natural language? The main objective of the present paper is to address these issues, especially (ii) and (iii). In what follows, these problems are investigated in connection with various idiomatic and conventional speech-act constructions.

Quotation phenomena involving constructions of this sort provide one of



the crucial criteria by which we can clarify a variety of direct and indirect speech-act functions underlying the communicative mechanism of natural language.

## 2. Locutionary Acts and Direct Quotation

According to the general theory of speech acts, there are supposedly three basic types of speech acts: (i) locutionary acts, (ii) illocutionary acts, and (iii) perlocutionary acts (cf. Austin 1962a).

Of these, 'locutionary acts' can be further divided into three subtypes: (a) 'phonetic acts', (b) 'phatic acts', and (c) 'rhetic acts'. A phonetic act is the act of uttering certain sounds. A phatic act is the act of uttering certain vocables or words (i.e. sounds of certain types belonging to a certain vocabulary which conforms to a grammar). And a rhetic act is the performance of an act which uses those vocables or words with an appropriate sense and reference.<sup>1</sup>

These subtypes of locutionary acts can be reflected in the quoted parts of the following examples. The quoted parts in (1) below are examples of phonetic acts; they are composed of a series of sounds which do not segment themselves into words. The quoted part in (2), on the other hand, counts as a phatic act. It is characterized by a series of words.

- (1) "Whoooooooooooooooooooo!" we would say.  
 "Dong! Dong! Dong!"  
 "Huff-huff! Huff-huff-huff! Huff-huff-huff-huff!"  
 we would say. [*Black Boy*: 69]
- (2) "The FBI, the CIA, the BBC...BB King, Doris Day,  
 Matt Busby," John said meaninglessly.
- (3) "Fine!" said the blessed madman, sent by God.
- (4) Mary Jane, looking depressed, raised her chin from  
 the armrest of the couch. ...  
 "You can't call Lew not intelligent," she said aloud.  
 "Who can't?"  
 "I mean isn't he intelligent?" Mary Jane said innocently.  
 "Oh," said Eloise, "what's the use of talking.  
 Let's drop it. I'll just depress you. Shut me up."  
[*Uncle Wiggily*: 418]

The quoted part in (3) may appear to be another instance of a phatic act in that it is a one-word utterance. However, it can be contextually understood as a fragment of a sentence (e.g. “(That’s) fine!”, “(I’m) fine,” *etc.*) In this respect, it belongs to a kind of rhetic act.<sup>2</sup> A full-fledged rhetic act is illustrated by example (4), where the quoted parts are composed of a number of sentences with appropriate grammatical structures.

### 3. Illocutionary Forces and Modes of Direct Quotation

In the previous section, we observed a number of cases where a variety of locutionary acts (‘phonetic’, ‘phatic’ and ‘rhetic’ acts) are directly reflected in the quoting part through one of the most typical reporting verbs (i.e. the verb of saying).<sup>3</sup>

In some cases, however, some pragmatic forces are reflected in the quoting part. Thus, consider the following examples:

- (5) “God told me,” he *asserted*, brazening it out. ... “Now!”  
 he would silently *command* the snorting steed.  
 “Now, take me to where there is luck! Now take me!”  
[*Rocking-Horse*: 93]
- (6) “Course it isn’t,” *affirmed* Trapper John, ... .  
[*M\*A\*S\*H*: 63]
- (7) “I’m all right when I [am] all right,” George *assured* her.  
 “I know all about you!”

In these examples, the illocutionary force involved in the quoted part is encoded in the quoting verb in question. This can be seen in the use of performative verbs (i.e. *assert*, *command*, *affirm*, *assure*) in the quoting part of (5)–(7), which explicitly describe an illocutionary force (or an illocutionary act performed in the quoted part).<sup>4</sup>

Basically similar instances can be illustrated by examples (8)–(14), in which such illocutionary forces as advice, confession, direction, prediction, *etc.* are encoded in the quoting part in question.<sup>5,6</sup>

- (8) Carlier *advised*, “Keep all our men together in case  
 of some trouble.” [*Progress*: 100]

- (9) “Somewhat,” Thomas *confessed*. “I thought the only robots who could talk were in library information service and such.”  
[*The Quest*: 207]
- (10) “Give him that from me,” the gunman *directed*, “and tell him he’s all right.” [Panic: 57]
- (11) “That’ll do it,” Hawkeye *predicted* to the Duke.  
[M\*A\*S\*H: 15]
- (12) “Such familiarity is highly improper,” *declaimed* Major Houlihan,  
... [M\*A\*S\*H: 46]
- (13) “That’s it!” Manuel *proclaimed*. [Room Enough: 90]
- (14) “Go back, go back, please,” he *urged*, “you spoil all.”  
[Progress: 102]

It should be noted, however, that the existence of illocutionary forces does not always allow us to use performative verbs in the quoting part. If the illocutionary force in question is explicitly expressed in the quoted part, then it becomes inappropriate to use a performative verb in the quoting part. This is clear from the following examples (cf. Yamanashi 1991: 506).

- (15) a. “I promise to buy a new diamond ring,” her husband  
{*said/\*promised*}.  
b. “I’ll buy a new diamond ring,” her husband {*said/promised*}.
- (16) a. “I order you to get out of here,” the man {*said/\*ordered*}.  
b. “Get out of here,” the man {*said/ordered*}.

The quoted part in (15a) has an explicit performative verb which indicates the illocutionary force of promising; in this case, it is redundant to quote the given utterance with a performative verb. The quoted part of (15b), on the other hand, has no performative verb; i.e. the illocutionary force in question is not explicitly marked in the given utterance. In such cases, it is possible to use an appropriate performative verb in the quoting part. Basically, the same applies to the examples in (16).

#### 4. Indirect Speech Acts and Modes of Direct Quotation

We have observed two cases of quotation phenomena: (i) the quotation of locutionary acts and (ii) that of illocutionary acts. The quotation phenomena we observe below are different from these types of quotation in that what is reflected in the quoting part is a kind of indirect speech act.

Consider the following examples.

(17) “Hey, Walt, how about you all leaving me your record player?” requested Duke. [M\*A\*S\*H: 33]

(18) “No, but I meant — please, may we wait and pick some?” Alice pleaded. [The Looking-Glass: 178]

The quoted part in (17) (i.e. “Hey, Walt, how about you all ...?”) is an abridged type of interrogative sentence involving an illocutionary force of a question. The quoted part of (18) (i.e. “..., may we wait and pick some?”) is also an interrogative sentence. This being the case, it is natural to expect that the quotation verb for them should be an interrogative verb like *ask*, *question*, *inquire*, etc. The quotations to be made for such utterances then should go like (17') and (18'), respectively.

(17') “Hey, Walt, how about you all leaving me your record player?” *asked (questioned, etc.)* Duke.

(18') “No, but I meant --- please, may we wait and pick some?” Alice *asked (questioned, etc.)*.

In (17) and (18) above, however, non-interrogative verbs like *request* and *plead* are used instead. This means that what is quoted in (17) or (18) is not the literal illocutionary act of a question, but rather the indirect speech act of a request or plead, which can be conventionally (or idiomatically) inferred from the utterance of the literal interrogative sentence.

The quoted sentences in (19) and (20) below (i.e. “For Chrissake, McIntyre, are you all this friendly all the time?”, “You heard no one behind you on the road?”) constitute an interrogative sentence and a declarative one with an interrogative function, respectively; and they should usually take verbs of question in the quoting part.

- (19) “For Chrissake, McIntyre, are you all this friendly all the time?” *demanded* the Duke.  
 “Only when I’m happy,” answered McIntyre.  
 [M\*A\*S\*H: 19]
- (20) “You heard no one behind you on the road?” Mama *demanded*.  
 “No. Mama. I listened carefully. No one was on the road.”  
 [Flight: 460]

Here, however, the indirect speech act of a request for information is implied from the quoted utterance. Hence, the verb *demand* is used as a quoting predicate.

- (21) “Surely, you’re too big for a rocking-horse!” his mother had *remonstrated*.  
 [Rocking-Horse: 102]
- (22) “I might get killed,” “You just might,” Hawkeye *consoled* him. “Get in here, Painless. It’s time for take off.”  
 [M\*A\*S\*H: 39]
- (23) a. “One has to get up so early it seems midday now,” Tory *complained*.  
 [Red-Letter: 477]  
 b. “I don’t want to be a parachute jumper,” he *complained*.  
 [M\*A\*S\*H: 39]

The quoted parts in examples (21)–(23) are sentences of a declarative type whose literal illocutionary force is a kind of statement. Here again, however, the indirect speech acts involved in the quoted part are reflected in their quoting parts. What is characteristic about these examples is that they involve some kinds of indirect speech acts in their quoted parts, which can be inferred from the propositional and illocutionary meanings of the given utterance.

In this respect, they are different from those utterances which involve such context-dependent pragmatic implications (i.e. conversational implicatures) as shown in (24) below. (The arrow sign (→) indicates the inference of the conversational implicature involved in each utterance.)<sup>7</sup>

- (24) a. John: “It’s hot in here.”  
 (→ Please open the window.)  
 b. Mary: “Your cookies look tasty.”  
 (→ Give me some.)

- c. Bill: “You are my destiny.”  
 (→ I want to marry you.)

Suppose situations in which we quote the utterances “It’s hot in here,” “Your cookies look tasty,” *etc.* which contextually involve such pragmatic implicatures as (24). Given such situations, it is in principle possible to reflect these pragmatic implicatures in the quoting verb to give the following quotation sentences.

- (25) a. ? “It’s hot in here,” *requested* John.  
 b. ? “Your cookies look tasty,” Mary *asked*.  
 c. ? “You are my destiny,” Bill *proposed*.

Quotation sentences of this kind, however, are not as appropriate as the examples in (17)–(23) above.

This indicates that some pragmatic constraints must be imposed on the relation between the quoted and quoting parts. Not all pragmatically implied meanings can be reflected in the quoting part of a given sentence. At least such conversational implicatures as observed in (24) above cannot be reflected in the quoting part of a given sentence.

Here, I distinguish two types of pragmatic forces, which constitute the two poles on their scale: (i) “Conventional Pragmatic Forces” and (ii) “Non-conventional Pragmatic Forces”. “Conventional Pragmatic Forces” (henceforth, CPF’s) are those which can be inferred context-independently from a given utterance. In contrast, “Non-conventional Pragmatic Forces” (NPF’s) are those which can be pragmatically inferred depending on the context; i.e. whether they can be inferred or not depends on the context of a given utterance.<sup>8</sup>

Now, conversational implicatures like those in (24) should belong to the class of NPF’s which constitute one pole of the above scale of pragmatic forces. Pragmatic forces belonging to this class cannot be appropriately reflected in the quoting part (cf. (25)). On the other hand, pragmatic forces belonging to the opposite pole of the scale (i.e. CPF’s) can be reflected in the quoting part. In the next section, we will examine some examples of this kind of quotation.

## 5. Decontextualization and Speech Act Constructions

Pragmatic forces are generally supposed to be those whose identification can be made depending on contexts; and they characterize the pragmatic meaning of a given utterance. Some pragmatic forces, however, are conventionalized since they are associated with the speech act construction of a given utterance. There exist a variety of utterance patterns whose original pragmatic forces have become fixed through the process of ‘decontextualization.’<sup>9</sup>

The conveyed meanings of such constructions were originally context-dependent pragmatic forces; they have, however, ‘decontextualized’ themselves, thus becoming fixed as the conventionalized meanings of the given grammatical constructions. Here, we call such linguistic constructions ‘speech act constructions’ (cf. Lakoff 1984; Fillmore 1989).

The conventionalized forces of this kind (i.e. CPF’s) involved in such speech act constructions can be reflected in the quoting part of a given sentence. As a case in point, consider the following utterance.

(26) Max: “Say that again!”

(27) [Say that again!]

→ [Do not (dare to) repeat what you said!]

The sentence (26) is an imperative. Max’s utterance seems to function literally as an order to repeat what was said. Conventionally, however, this is not what the utterance conveys; it rather serves as a kind of warning (i.e. [you better not repeat what you said]), as shown in (27). That this is the case can be shown by the following quotations.

(28) a. \**“Say that again!”* Max ordered.

b. \*Max ordered {me, us, *etc.*} to say that again.

(29) *“Say that again!”* Max warned.

What is reflected in the quoting part is not a literal illocutionary force of ordering, but a conventionalized force of warning.

Similar speech act constructions can be observed in Japanese. Consider the following.

(30) *Usō tuke!*

lie tell

(Tell a lie! → That’s unbelievable!)

- (31) *Baka ie!*  
nonsense talk  
(Talk nonsense! → Don't be absurd/a fool!)
- (32) *Zyoodan ie!*  
joke tell  
(Tell a joke! → Don't you joke with me!)
- (33) *Moo-itido itte miro!*  
again say try  
(Try saying (that) again! → Don't (dare to) repeat what you said!)

The sentences in (30)–(33) are imperatives. Thus, taken literally, they seem on the surface to serve as an order (e.g. [to tell a lie], [to talk nonsense], [to tell a joke], *etc.*) Actually, however, they function as idiomatic speech act constructions to convey such meanings as indicated in (30)–(33) above. Thus, we cannot use a verb of ordering (i.e. *meirei suru* [=order]) to quote these constructions, as in (34)–(37) below.<sup>10</sup>

- (34) \**“Uso tuke!” to meirei si-ta.*  
lie tell COMP order do-PST  
(“Tell a lie!” X ordered.)
- (35) \**“Baka ie!” to meirei si-ta.*  
nonsense talk COMP order do-PST  
(“Talk nonsense!” X ordered.)
- (36) \**“Zyoodan ie” to meirei si-ta.*  
joke tell COMP order do-PST  
(“Tell a joke!” X ordered.)
- (37) \**“Moo-itido itte miro!” to meirei si-ta.*  
again saytry COMP order do-PST  
(“Try to say (that) again!” X ordered.)

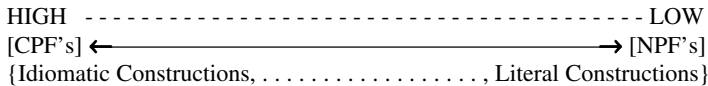
To quote such speech act constructions, we have to use a verb of warning, which reflects their conventionalized pragmatic forces as in (34')–(37').

- (34') *“Uso tuke!” to tasiname-ta.*  
lie tell COMP warn-PST  
(“Tell a lie!” X warned.)



- (35') *"Baka ie!" to tasiname- ta.*  
 nonsense talk COMP warn-PST  
 ("Talk nonsense!" X warned.)
- (36') *"Zyodan ie!" to tasiname-ta.*  
 joke tell COMP warn-PST  
 ("Tell a joke!" X warned.)
- (37') *"Moo-itidoitte miro!" to keikoku si-ta.*  
 again say try COMP warn do-PST  
 ("Try saying (that) again!" X warned.)

So far, we have observed some crucial cases of quotation where the pragmatic forces involved in the quoted part can be encoded in the verb of quotation. Whether pragmatic forces can be appropriately encoded in the quoting part in question, however, depends on the extent to which they are conventionalized. If they are highly conventionalized, their quotation is appropriate to that extent. The relationship between speech act constructions and the degree of conventionality of pragmatic forces is shown in the following scale. (Here, CPF's and NPF's correspond to 'Conventional Pragmatic Forces' and 'Non-conventional Pragmatic Forces,' respectively.)



*Figure: Scale of Conventionality for Pragmatic Forces*

The speech act constructions examined in this section, especially those in (26)–(33) above, are highly idiomatic (or highly conventionalized); thus, to that extent, their pragmatic forces can be appropriately reflected in the quoting part of the sentence. On the other hand, those literal constructions whose pragmatic forces are context-dependent cannot allow their forces to be encoded in the quoting part of the sentence. (Constructions (24) and (25) in Section 3 belong to this group.)

This does not mean, however, that speech act constructions in natural language can be categorically divided into these two groups. As the above scale suggests, there are borderline cases in which constructions locate themselves somewhere between these two poles. The speech act constructions (17)–(23) in Section 4 can be located somewhere between these polar groups

on the above scale; i.e. the extent to which their pragmatic forces are conventionalized is somewhere between these two poles.<sup>11</sup>

## 6. Hedged Modality and Indirect Quotation

There exist in natural language some modal expressions which modify the performative verb of a given utterance. Speech act constructions whose performative verbs are embedded in or modified by such modal expressions are generally called ‘hedged performatives’ (or ‘hedged performative constructions’).<sup>12</sup>

Consider the following examples. In examples (38)–(41) below, such modal expressions as *must*, *may*, *let me* modify performative verbs of telling and saying. The basic function of such expressions is to mitigate the illocutionary forces expressed by their performative verbs.

(38) I *must tell you* that Max has been hospitalized.

- (39) a. *May I say* that Cindy danced beautifully tonight.  
 b. *Let me say* that Cindy danced beautifully tonight.

What is interesting about speech act constructions of this sort is that when they are quoted, the literal meaning of their modal expression cannot be linguistically encoded in the quoting part of the indirect discourse. Thus, suppose situations where John’s statements in (38) and (39) above are reported in (40’) and (41’) below.

(40) John: “*I must tell you* that Max has been hospitalized.”

- (40’) a. John told me that Max had been hospitalized.  
 b. \*John said that he *was obliged to* tell me that Max had been hospitalized.

(41) John: “{*May I say/Let me say*} that Cindy danced beautifully tonight.”

- (41’) a. John told me that Cindy had danced beautifully tonight.  
 b. \*John *requested permission to* tell me that Cindy had danced beautifully tonight. (cf. Yamanashi 1986: 101–102)

The literal meaning of modal expressions (*must* [=be obliged to], *may/let*

[=request permission to]) cannot be appropriately encoded in the quoting part of the indirect discourse, as is clear from (40'b) and (41'b). Such modal meanings are filtered out in this kind of indirect discourse.

Basically the same kind of restrictions apply to Japanese quotations in indirect discourse. The following utterances (42)–(44) involve ‘hedged performatives’; i.e. their performative verbs are modified by modal expressions such as *tai* [=would like to], *nebanaranai* [=must/be necessary], etc.

- (42) Taroo: “*Kare mo muzai da to ii-tai.*”  
 he also innocent be COMP say-would like  
 ‘I would like to say that he is also innocent.’
- (43) Ziroo: “*Watasi no misu da to mitome-nebanaranai.*”  
 I GEN mistake be COMP admit-must  
 ‘I must admit that it was my mistake.’
- (44) Suzuki: “*Kono siai wa katta to iwasete-morau.*”  
 this game TOP have-won COMP say-allow  
 ‘Allow me to say that I have won this game.’

Now consider the cases in which these utterances are quoted in the following indirect discourse mode.

- (42') a. *Taroo wa kare mo muzai da to itta.*  
 Taro TOP he also innocent be COMP said  
 ‘Taro said that he was also innocent.’
- b. \**Taroo wa kare mo muzai da to iu-kiboo o nobeta.*  
 Taro TOP he also innocent be COMP say-wish ACC  
*nobeta.*  
 expressed  
 ‘Taro expressed his *wish to* say that he was also innocent.’
- (43') a. *Ziroo wa kare no misu da to mitometa.*  
 Ziro TOP he GEN mistake be COMP admitted  
 ‘Ziro admitted that it was his mistake.’
- b. \**Ziroo wa kare no misu da to mitomeru hituyoo o toita.*  
 Ziro TOP he GEN mistake be COMP admit-necessity  
 ACC told  
 ‘Ziro pointed out the necessity to admit that it was his mistake.’

- (44') a. *Suzuki wa kono siai wa katta to itta.*  
 Suzuki TOP this game TOP have-won COMP said  
 'Suzuki said that he had won that game.'
- b. \**Suzuki wa kono siai wa katta to iu-kyoka*  
 Suzuki TOP this game TOP have-won COMP say-permit  
*o motometa.*  
 ACC asked  
 'Suzuki requested permission to say that he had won that game.'

In this case, the quotations which do not encode the modal meaning of the hedged performative in the quoting part are acceptable, as shown in (42'a)–(44'a). On the other hand, the quotations which reflect the modal meaning of the hedged performative in the quoting part are rendered unacceptable, as is clear from (42'b)–(44'b). This indicates that the 'hedged performative' constructions can be pragmatically interpreted as 'pure (or non-hedged) performative' constructions when it comes to the communicative situation of indirect quotation. Put differently, those modal meanings involved in the hedged performative utterance do not contribute to the illocutionary forces or related pragmatic forces to be conveyed in the indirect quotation.

## 7. Conclusion

In this paper, I have investigated quotation phenomena in natural language, especially those phenomena relating to the illocutionary and related pragmatic forces which characterize the conveyed meanings of an utterance to be quoted. Most studies of quotation in the past have been devoted to the explication of the syntactic and semantic relationships that exist between direct and indirect modes of speech (or direct and indirect modes of discourse). Little attention has been paid to the pragmatic aspects of quotation phenomena.

The following issues are crucial to the pragmatic study of quotation: (i) What kind of illocutionary and related pragmatic forces can be involved in the quoted part of a sentence?, (ii) What kind of illocutionary and related pragmatic forces can be reflected in the quoting part (especially, in the verb of quoting)?, (iii) What kind of verbs can be used as predicates of quotation in natural language?

In this paper, these issues were investigated especially by examining idiomatic and non-idiomatic speech act constructions and by examining the ways in which their illocutionary forces and related forces are conventionalized (or decontextualized). Quotation phenomena involving constructions of this sort provide one of the crucial criteria by which we can clarify a variety of direct and indirect speech act functions underlying the communicative mechanism of natural language.

### Source for Examples

#### A. Anthologies:

1. BSS = D. Angus 1962.(ed.) *The Best Short Stories of the Modern Age*. Greenwich, Conn.: Fawcett, 1962.
2. SSM = R.P. Warren & A. Erskine 1954.(eds.) *Short Story Masterpieces*. New York: Dell, 1958.
3. *The Outnumbered*. = C. Brooks 1967.(ed.) *The Outnumbered*. New York: Dell,1967.

#### B. Individual Works:

1. *Cancer* = Henry Miller: *Tropic of Cancer*. New York: Grove Press, 1961.
2. *Black Boy* = Richard Wright: *Black Boy*. New York: Harper & Row, 1966.
3. *Finnegans Wake* = James Joyce: *Finnegans Wake*. London, Faber & Faber, 1939.
4. *Flight* = John Steinbeck: "Flight." [454–474] in SSM.
5. *Looking-Glass*. = Lewis Carroll: *Through The Looking-Glass*. New York: Signet, 1960.
6. *M\*A\*S\*H.* = Richard Hooker: *M\*A\*S\*H*. New York: William Morrow, 1968.
7. *Panic* = Donn Byrne : "Panic." [43–57] in *The Outnumbered*.
8. *Progress* = Joseph Conrad: "An Outpost of Progress." [88–114] in SSM.
9. *Red-Letter* = Elizabeth Taylor: "A Red-Letter Day." [474–83] in SSM.
10. *Rocking-Horse* = D.H. Lawrence: "The Rocking-Horse Winner." [90–105] in BSS.
11. *Room Enough* = E.P. Maxwell: "The Land of Room Enough." [74–90] in *The Outnumbered*.
12. *Run* = Irwin Shaw: "The Eight-Yard Run." [424–39] in SSM.
13. *Scars* = Dorothy Johnson: "Scars of Honor". [104–21] in *The Outnumbered*.
14. *The Quest* = Anthony Boucher: "The Quest for Saint Aquin." in R.P. Mills (ed.) *The World of Science Fiction*. New York: Coronet, 1965.
15. *The Hobbit* = J.R.R. Tolkien: *The Hobbit*. New York: Ballantine Books, 1965.
16. *Uncle Wiggily* = J.D. Salinger: "Uncle Wiggily in Connecticut." [408–424] in SSM.

## Chapter 12

# Speech act theory and the analysis of conversations

### Sequencing and interpretation in pragmatic theory

Jacques Moeschler  
*Department of Linguistics*  
*University of Geneva*

#### 1. Introduction

Conversation has recently become a focus of interest for speech act theory and several proposals have been formulated concerning the possible extension of speech act theory to the analysis of conversation. This debate (cf. Searle *et al.* 1992) has to be interpreted as a reactive move rather than as a natural extension of the domain of speech act theory. Nevertheless, this reaction, either sceptical (cf. Searle 1992) or optimistic (cf. Dascal 1992, Vanderveken 1993 and 1994), has brought interesting issues which contrast with the various attempts by linguists at extending speech act theory to the domain of discourse.<sup>1</sup> The first purpose of this paper is to explicit the divergence between philosophers and linguists about the possible extension of speech act theory to discourse analysis.

This paper has another purpose: it also deals with the possible domain of pragmatic theory with respect to discourse analysis. I shall argue that the main purpose of discourse analysis is the definition of necessary and sufficient conditions for sequencing and interpreting utterances in discourse. I claim that these two aspects of discourse (sequencing and interpretation) are intrinsi-

cally related and cannot be accounted for independently from each other. I claim furthermore that speech act theory cannot give any insight into the sequencing and interpretation problems, because speech act theory is neither a theory of interpretation (it is a theory of meaning) nor a global theory of action. Finally I show how a radical pragmatic theory (in the Gricean sense) accounts for the sequencing and interpretation problems.<sup>2</sup>

## 2. Speech act theory and conversation

There is a common sense argument shared by philosophers and linguists in favour of the possible extension of speech act theory to discourse analysis. This argument is the following:

Speech acts are not isolated moves in communication: they appear in more global units of communication, defined as conversations or discourses.

Vanderveken (1994, 53) gives an explicit version of this thesis when asserting that

speakers perform their illocutionary acts within entire conversations where they are most often in verbal interaction with other speakers who reply to them and perform in turn their own speech acts with the same collective intention to pursue with success a certain type of discourse. Thus, above all, the use of language is a social form of linguistic behavior. It consists, in general, of ordered sequences of utterances made by several speakers who tend by their verbal interactions to achieve common discursive goals such as *discussing a question, deciding together how to react to a certain situation, negotiating, consulting* or more simply *to exchange greetings* and talk for its own sake. For terminological convenience, I will call such ordered sequences of speech acts *conversations*.

The basis of this argument is that conversation is made of sequences of speech acts. This certainly is a plausible theoretical claim,<sup>3</sup> but gives rise to a certain number of objections, raised mainly by Searle (1992) in his skeptical argument. These objections concern essentially the possible relations between questions and answers in conversation, and can be stated as follows.

First of all, questions are defined in speech acts theory as requests for information, and as such impose representative acts as replies. But this cannot be correct, since a reply may have another illocutionary point (as a promise) if

the question is a request for a promise.

Secondly, certain questions require a directive as a reply, and not a representative, when the question contains a modal auxiliary verb (cf. the exchange: "Shall I marry Sally?" — "Yes, do"/ "No, don't" / "\*Yes, you shall" / "\*No, you shall not").

The third counter-example is given by indirect responses, which do not satisfy syntactic conditions, although the answer is pragmatically appropriate.

To these three arguments, we could add an even more embarrassing one: *answer* is not a specific illocutionary force, which could be analysed by the seven components of illocutionary force (cf. Searle and Vanderveken 1985). *Answer* is a functional discursive qualification, but certainly not the semantic definition of a speech act type.

These objections make explicit an important difference between the structure of illocutionary acts and the structure of conversation. In speech act theory, and more precisely in illocutionary logic, illocutionary force is decomposed into seven components, which are all necessary conditions for the successful and non defective accomplishment of illocutionary acts. These components (cf. Searle and Vanderveken 1985, 12–20) are the illocutionary point, the degree of strength of the illocutionary point, the mode of achievement of the illocutionary point, the propositional content conditions of the illocutionary act, the preparatory conditions of the illocutionary act, the sincerity conditions of the illocutionary act, and finally the degree of strength of the sincerity conditions. That predictions about the sequencing in conversation are difficult to come by follows from the fact that the internal structure of illocutionary acts (and more specifically the set of conditions for success) cannot determine the set of possible replies for any type of illocutionary act.

By contrast, discourse analysis, while specifying sequential relations in discourse between speech acts, does not constrain sequencing in conversation depending on the set of possible components of illocutionary force. The constraints are not structural, in the sense of speech act theory; they are on the contrary *functional*. This means that the basic structures of conversation (exchanges) are made of lower order conversational units (moves) which carry functional properties. If speech act theory has been used so extensively within this paradigm of discourse analysis,<sup>4</sup> it is because the functional properties associated with speech acts as units of meaning have been exported to speech acts as units of communication and discourse. This has several consequences for the description of speech acts within discourse analysis.



The first consequence is that the structure of conversation is not only based on a hierarchy of constituency, but is also functional. To take a classical discourse model (cf. Sinclair and Coulthard 1975), discourse categories (exchange, move, and act) are defined functionally. For instance, an act of ELICITATION is part of a move of ELICITATION, which governs an exchange of ELICITATION. Thus all discourse constituents receive a communicative function, that is, an interactive meaning. But we are here far from the conventional and semantic-meaning defining speech acts in speech act theory.<sup>5</sup>

As we have just noticed, discourse analysis supposes principles of constituency which allow interpretive or functional inheritance. If we assume, as above, that an ELICITATION is a two-place predicate relating utterance-units and discourse-units, we must assume too that the functional properties of the smallest discourse units (acts) are inherited by the larger constituents (moves and exchanges). This principle is structurally identical to the projection principle in generative grammar: a phrase is a maximal projection of a lexical head (for instance NP is a maximal projection of a N); in discourse, then, an exchange is thus functionally a maximal projection of an act.

The principle of functional projection is not a necessary consequence of discourse analysis. Another classical discourse model, the Geneva hierarchical-functional model (cf. Roulet *et al.* 1985, Moeschler 1985, Moeschler 1989a) makes a different claim: functional values do not stand in a one-to-one relationship with discourse structures. In this model, there is a basic difference between *rules of discourse formation* and *principles of functional interpretation*. The structural dimension is based on the following rules of formation:

- R1 Units of type Exchange are made of units of type Move.
- R1' Exchanges are composed of at least two Moves.
- R2 Units of type Move are made of units types Act, Move or Exchange.
- R2' Moves composed by a single Act are well-formed.
- R2'' Moves composed by an Act and another discourse-unit type (Move or Exchange) are well-formed.
- R2''' Moves composed by a single Exchange are ill-formed.

Thus, the following discourse structures are well-formed:

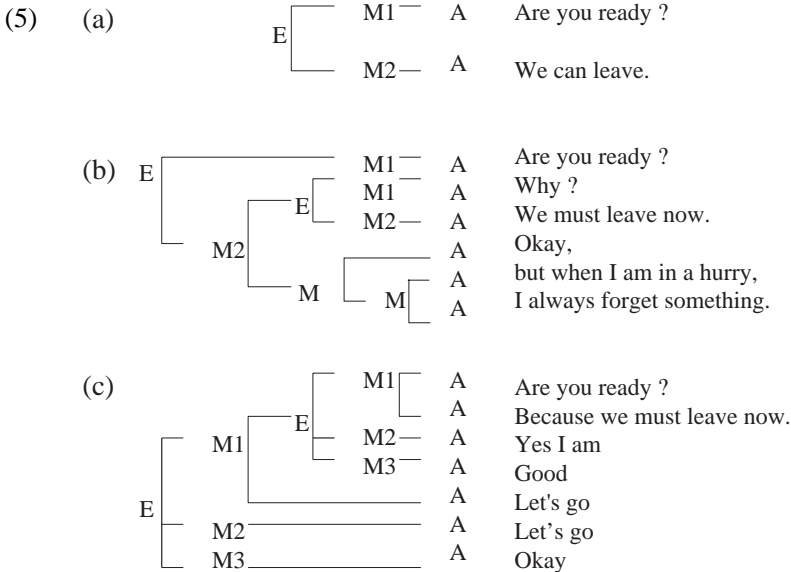
- (1) a. <E <M1 <A>, M2 <A>>>
- b. <E <M1 <A>, M2 <E <M1 <A>, M2 <A>>>>, M <A, M <A, A>>>>

- c.  $\langle E \langle M1 \langle E \langle M1 \langle A, A \rangle, M2 \langle A \rangle, M3 \langle A \rangle \rangle, A \rangle, M2 \langle A \rangle, M3 \langle A \rangle \rangle \rangle$   
 where E = exchange, M = move, A = act

The structures in (1a-c) are the hierarchical representations corresponding to the following short exchanges in (2)–(4):

- (2) A Are you ready?  
 B We can leave.
- (3) A Are you ready?  
 B Why?  
 A We must leave now.  
 B Okay, but when I am in a hurry, I always forget something.
- (4) A Are you ready? Because we must leave now.  
 B Yes I am  
 A Good. Let's go  
 B Let's go  
 A Okay

We can represent the bracketing structures given in (1) by the following tree-schemata:



These structures mean that in (5a) the exchange is made of two moves both composed of a single act, in (5b) the exchange is composed of two moves, the second of which is made of an exchange with two moves, and a move composed by an act and a move, and in (5c) the three-move exchange contains in the first move an exchange made of three moves.

What are the functional counterparts of the structural aspects of conversational discourse? There are two dimensions of functional properties associated with the structural device: the first dimension is a restricted inheritance principle, and the second, a general procedure for assigning interpretation to discourse constituents.

The first principle is a principle of functional composition:

*Principle of functional composition*

- (i) Constituents of exchanges bear illocutionary functions.
- (ii) Constituents of moves bear interactive functions.

*Definitions*

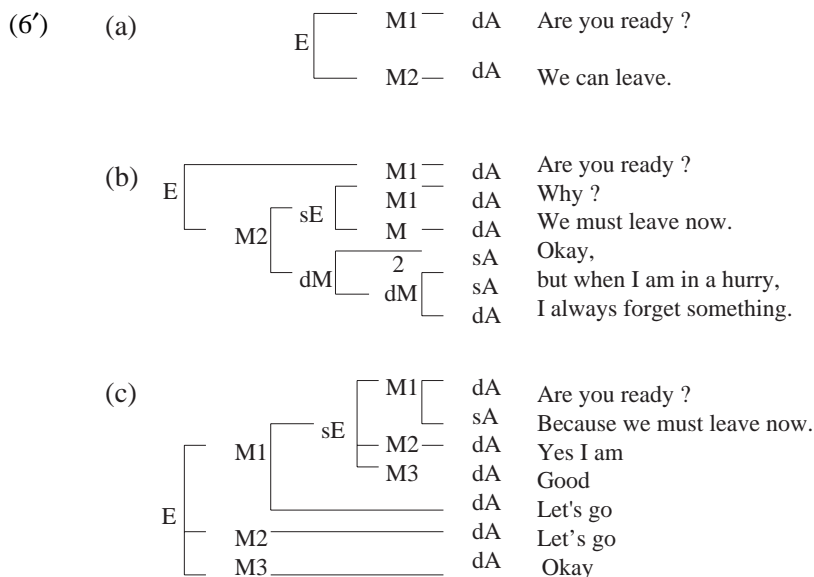
- (i) Illocutionary functions are of three types: initiative, reactive, and reactive-initiative.
- (ii) Interactive functions are of two types: directive, and subordinate.

The first move of an exchange (M1) is always *initiative*; the final move of an exchange is always *reactive*. For instance M2 in the exchange <E <M1, M2>> is the reactive move, and M1 is the initiative move. An inserted move (for example M2 in the structure <E <M1, M2, M3>>) is a *reactive-initiative* move. A directive (D) constituent is of the type move or act, and contains the act from which the move receives its illocutionary function; a subordinate constituent (of rank act, move or exchange) is cancellable, and generally completes, argues for, or justifies the main or directive constituent of the move.

We can now give the complete hierarchical-functional structures given in (1) and (5) as (6) and (6'):

- (6) a. <E <M1 <dA>, M2 <dA>>>
- b. <E <M1 <dA>, M2 <sE <M1 <dA>, M2 <dA>>>, dM <As, dM <sA, dA>>>>
- c. <E <M1 <sE <M1 <dA, sA>, M2 <dA>, M3 <dA>>, dA>, M2 <dA>, M3 <dA>>>

where E = exchange, sE = subordinate exchange, M = move, sM = subordinate move, dM = directive move, sA = subordinate act, dA = directive act



The second functional counterpart of the structural device is a procedure of interpretation assignment. It is not sufficient to have functional values assigned to discourse constituents; required is also to have a procedure governing the assignment of a functional interpretation to each constituent. In other words, the types of structures given in (1), (5) or (6) are syntactic representations of discourse; we need in addition a semantics, which can for instance assign to the hierarchical-functional structures given in (6) the following functional interpretations:

- (7)
- a. <QUESTION, ANSWER>
  - b. <QUESTION, <<QUESTION, ANSWER> ANSWER>
  - c. <<QUESTION, ANSWER, EVALUATION> PROPOSITION, ACCEPTATION, EVALUATION>

Limited to the functions of the main moves, that is, moves which are constituents of exchange, this very elementary assignment of functions shows that discourse analysis needs something like a procedure for the interpretation of utterance-units and their functional mapping onto discourse-units. In other words, we need a theory of discourse interpretation. What is specific to discourse analysis is that the criterion for assigning a functional value to a

constituent is different from the classical procedure used in speech act theory. Within speech act theory, the procedure is mainly conventional: besides general cooperation principles and background information, the procedure for the interpretation of e.g. indirect speech acts is dependent on semantic rules (the conditions of success and accomplishment of illocutionary acts). By contrast, discourse analysis cannot use a conventional procedure, because what defines a conversation is the sequencing of acts, moves and exchanges, and also the dependence between interpretation and sequencing. In conversation, a reactive move has two properties: (i) its sequential dependence *vis-à-vis* the initiative move, and (ii) its capacity to give retroactively an interpretation to the initiative move. The dependency relation between sequencing and interpretation is the topic of the following section.

### 3. Sequencing and interpretation in conversation

Let me recall briefly what the conditions for discourse analysis are. The basic notion of discourse analysis, as I have defined it in other occasions (cf. Moeschler 1982, chapter 3; Moeschler 1985, chapter 3; Moeschler 1986; Moeschler 1989b; and also Moeschler and Reboul 1994, chapter 17), is *appropriateness*.<sup>6</sup> I have assumed that units of communication are evaluated in terms of their degree of appropriateness. As units of communication are units of discourse, two types of appropriateness can be distinguished: *contextual appropriateness* and *cotextual appropriateness*. Let us describe these notions and introduce the topic of this section, the sequencing and interpretation problems.

Cotextual appropriateness depends on conditions of cotextual appropriateness, which can be generally defined as sequencing constraints. Conditions of cotextual appropriateness are imposed by initiative moves, and have scope over reactive moves. These conditions of satisfaction (thematic condition (TC), condition of propositional content (CPC), illocutionary condition (IC) and condition of argumentative orientation (CAO)) impose on the reactive move to share a common theme to the initiative move (TC), to be propositionally related to the initiative move (by implication, contradiction or paraphrase) (CPC), to bear an illocutionary force compatible with the illocutionary force of the first move (IC), and to have a shared argumentative orientation, that is, an argumentative co-orientation (CAO) (cf. Anscombe and Ducrot 1983).

The relation between conditions of satisfaction and cotextual appropriateness is a comparative one: the more conditions the reactive move satisfies, the more cotextually appropriate it is. In (9B1-B5), the degree of cotextual appropriateness increases, together with the degree of satisfaction of the conditions of cotextual appropriateness:

- |     |    |                                 |                      |
|-----|----|---------------------------------|----------------------|
| (9) | A  | Can you give me the time ?      |                      |
|     | B1 | I have a serious headache.      | -TC                  |
|     | B2 | The postman has just passed.    | +TC, -CPC            |
|     | B3 | Is it not already ten o'clock ? | +TC, +CPC, -IC       |
|     | B4 | It is not yet ten o'clock.      | +TC, +CPC, +IC, -CAO |
|     | B5 | It is ten o'clock.              | +TC, +CPC, +IC, +CAO |

When the thematic condition, the condition of propositional content and the illocutionary condition are satisfied, discourse is said to be *coherent*. If only the thematic condition and the condition of propositional content are satisfied, discourse is said to be *cohesive*. So a coherent discourse is always cohesive, whereas the reverse is false.

The converse notion is the notion of conditions of contextual appropriateness. These conditions do not hold of the reactive, but of the initiative move. For any initiative move, the degree of contextual appropriateness is determined by the reactive move, and more precisely, by the degree of cotextual appropriateness of the reactive move. We can formulate this dependency relation between cotextual appropriateness and contextual appropriateness as stated by the following principle (cf. Moeschler 1982 and 1989b) :

*Principle of dependency*

The more sequencing constraints the reactive move satisfies, the more the initiative move is contextually appropriate; the less sequencing constraints the reactive move satisfies, the more the initiative move is contextually inappropriate.

The consequence of the principle of dependency is the following: sequencing and interpretation in conversational sequences are closely related. This is so because a dialogical sequencing, whether appropriate or not, always gives an image of the interpretation of the initiative move, and retroactively defines its degree of contextual appropriateness. The following principle gives a more precise definition of this relation:

*Principle of dialogical interpretation*

The interpretation of a move is dialogical, and results from the dialogical sequencing to which it gives rise.

In (10), the degree of contextual appropriateness of the initiative move is a function of the degree of contextual appropriateness of the reactive move B1-B5:

- |      |    |  |                      |
|------|----|--|----------------------|
| (10) | A  | Peter is a friend whom one can count on.         |                      |
|      | B1 | By the way, what are you doing tonight ?         | -TC                  |
|      | B2 | Would you call that a friend ?                   | +TC, -CPC            |
|      | B3 | Do you forget he voted against<br>your project ? | +TC, +CPC, -IC       |
|      | B4 | He never inspired me confidence.                 | +TC, +CPC, +IC, -CAO |
|      | B5 | I think so too.                                  | +TC, +CPC, +IC, +CAO |

This set of principles yields a presumably robust approach of discourse sequencing. If we map the set of structural constraints defined in section 2 with the set of sequencing constraints defined here, we should have a powerful theory of discourse representation. An explicit version of this theory, containing a syntax, a semantics, and a procedure of analysis, has been proposed in Moeschler (1989a) and applied in computational linguistics for modelling person-machine dialogue in Bilange (1992) and Pernel (1994).

So far so good. But we are here far from the projection philosophers of language have made on conversation. We are also far from the basic principles of speech act theory, in which speech acts are conventional units of meaning. What is specific to the discourse theory presented so far is that illocutionary force is no longer a complex unit of meaning made of seven components (what we generally call a speech act), but is reduced to the functional and sequential properties of moves. Beside the fact that in speech act theory, there is no reason to take ANSWER as specific relational illocutionary force (the symmetrical counterpart of a question), while such reactive illocutionary function is required by the structural-functional device, there is a major difference between initiative and reactive moves that speech act theory cannot account for. This difference can be formulated as stated in the following asymmetry postulate:

*The asymmetry postulate of illocutionary functions*

Whereas a reactive move is a function with two moves as arguments, an initiative move is a function with a move as first argument, and a function as second argument.

According to this postulate, the formal difference between a question (initiative move A) and an answer (reactive move B) can be stated by means of the following notation :

(11) ANSWER (B, A)

(12) QUESTION (A, ANSWER (B, A))

This notation is consistent with the principle of dialogical interpretation: a move is a question because it has been interpreted as a question by its answer, which expresses the second argument of the question, that is, the function ANSWER.

The very optimistic proposal of this section thus contrasts with Searle's pessimistic view. But, as already mentioned, we are here far from an extension of speech act analysis to conversation: what we have is a structural and functional model for the analysis of conversation.

So far, my optimism was actually purely strategic, in order to discuss one of the possible extension of speech act theory for the analysis of conversation. The following section is much more pessimistic: I show the descriptive inadequacy of the so-called model of conversation, and in a more radical argumentation that both the sequencing and the interpretation problems can be solved in a non discourse-based approach to meaning, which belongs to radical pragmatics.

#### **4. The interpretation and sequencing problems revisited**

Let us first reformulate the interpretation and sequencing problems in a more general way.

The interpretation problem can be reduced to the following question: *What should hearers do in order to understand what speakers intend to communicate?* Strictly speaking, this problem is not different from the one pragmatic theory tries to answer. The main task of pragmatics is to explain, *via* non linguistic principles, procedures by which hearers can understand what speakers want to communicate. If discourse analysis were limited to the interpretation problem, one could conclude that there is no need for a specific domain of investigation like discourse analysis, since pragmatics and discourse analysis would be about the same set of facts, that is, the interpretation problem. Nevertheless, the question which remains open is whether interpre-



tative facts are better understood within pragmatics or within a conversational theory. As we have seen in the preceding section, discourse analysis covers another domain, the sequencing problem, which implies that the interpretation problem cannot be solved independently. The conclusion is that if we can show that the sequencing problem can be solved outside discourse analysis, the interpretation problem would no longer be a conversational problem and could be treated within pragmatic theory. Before pursuing the argument, let us reformulate properly the sequencing problem.

The sequencing problem follows from the sequential and dialogical nature of discourse. It can be summarised as in the following question : *Are there rules or principles which guarantee the well-formedness of discursive and conversational sequences ?* This formulation presupposes first that some discourse productions can be evaluated as well-formed, and others as ill-formed, and second that defective and non defective aspects of discourse sequences result from the satisfaction and non satisfaction of sequencing rules or principles. This formulation implies that the sequencing problem is identical with the problem of discourse coherence. But it has been argued (cf. Charolles 1988 for a synthetic review of research on text grammar and coherence) that discourse coherence is basically an interpretation problem, and we can conclude that the sequencing problem can be limited to the interpretation problem. If this assumption is correct, then there is no need for a conversational theory, since the sequencing problem is part of the interpretation problem, i.e. the object of a pragmatic theory.

So far, we have discussed two pairs of antinomic theses, belonging respectively to *conversational pragmatics* (what I called *discourse analysis*) and to *pragmatic theory*:

*The theses of conversational pragmatics*

- T1 The interpretation problem is part of the sequencing problem.
- T2 Conversational pragmatics is independent of pragmatic theory and makes different predictions.

*The theses of pragmatic theory*

- T'1 The sequencing problem is part of the interpretation problem.
- T'2 Conversational pragmatics is dependent of pragmatic theory and does not make different predictions.

Now, I must demonstrate that principles of conversational pragmatics are falsifiable, and that pragmatic aspects of discourse must be accounted for by

general pragmatic principles. The principle of dialogical interpretation constitutes the Achilles' heel of conversational pragmatics, as I have defined it until now. We can raise three objections against this principle.

*First objection.* If the principle of dialogical interpretation is valid, it is impossible to assign an interpretation to the last move of an exchange, since there is no reactive move to base this interpretation on. From a technical point of view, the heuristics given by the principle of dialogical interpretation is only partial, and we must admit that other principles than sequential principles affect the interpretation of moves in conversation.

*Second objection.* As Trognon and Brassac (1982, 85) have shown, a reactive move is not an interpretation of the initiative move, but an interpretation in act. So, principles which make the accomplishment of an act come true do not rely on a theory of sequencing, but belong to illocutionary logic. For instance, the axiom of illocutionary logic stating that accomplishment implies success is just what we need to explain sequential relations between moves. In other words, sequencing in conversation is a trace of the accomplishment of illocutionary acts in conversation.

*Third objection.* The third objection is much more radical. It states that the principle of dialogical interpretation is either non informative or circular. According to this principle, it is possible to assign an illocutionary function to the initiative move depending on the reactive move. But we face here a dramatic choice: either the reactive move is predictable *via* sequencing rules, and then it says nothing about the interpretation of the initiative move, or the reactive move is not predictable. In the latter case, it becomes impossible to say anything about the relation between moves *via* sequencing rules, since they have no predictive power. The situation is even worse, though: if the interpretation is given by the reactive move, and reactive moves are directed by sequencing constraints, how can these sequencing constraints be accounted for when there is no possibility of determining *a priori* the function of the initiative move? In any case, the principle of dialogical interpretation leads to undesirable conclusions: it is either uninformative or circular.

We conclude that the theses of conversational pragmatics are falsified, and that we must abandon them. It also seems that we have not made much progress: we have spent a long time arguing in favour of a structural and sequential model of discourse within conversational pragmatics, and we now arrive at the conclusion that the interpretation problem is not part of the sequencing problem. So, what possibilities remain for the analysis of conver-

sations ? It seems that what we need is a pragmatic theory which is a true theory of interpretation. I will now discuss two approaches to meaning and communication which could be good candidates, namely illocutionary logic and Relevance theory, and I will defend an approach of conversation within the latter type of pragmatic theory.

## 5. Illocutionary logic and conversation

Recent work by Alain Trognon and Christian Brassac<sup>7</sup> offers a good illustration of how the sequencing problem can be treated within speech act theory, and more specifically illocutionary logic. Trognon and Brassac (1992), for instance, propose a general procedure of interpretation and sequencing for indirect speech acts and conversational implicatures. If we take as a prototypical example the indirect request *Can you pass the salt?*, their analysis proceeds as follows:

By passing the salt, the interlocutor satisfies the request, which entails its success, which entails the truth of the proposition that the hearer can pass the salt (preparatory condition of requests), which entails the satisfaction of the question, which entails its success. (Trognon and Brassac 1992, 89; the translation is mine)

To make a long story short, we have the following chain of entailments :

- (13) SATISFACTION (REQUEST)  $\emptyset$  SUCCESS (REQUEST)  $\emptyset$  SATISFACTION  
(QUESTION)  $\emptyset$  SUCCESS (QUESTION)

The element which determines the satisfaction of the primary illocutionary act (the request) is the passing of the salt, that is the action that should be obeyed under the illocutionary point of the directive act. I do not intend to discuss here the principle of illocutionary logic under which satisfaction implies success, but this analysis calls for the following remarks.

First, the retroactive procedure is close to the principle of dialogical interpretation. The analysis goes backwards, that is, moves from the satisfaction of the primary illocutionary act to the success of the secondary illocutionary act. As a natural procedure of interpretation, it seems very strange, for at least two reasons: it is contradictory to the basic principles of speech act theory, which proceeds from the derived illocutionary act to the literal illocutionary act; once the illocutionary point is obtained, it seems odd to go on

processing until the source of the derived illocutionary point is found. This leads naturally to the second objection.

Second, the analysis is counter-intuitive, and does not constitute an interpretation procedure. It implies that in speech act theory, as well in illocutionary logic, the literal meaning of an utterance like *Can you pass the salt?* has the illocutionary force of a question. But the illocutionary point of this utterance is not that of a request for information; thus, the question is a secondary act, and it conveys a primary illocutionary act. Speech act theory predicts that the illocutionary point is a directive, because the utterance questions a preliminary condition of directives; so, the literal meaning is a question, and the derived meaning (which corresponds to speaker's meaning) is a request. The following interpretation procedure can be stated in contrast to (13):

- (14)
- a. literal meaning: request for information
  - b. propositional content of the request for information: ability of the hearer to pass the salt
  - c. condition of success of directives: as a preparatory condition, the hearer is able to accomplish the requested action
  - d. generalization on indirect directives: to ask for a preparatory condition of a directive is a way to realise an indirect directive (as a primary illocutionary act)
  - e. inference: the speaker accomplishes as primary illocutionary act a request *via* a secondary illocutionary act of request for information.

The conclusion is very simple: Trognon and Brassac's proposal within illocutionary logic is another version of the principle of dialogical interpretation, for which the interpretation problem is part of the sequencing problem. The revised version of their analysis proposed in (14) under the most classical version of speech act theory has the advantage of giving a coherent procedure for utterance interpretation. Admittedly, it has the disadvantage of saying nothing about the sequencing problem: I claim that a radical pragmatic theory of utterance interpretation makes correct predictions about sequencing in conversation without having to formulate any sequential constraints on interpretation.

## 6. Relevance theory and sequencing in conversation

In previous work (cf. Moeschler 1989c, 1993, 1994, to appear, chapter 11 and 12), I have argued for a radical pragmatic treatment of the sequencing problem within Relevance theory. The argument developed in these papers is that sequencing made explicit *via* discourse connectives<sup>8</sup> cannot be explained by principles of discourse structure or discourse sequencing, because discourse connectives often contradict either their conventional meaning or the predictable discourse structure they should make explicit. The meaning of discourse connectives is what Wilson and Sperber (1993) call *procedural encoding*, and refers to the nature of context (as a cognitive construct), and to the possible contextual inferences.<sup>9</sup> I will give a brief overview of this type of analysis with an example of conversational use of the French connective *parce que* ('because').

Let us take the following example, drawn from a phone call (cf. Schmale-Buton and Schmale 1984, 190–191), translated here from French (where S = the secretary of the practice and P = the patient) :

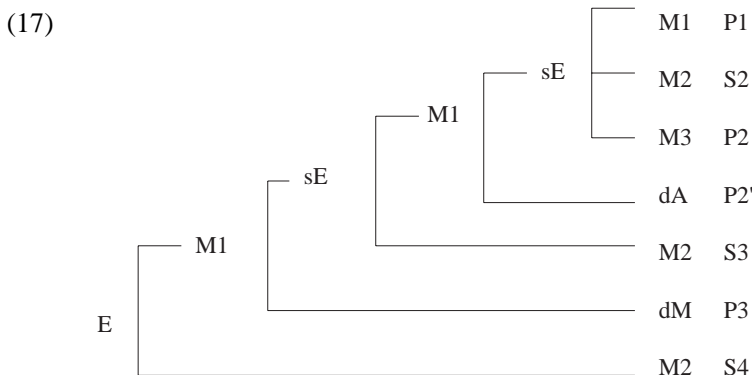
- (15) S1 you should come at the very beginning of the afternoon  
 P1 at what time  
 S2 well at two o'clock but not later because just after I don't know if he visits as he has no appointment  
 P2 yes  
 P2' he will be there just before two o'clock or  
 S3 yes  
 P3 (*parce que*) because if I come a little before two o'clock he will be there  
 S4 he will be there yes yes yes

This example raises two types of problems for conversational pragmatics: the first problem is structural and sequential, and bears on the discourse function of connectives like *parce que*; the second problem is interpretive, and bears on the possibility of the standard causal reading of *parce que*. I will discuss briefly these two aspects of (15), which will demonstrate that a discourse oriented analysis is hopeless. I will then turn to an alternative interpretation, within a few postulates of Relevance theory.

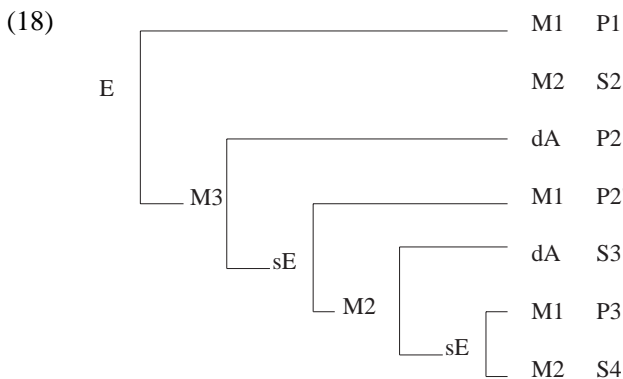
The first problem is structural. Very informally, the sequences P1-S4 is composed by three exchanges, as described in (16):

- (16) a. <E1 <QUESTION (P1), ANSWER (S2), EVALUATION (P2)>>
- b. <E2 <QUESTION (P2'), ANSWER (S3)>>
- c. <E3 <QUESTION (P3), ANSWER (S4)>>

These exchanges are related, and one of the interpretation is to represent the integration of forward-oriented exchanges: there is a consecutive relation between E1 and E2, and E2 and E3. It is because the answer in E1 that P questions S in E2, and so on. So the hierarchical-functional representation should be something like (17):



Unfortunately, it is no longer possible to describe discourse connectives as markers of interactive functions (as Roulet *et al.* 1985, chapter 2). Conventionally, *parce que* should introduce a subordinate move (introducing a cause or an explanation), and thus, if the move is initiative, a subordinate exchange. This solution is structurally possible, as shown in (18), but raises a new problem, which is interpretive.



Let us turn to the interpretation problem and suppose that *parce que* (*because*) triggers the following logical elimination rule (cf. Blakemore 1987, 43):

- (19) Input            P *parce que* Q  
       Output (a) P  
               (b) Q  
               (c) Q is the cause of P

Let us reformulate the following variables in this use of *parce que*:

- (20) P = QUESTION (the doctor will be there just before two o'clock)  
       Q = if the speaker comes before two o'clock, the doctor will be there

The rule (19c) cannot apply here, because it would yield a very counter-intuitive interpretation, as (21) shows:

- (21) (if the speaker comes before two o'clock, the doctor will be there)  
       CAUSE (QUESTION (the doctor will be there just before two o'clock))

In others words, it does not make any sense to say that the conditional assertion of a fact (*the doctor will be there*) causes the request for information (*will the doctor be there?*). The coherent relation suggested by the connective *parce que* is in fact the opposite, as shown in (22):

- (22) (QUESTION (the doctor will be there just before two o'clock)) CAUSE  
       (if the speaker comes before two o'clock, the doctor will be there)

To be more explicit, what happens is that the reverse causal relation is no longer a relation between propositional contents, but a relation between illocutionary acts, as (23) indicates:

- (23) (QUESTION (the doctor will be there just before two o'clock)) CAUSE  
       TO SAY (if the speaker comes before two o'clock, the doctor will be there)

The interpretation of *parce que* which imposes here a reverse causal (so to speak) relation implies that the use of *parce que* is here identical with the semantic meaning of *donc* ('thus'). If this interpretation is correct, the problematic structural interpretation given in (17) is accounted for: *donc* introduces a directive act (or move). So we face here a very strange case for

discourse analysis: the interpretive procedure imposing a possible structural interpretation of the discourse, rather than the discourse structure imposing an interpretation. Sequential relations in discourse are thus determined by pragmatic constraints on interpretation. If we adopt Blakemore's terminology, we can say that we face here a very typical *semantic constraint on relevance*. The consecutive meaning of *parce que* (or, which is the same, its inverse causal use) is the only possible pragmatic interpretation because it is the only interpretation consistent with the principle of relevance. What this means is that the consecutive interpretation is the first interpretation which comes to mind and which creates a sufficient effect capable to balance the cognitive effort necessary for the treatment of the utterance. What is this effect? The effect is minimal, but consistent with the principle of relevance, which states that the utterance is the most relevant possible one in the circumstances: the effect concerns the plausibility of whether a fact true of X can be true of Y. So, the demand of confirmation uttered in P3 and introduced by *parce que* is a relevant utterance as far as it questions the non trivial fact that if it is true that the doctor is at a certain place at a certain time for X, this fact is also true for speaker P.

The consecutive meaning of *parce que* is not part of the semantics of the connective, but part of its procedural encoding. This "change of logical meaning" is not an exception, and constitutes a typical way of reasoning in Gricean pragmatics. As examples, one can mention the exclusive reading of *or via* a scalar implicature and its inclusive meaning (cf. Gazdar 1979), the so-called bi-conditional use of *if P, Q*, which by invited inference (cf. Geiss and Zwicky 1974), conveys *if non-P, non-Q* or also the interpretation of negative utterances (cf. Moeschler 1991). For instance, (24) does not communicate (25a), but (25b):

- (24) If you are quiet, we will go to the movie.
- (25) a. If we will not go the movie, then you are not quiet.  
 b. If you are not quiet, we will not go to the movie.

In this section, I have tried to give a solution to the sequencing problem of *parce que* within an interpretive framework. I pointed to some consequences of the analysis for the function of connectives in discourse, and as a result, it appears that this description does not require a theory of discourse. But I still have to say how sequencing with indirect speech acts or conversational implicatures could be described and explained within Relevance theory.



## 7. Sequencing and implicatures in Relevance theory

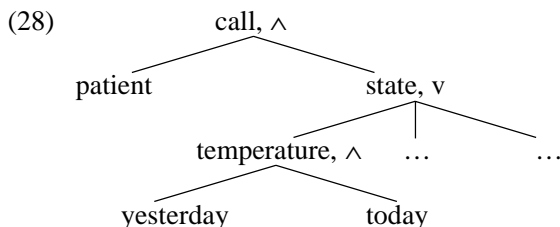
I have argued in section 5 that a possible application of illocutionary logic to the analysis of conversation is identical with a model of discourse based on the principle of dialogical interpretation. I have also assumed that an interpretive approach within speech act theory will necessarily explain inferential and inductive reasoning from the secondary to the primary illocutionary act. I have claimed further that speech act theory says nothing about the sequencing problem, as I have tried to show in section 2. But I have suggested too that Relevance theory, which is a pragmatic theory of utterance interpretation, has something to say about the sequencing problem.

What is paradoxical is the assertion that a theory of interpretation is capable of predictions about discourse. The main reason why this is possible is that discourse coherence is interpreted in Relevance theory as an effect of relevance, and not as something specific to discourse. For a theory of interpretation, the sequencing problem is equivalent to the interpretation problem. The issue we should address is whether conversation, as a type of communication, exhibits particular levels of organisation which would play a role similar to notions like *frame* (Fillmore), *script* (Shank) or *background* (Searle). I have argued in Moeschler (1993) that in certain types of conversation, such as those examined in this paper, i.e. phone calls to a medical surgery, it is necessary to refer to general scripts, which relate to the sequential organisation of conversation. For instance, move (26) is typical of a script associated with a phone call to a surgery (27), which constitutes a chunk of information easily accessible in such circumstances:

- (26) I am calling because my daughter is a patient of Dr. R\*  
and she's had a high temperature since yesterday  
now her temperature is over 40 degrees Celsius  
yesterday night it was about 39<sup>10</sup>
- (27) *Script associated with a phone call to a surgery*  
1. When a patient calls a surgery she generally gives the reason for her call. The principal reasons in this context are:  
(a) being a client of the doctor (generally a necessary, but not a sufficient condition for the call);  
(b) indication of the state of the patient (high temperature, pain, etc.).

2. When the principal reason (b) has been given (for instance high temperature), further details can be given depending on the informative intention of the speaker (for instance, if the previous information was vague, it could be further specified by giving quantitative, qualitative, temporal, spatial references).

We see that in (26) each act refers to one proposition of the script, and that the sequential organisation of the discourse perfectly reflects the hierarchy of information presented in the logical structure (28):



We face here the problem raised by Searle (1992) in the third part of his paper on conversation, the default of common intentionality:

The reason that conversations do not have an inner structure in the sense that speech acts do is not (as sometimes claimed) because conversations involve two or more people, but because conversations as such lack a particular purpose or point. (Searle 1992, 20)

This means two things: first, that conversation has no structure in the sense that illocutionary acts have<sup>11</sup>; and second, that the cause is that there is no shared intentionality. At this point, we have the choice between two positions: the first position would require a particular type of discourse to be defined in which these conditions would be satisfied; the second position would just ask why it should be so, that is, why speakers should share intentionality in conversation?

The argument underlying the second position, within Relevance theory, is that relevance is defined relatively to an individual. More precisely, “An assumption is relevant to an individual at a given time if and only if it is relevant in one or more of the contexts accessible to that individual at that time” (Sperber and Wilson 1986, 144). This means that relevance is a question of accessibility of context, and not of shared knowledge.<sup>12</sup> We face here one of the most important ideas of Relevance theory: communication is a highly

risky task, and a not always successful one. If we admit that the use of language in verbal communication is never accompanied by a warranty of successful communication (whereas verbal communication implies a warranty of relevance), the second position becomes acceptable. There is no evidence or necessity for shared intentionality because communication does not imply mutual knowledge.

If these proposals are correct, one important consequence for the analysis of conversations is that it is not possible (except for very standard and canonical processes like those illustrated in (26)) to define conversation in terms of a theory of complex actions. If this is correct, we are again in a position to argue for a non discourse-based solution to the sequencing problem. And if there is no possibility for a discourse theory of sequencing, we are back to the interpretation problem. So, why should we not accept the classical analysis for indirect speech acts and implicatures, implied by speech act theory, as presented in section 5? The main criticism I would address to a theory of meaning like speech act theory is that it is basically a theory of literal meaning. Indirect speech acts, metaphors, irony, are analysed within speech act theory (cf. Searle 1979) as derived speech acts. Within Relevance theory, we can make a different claim. It is not assumed that any non literal speech has to be understood against its literal meaning, because linguistic meaning is seldom sufficient for the hearer to understand the utterance. Non linguistic knowledge is nearly always necessary, which implies that the interpretation of an utterance triggers two types of processes: the development of the logical form of the utterance (that is, its *explicature*) and the detection of *implicatures* (either the implicated premises necessary for inferences to take place, or the implicated conclusions).

Implicatures do no longer follow from the use or the exploitation of maxims of conversation, *contra* Grice (1975): they are just contextual implications resulting from an inferential process based on contextual premises, and on the logical form of the utterance. As the context is constructed, and not given, communication succeeds when the intersection of the set of the contextual implications drawn by the hearer and the set of the conclusions entailed by the propositional form representing the speaker's thought is not empty. Communication fails when the intersection of these two sets yields the empty set. But the situation where the two sets are the same, i.e. in literal utterances, obtains seldom.

What about indirect speech acts? Even if Sperber and Wilson do not

propose any explicit treatment of indirect speech acts (mainly because the classical analysis is based on a taxonomy of speech acts rejected within Relevance theory), we can suppose that indirect speech acts, when they have the properties of generalised conversational implicatures, are no longer indirect: they are direct speech acts. But what they communicate (for instance for the classical *Can you pass the salt?*<sup>13</sup>) is that some fact is sufficiently manifest for the question to be relevant in that context. It means that the explicature of the utterance would be that of a directive: “the speaker wants the salt”.

## 8. Conclusion

In this paper, I have tried to show how speech act theory could be extended to the analysis of conversations. I have argued that one of the possible extensions, which belongs to *discourse analysis*, makes different predictions on conversation than speech act theory, and that the meaning of *speech act* changes: starting as a unit of communication, it becomes a unit of discourse. Discourse analysis leads to specific problems, that is, the interpretation and the sequencing problems. I have discussed the classical solutions within discourse analysis and illocutionary logic, arguing that both approaches meet the same type of objections. Finally I have defended a non discourse-based solution for the sequencing problem within Relevance theory and proposed a solution within the same framework for the interpretation problem, and more specifically for indirect speech acts and conversational implicatures.



## Chapter 13

# Speech Acts and Relevance Theory

Marc Dominicy and Nathalie Franken  
*Université Libre de Bruxelles*

The initial aim of this paper<sup>1</sup> was to compare two influential theories which make very different claims about language and communication, viz. Speech Act Theory and Relevance Theory.<sup>2</sup> However, any general comparison between SAT and RT proves extremely difficult, for three main reasons. First, the “primary units of meaning” of SAT, viz. IAs, do not exist as such in RT, which maintains that “speech acts” of that kind simply take place provided certain conditions are met.<sup>3</sup> Secondly, SAT relies on a post-Gricean theory of human action where speakers are assumed to be cooperative because they are assumed to be aware of rational norms; while in RT, speakers are assumed to aim at being optimally relevant, which implies that cooperation only takes place when it is needed to produce relevance (see, e.g. S&W 1986: 31–38, 161–163; W&S 1979). Thirdly, SAT descriptions of IAs are highly constrained, so that apparently “deviant” uses must be accounted for with the help of pragmatic derivations; on the contrary, RT holds that semantic meaning is basically indeterminate, which leaves room, from the start, for a wide variety of (literal or non-literal) uses.

In order to illustrate the last point, let us compare what each theory has to say about the use of imperative sentences.

In SAT, a speaker X who utters an imperative sentence is assumed, by default, to perform a directive IA. Now, X successfully and non-defectively performs a directive IA  $A = F(P)$  iff:

- (i) X achieves the illocutionary point of attempting to get the hearer to bring about the state of affairs *S* described by the proposition *P*, under the conditions required by the mode of achievement of *F* (if there are any such conditions);
- (ii) *S* is a future state of affairs (propositional content condition);
- (iii) It is physically (causally) possible for the hearer to bring *S* about (preparatory condition);
- (iv) X desires *S* to be the case (sincerity condition), with the degree of strength required by *F* (degree-of-strength condition).

Consequently, if a speaker is assumed to perform a directive IA  $A = F(P)$  when uttering an imperative sentence, (s)he is assumed, by default, to “presuppose” that *P* describes a physically (causally) possible state of affairs, and to “express” a (sincere and sufficiently strong) desire, which has the same propositional content as *A*.<sup>4</sup>

In RT (S&W 1986: 246–251; W&S 1988), any utterance of an imperative sentence is assumed, by default, to be a case of “telling”, and any utterance of a (grammatically) declarative sentence<sup>5</sup> is assumed, by default, to be a case of “saying”. In the absence of any contrary evidence, the imperative mood indicates that some thought describes a potential and desirable state of affairs, while the (grammatically) declarative mood indicates that some thought describes an actual state of affairs.<sup>6</sup> This semantic indeterminacy should account for the fact in each of the examples (1–6), “a main-clause imperative is literally and seriously used”, even if the acts performed do not fit the conditions set out in the SAT definition of a directive IA (W&S 1988: 80–81):

- (1) *Advice*
  - a. PETER: Excuse me, I want to get to the station.
  - b. MARY: Take a number 3 bus.
- (2) *Permission*
  - a. PETER: Can I open the window?
  - b. MARY: Oh, *open* it, then.
- (3) *Good wishes*  
[Mary, visiting Peter in the hospital, says:]  
Get well soon.

- (4) *Audienceless cases*  
 [Mary gets into her car and mutters:]  
 Start, damn you.
- (5) *Predetermined cases*  
 [A child, sent to apologize to someone, thinks to herself as she reluctantly approaches his door:]  
 Please be out.
- (6) *Threats and dares*  
 [Mary, seeing Peter about to throw a snowball, says threateningly:]  
 Go on. Throw it. Just you dare.

In the following, we will try to evaluate W&S's twofold claim that examples (1–6) falsify SAT, and that RT provides a straightforward explanation of such uses. Since example (6) may be reasonably considered as a non-literal (“non-serious”) use of the imperative mood, we will have to examine, next, Clark's (1991, 1993) extended RT treatment of imperative sentences. This will allow us to formulate some conjectures about the way SAT could account for non-literal uses.

We hope this partial and very tentative survey will help the reader to better perceive the real and sometimes unexpected issues involved in the confrontation between SAT and RT.

## 1. Advices

Let us begin with example (1). According to SAT, Mary successfully performs a directive IA iff she attempts to get Peter to bring about the future state of affairs described by the propositional content of utterance (1b). Furthermore, if Mary's directive IA is non-defective, and thus sincere, she is in the psychological state of desiring that Peter takes a number 3 bus. However, W&S (1988: 80) say “there is no reason to think she cares whether Peter follows her advice, and hence no reason to analyze her utterance as an attempt to get Peter to take a number 3 bus”. Assume that, in such imperative utterances, the propositional form interprets a thought of the speaker's which describes a potential and desirable state of affairs. Then, one can maintain that, in example (1), Mary “communicates that the state of affairs described is desirable not from her own point of view but from her hearer's. When Mary



advises Peter to take a number 3 bus, she indicates that from his point of view it would be desirable to do so, given that he wants to get to the station" (W&S 1988: 86; see also S&W 1986: 250–251).

We think that this argumentation comes up against several objections.

First, are W&S really entitled to claim that Mary does not care whether Peter follows her advice? Simple pieces of evidence point to the opposite conclusion. Suppose Mary is standing next to Peter at the bus stop when Number 3's doors open. If she realizes, at that moment, that he hesitates to get on the bus, she may confirm her advice or, on the contrary, feel resentful towards him, according to the way she interprets his hesitation. In both cases, it seems reasonable to believe that she cares whether he follows her advice. Suppose, now, that Peter ostensibly looks at Mary while hesitating to get on the bus: if, at that stage, she ostensibly indicates that she does not care whether he gets on the bus, we will certainly gloss her behavior as implying irrationality, lack of cooperation, impatience, or resentment. In every case, this means that we expect her to care whether Peter follows her advice.

It is true that, prior to Peter's utterance, Mary did not desire him to take the number 3 bus, and that, afterwards, she is not supposed to check whether he follows her advice, unless she has motives to entertain doubts about his ability to do so (e.g. if he is blind, or a very young child). In other words, Mary's attempt and Mary's desire are, in such a case, both purely altruistic and dependent on Peter's attempt and desire to get to the station. But current SAT provides an elegant description of such dependent attempts and desires. Indeed, Mary's utterance can be interpreted as the performance of a conditional IA ( $P \Rightarrow A$ ), where  $P$  is the proposition 'Peter desires to go to the station', and  $A$  is a non-conditional directive IA. This analysis predicts that  $A$  will be performed whenever  $P$  is true or, more technically, that the truth of  $P$  "strongly commits" the speaker to  $A$  (S&V 1985: 77–81, 120, 157). Now, if a speaker is strongly committed to an IA, he must be in the psychological state expressed by the very performance of this IA (S&V 1985: 24, 88–89). This means, in our case, that the truth of  $P$  = 'Peter desires to get to the station' entails not only that Mary attempts to get Peter to take a number 3 bus, but also that she desires him to take it. Yet, both her attempt and her desire really depend on a desire of Peter's (which is described by  $P$ ). Indeed conditional speech acts are neither truth- nor success-functional: it is not the case that ( $P \Rightarrow A$ ) is performed iff  $P$  is false or  $A$  is performed (S&V 1985: 5, 77–78, 157).

This SAT analysis clearly holds for other imperative advices, such as

those found in cooking recipes (see S&W 1986: 250) or instructions for use. Consider, e.g., example (7), taken from the manual of a telephone answering system:

- (7) TO LISTEN TO THE RECORDED CONVERSATION:
1. Press the REW button.
  2. Press the MESSAGE PLAYBACK button.
  3. Press the STOP button to stop playback.

This text can be interpreted as the performance of a conditional IA ( $P \Rightarrow A_1$ ), where  $P$  = 'The reader desires to listen to the recorded conversation', and  $A_1$  is a directive IA  $A_2 \& A_3 \& A_4$ , which is complex but non-conditional.<sup>7</sup> So, whenever the reader has the desire to listen to the recorded conversation, the author of the manual attempts to get him/her to press the REW button, etc., and has the desire that (s)he presses the REW button, etc. This example also shows that, under certain conditions, the non-conditional IAs whose performance is triggered by the satisfaction of the antecedent of a conditional IA can be indefinitely iterated and indefinitely delayed.<sup>8</sup>

## 2. Permissions

W&S seem to have a stronger case with permissions like (2b). Again, they claim that, when Mary utters (2b) as a response to (2a), "there is no reason to think she cares whether Peter performs the permitted action, and hence no reason to analyze her utterance as an attempt to get him to open the window" (W&S 1988: 80). Consequently, the RT analysis of this conversational exchange reads as follows: "When Peter asks Mary if he can open the window, he represents a certain state of affairs as desirable from his point of view, but expresses doubts about its potentiality (given that Mary can refuse to let him open it). By saying 'Oh, *open* it, then,' Mary incidentally concedes the desirability (to Peter) of this state of affairs, but more importantly, guarantees its potentiality, thus removing the only obstacle to Peter's opening the window" (W&S 1988: 86).

In SAT, Mary's imperative utterance can be interpreted as a conditional IA ( $P \Rightarrow A$ ), where  $P$  = 'Peter desires to open the window' and  $A$  is a non-conditional directive IA. In other words, Mary's attempt and desire (if there are any) must be considered, again, as purely altruistic and dependent on

Peter's own attempt and desire to open the window. But, obviously, the question arises whether we have any reason to attribute any such attempt and desire to Mary.

At this stage, we may resort to the notion of illocutionary commitment, which we have already used in the analysis of conditional acts. According to S&V (1985: 7), "if I order you to leave the room I am committed to granting you permission to leave the room even though I have not performed an overt act of granting you permission and have not committed myself to performing any such overt act". In other words, any directive IA  $F(P)$  (strongly) commits the speaker to the corresponding illocutionary denegation  $\neg F(\sim P)$  (S&V 1985: 23–25, 119, 161–163). Indeed, the IAs  $F(P)$  and  $F(\sim P)$  are relatively incompatible (S&V 1985: 149), and theorem 6.5.1. in S&V (1985: 154) says that "if two IAs are relatively incompatible, then a successful performance of the first [strongly] commits the speaker to the illocutionary denegation of the second". What this means, in the present case, is that Mary performs both the IA of telling Peter to open the window and the IA of denegating that she tells him not to open the window, which amounts to granting him permission to open the window (S&V 1985: 5, 23, 202).

Thus, the SAT analysis entails that Mary, by uttering (2b), really expresses a (presumably sincere) desire of hers, instead of conceding (or alluding to) the desirability to Peter of a future state of affairs where the window is open. This conclusion may sound strange, but it can be justified on different grounds. Recall, first, that Mary's attempt and desire depend on a prior desire of Peter's. In a post-Gricean framework, it is perfectly rational to desire something for the only motive that other people are known to desire it (at least as long as this common desire does not conflict with other cooperative aims). Secondly, a lot of data show that permissions are frequently achieved by performing a directive IA or the corresponding declarative act.<sup>9</sup> For instance, French speakers use the sentence 'Je vous en prie', literally "I beg you to do so", in order to grant permission. The (diachronic or synchronic) derivation of this use could not be accounted for if there were no relation left between an imperative sentence like (2b) and the corresponding declarative sentence with a directive performative verb. Furthermore, this derivation turns out to be in harmony with other interactional strategies. In French, a reply like 'Je vous en prie' frequently proves more polite than a literal permission, because the conversational roles played by the speaker and hearer suffer a drastic change. By uttering 'Je vous en prie', the speaker presents himself as desiring the state

of affairs whose desirability prompted his/her hearer to ask him/her permission to do such-and-such a thing. The same transformation may also take place with “imperative” permissions like (2b), provided it is not impeded by additional information. SAT offers a rather immediate explanation of this fact; in the RT analysis, the interactional effects which were just described remain mysterious.

### 3. An excursus on desirability

When they write that “imperative sentences are specialized for describing states of affairs in worlds regarded as both potential and desirable”, W&S (1988: 85) use the predicate ‘desirable’ without any further specification. Yet, they claim that “the expression of desirability is a three-place predicate —  $x$  regards  $y$  as desirable to  $z$ ”. Indeed, in the RT analysis of (literal or “serious”) imperatives like those of (1–7), it is the hearer who has to identify the person ‘to’ whom such-as-such state of affairs is ‘desirable’ — at least from the point of view of the speaker, who regards such-and-such state of affairs as ‘desirable to’ some unspecified person. However, when it applies to ‘desirable’, this shift from a superficially absolute use to a superficially relative use involves the crucial choice of a preposition (‘to’ or ‘for’). If something is desirable, it is necessarily desirable ‘to’ some  $X$  (who desires it), but it may also be desirable ‘for’ some  $Y$  (who need not desire it). For instance, the person  $X$  ‘to’ whom some state of affairs is desirable may desire it for the sole reason that (s)he regards it as desirable ‘for’ someone else; in such a case,  $X$  has an altruistic desire.

Relevance theorists are frequently confused on this point. In W&S (1988), we find two unexpected alternations between on the one hand, “desirable to” and “beneficial to”, and on the other, “desirable to” and “desirable from the point of view of”. The first alternation, to which we shall come back below, allows for an implicit and unjustifiable shift from ‘desirable to’ to ‘desirable for’. Indeed, the fact that  $X$  regards some state of affairs  $S$  as “beneficial to”  $Y$  entails that  $X$  regards  $S$  as ‘desirable for’  $Y$ , but surely not that  $X$  regards  $S$  as ‘desirable to’  $Y$ . This may be the reason why, in one recent exposition of her theory, Wilson (1992–3: 9) claims that “imperative sentences/clauses are specialised for representing states of affairs [which] are desirable for someone” [Wilson’s underlining; italics ours]. As for the alterna-

tion between “desirable to” and “desirable from the point of view of”, it blurs all the necessary distinctions between the person who regards *S* as desirable, the person ‘to’ whom *S* is regarded as desirable, and the person ‘for’ whom *S* is regarded as desirable. Imagine, for instance, that Mary regards the state of affairs *S* where Peter drinks a full bottle of gin as desirable ‘to’ Peter (because she believes him to be a heavy drinker), undesirable ‘for’ Peter (because she believes he could lose his job at this juncture), and as both desirable ‘to’ and ‘for’ John (because she believes he could get Peter’s job at this juncture). Clearly, it is possible that Mary regards *S* as both indifferent (i.e. neither desirable nor undesirable) ‘to’ herself and indifferent (i.e. neither desirable nor undesirable) ‘for’ herself. In such a case, we will say that, from Mary’s point of view, *S* is desirable ‘to’ Peter and desirable ‘to’ and ‘for’ John — but not that, from Mary’s point of view, *S* is desirable ‘to’ or ‘for’ Mary, or that *S* is desirable ‘for’ Peter from Mary’s point of view.

In RT analyses of imperative sentences, the formula “desirable from the point of view of” is generally equivalent to ‘desirable to’. This apparently stems from the fact that ‘*X* desires *S*’ is a valid consequence of ‘*X* regards *S* as desirable to *X*’. One can even wonder whether any difference should be made between these two attributions of a psychological state, or between the two psychological states at hand — while it is clear, on the contrary, that ‘*X* desires *S*’ does not follow from ‘*X* regards *S* as desirable for *X*’. So, whenever *X* desires *S*, i.e. regards *S* as desirable ‘to’ *X*, this can be informally expressed by saying ‘*S* is desirable from *X*’s point of view’.<sup>10</sup>

In spite of all these quandaries, W&S’s whole rationale seems to presuppose that one cannot have altruistic desires, i.e. that one cannot regard something as ‘desirable to’ oneself if one does not regard it as ‘desirable for’ oneself (or, conversely, that whenever one does not regard something as ‘desirable for’ oneself, one cannot regard it as ‘desirable to’ oneself). Consider, for instance, the advice performed by Mary with the help of the imperative sentence (1b). Obviously, the state of affairs where Peter takes a number 3 bus is not regarded by Mary as ‘desirable for’ herself. From this non-‘desirability for’ Mary, W&S infer a non-‘desirability to’ Mary, i.e. they conclude that Mary does not want Peter to take a number 3 bus. But, as we have seen before, Mary’s altruistic desire may prove perfectly rational, provided we make it depend on Peter’s own desire to get to the station.

Our distinction between ‘desirability to’ and ‘desirability for’ also applies to permissions like (2b). When Mary uses an imperative sentence in order to

give some permission to Peter, she presents the state of affairs which she assumes to be 'desirable to' and 'for' Peter as something which she regards as being, furthermore, 'desirable to' herself. Given this cooperative foundation, it is conceivable that Mary might refuse to give Peter the permission he is asking for, if she regarded as un-'desirable for' him (hence, as un-'desirable to' herself) the state of affairs which happens to be 'desirable to' him.

#### 4. Good wishes

About a good wish like (3), W&S (1988: 81) have the following to say. "Since the 'action' described is not under Peter's control, there is no reason to analyze Mary's utterance as an attempt to get Peter to perform it". This seems to confirm the RT analysis: indeed, it remains true that Mary "manifestly" regards as both potential and "beneficial to the hearer" the state of affairs described by the thought of hers which is interpreted by the propositional form of the imperative sentence (W&S 1988: 86).

Yet, this creates a problem. We have just seen that from the simple fact that Mary "manifestly" regards some state of affairs as "beneficial to" Peter, i.e. as 'desirable for' him, we cannot infer that she "manifestly" regards it as 'desirable to' him. Suppose Peter knows that Mary knows that Peter really wants to die. In such a hypothesis, neither Mary nor Peter can "manifestly" regard the future state of affairs where he recovers as 'desirable to' him. The only interpretation we are left with is that Mary "manifestly" regards this state of affairs as 'desirable to' herself. But in a non-altruistic framework, this entails that Mary "manifestly" regards Peter's future recovering as 'desirable for' herself; which need not be the case.

According to SAT, the putative directive IA performed by Mary would be both unsuccessful and defective, given the non-satisfaction of the preparatory condition according to which it should be physically (causally) possible for the hearer to bring about the future state of affairs described by the propositional content of the utterance. However, this insuccess and this defectiveness do not entail that Mary's putative act would be insincere, since Mary might still express a true desire of hers. Given the general assumption that speakers are rational (hence cooperative), Peter will interpret Mary's utterance as the performance of an expressive IA. In SAT, this derivation proves all the more natural since "any IA strongly commits the speaker to the expressive

illocution which consists of expressing its sincerity conditions with the required degree of strength” (S&V 1985: 18–19, 178; see also V 1990: 159, 1991a: 74, 112).

If we accept the SAT analysis, we will hold that, in all good wishes performed by the utterance of an imperative sentence, the speaker expresses a desire, i.e. makes it “manifest” that a given state of affairs is ‘desirable to’ him/her. This seems to agree with common sense. When I address good wishes to some person X, I do not only communicate that I regard some state of affairs as “beneficial to” (or ‘desirable for’) X; I also make X understand, in some way, that I regard this state of affairs as ‘desirable to’ me because I regard it as “beneficial to” (or ‘desirable for’) X. Obviously, this is the reason why we may be thanked for our good wishes.

### 5. Audienceless and predetermined cases

In audienceless and predetermined cases, W&S (1988: 85) say, “the speaker [...] is understood as indicating that the state of affairs described is desirable from [his/]her own point of view”. One may wonder who “understands” the speaker as “indicating” anything, and to whom the speaker can be “understood” to “indicate” anything. If it is the speaker him/herself who “understands” what should be “understood”, or to whom something is “indicated”, no inference, no interpretive process will ever take place, and the RT analysis is useless. If the existence of some hearer has to be assumed, the analysis is simply wrong.

In SAT analysis, the putative directive IA would be both unsuccessful and defective (because of the absence of any hearer, and because at least one crucial preparatory condition is not satisfied). But again, its insuccess and defectiveness do not entail that it would be insincere. Thus, it is possible to analyze utterances like (4) and (5) as the performance of expressive IAs.

Notice that the SAT definition of the “expressive illocutionary point” (S&V 1985: 37–38; V 1990: 23, 105) makes no reference to any putative hearer, nor to any propositional content condition. This accounts for the fact that an optative sentence like (8) can be used in the absence of any hearer and does have a propositional content which describes a past state of affairs:

- (8) Oh to have been born 4000 years ago!

However, as pointed out by W&S (1988: 86; see also Wilson 1992–93: 9; Clark 1991: 55–59, 1993: 82–83), “expressive” imperatives are more constrained. For instance, a sentence such as (9):

- (9) Please, have been born 4000 years ago!

could be used by an archeologist while examining the tomb of some ancient king (if, for instance, this datation proved crucial for the archeologist’s own theory); but I could not use it in order to communicate to my mother that I would have liked to be raised in a pre-historical society. According to RT, the state of affairs described by the speaker’s thought in (9) is desirable and potential (i.e. compatible with what the speaker believes to be the case), while in (8) it is desirable and possible but not potential (i.e. it is incompatible with what the speaker believes to be the case). In SAT analysis, this constraint could be derived from the preparatory condition which says that it should be *physically (causally) possible* — thus, not only *logically possible* — for the hearer to bring about the state of affairs described by the propositional content of the directive IA (S&V 1985: 30–34, 43–44, 55–61; V 1990: 79–80, 1991a: 143). The physical (causal) possibility of this state of affairs seems to be required even in the absence of any hearer (or, more generally, of any agent capable of bringing it about). In other words, when a speaker uses an “expressive” imperative like (3), (4), (5) or (9), (s)he is presumed to desire something which is not only logically possible (“possible” in Wilson’s sense), but also physically or causally possible (“potential” in Wilson’s sense).

## 6. Threats, dares, and irony

As mentioned above, W&S (1988: 80) claim that in (6), the “main-clause imperative is literally and seriously used without the predicted directive force”:

- (6) [Mary, seeing Peter about to throw a snowball, says threateningly:]  
Go on. Throw it. Just you dare. [repeated]

So there would be no significant difference between this case and all the utterances we have been discussing so far. However, when they attempt to demonstrate that the RT analysis accounts for all their counterexamples to the SAT analysis, W&S do not tell us anything about (6). Strangely enough, this



utterance is also mentioned without any further detail in Blakemore's (1992: 112–114) otherwise insightful overview of W&S's approach.

In SAT, the putative directive IA performed when uttering (6) would differ from all other examples in that the sincerity condition would be blatantly violated. This is perhaps the reason why Clark (1991: 89, 1993: 105–106), in his RT reanalysis of imperatives, prefers to treat (6) as a non-literal (“non-serious”) case, along with examples like (10) or (11):

- (10) [The hearer has just knocked over a wine glass]  
Go ahead and ruin my carpet!
- (11) Come one step closer and I'll shoot

In all such utterances, he claims, the propositional form of the imperative sentence interprets a thought of the speaker's which interprets another thought, attributed to someone else, which describes a potential and desirable state of affairs. For instance, in (6), Peter will understand first, that Mary attributes to him a thought which describes the state of affairs where he throws a snowball; and second, that she regards this state of affairs as potential and desirable to him. Similar interpretations should hold for (10) and (11). In short, these three examples are ‘echoic’ (S&W 1986: 237–243, 247; W&S 1988: 87–91).

Unfortunately, this elegant treatment comes up against serious objections.

Let us begin with example (11). The hearer (say Peter) understands, in some way, that the speaker (say Mary) cannot regard as desirable to herself the state of affairs *S* described by the thought interpreted by the propositional form of the imperative conjunct. Consequently, the argument runs, Peter understands not only that Mary regards *S* as desirable to him, but also that she attributes to him the thought which describes *S*; otherwise, her utterance would not be ‘echoic’. This can be illustrated by a comparison between (11) and (12):

- (12) Come closer and I'll give you five pounds

Here, the hearer (say Peter) understands that the speaker (say Mary) regards as desirable to herself the state of affairs *S* described by the thought interpreted by the propositional form of the imperative conjunct. Thus, her utterance is not ‘echoic’.

However, consider example (13):

- (13) Make another mistake and I'll report it to the boss

In such a case, it is fairly possible that neither the speaker nor the hearer regards the state of affairs *S* described by the thought interpreted by the propositional form of the imperative conjunct as desirable to any one of them. This seems to falsify W&S's claim that in every use of any imperative sentence, some potential and *desirable* state of affairs *S* is described. What matters in (13) is not so much the person to whom *S* could be desirable (there need not exist such person) as the fact that *S* is *undesirable* to the speaker.

In defense of the RT approach, one could argue that X regards the state of affairs described by P as undesirable to some person iff X regards the state of affairs described by  $\sim$ P as desirable to that same person. So, the fact that the speaker (say Mary) regards the state of affairs where the hearer (say Peter) makes another mistake as undesirable to herself entails that she regards the state of affairs where Peter does not make another mistake as desirable to herself. This would imply that the propositional form of the first conjunct of (13) is a non-literal interpretation of a thought of Mary's which, in turn, describes a state of affairs which is regarded by Mary as desirable to herself. In other words, we would have a non-literal and non-echoic use of the imperative mood. But in such a case, the propositional form P of the first conjunct of (13) should share logical and/or contextual implications with the thought  $\sim$ P it interprets (S&W 1986: 233–237; Franken 1996b). Unfortunately, this requirement is not met.

Clark's analysis also implies that in each of the examples (11–13), we have a coordination of two utterances, so that the connective 'and' cannot be truth-functional.<sup>11</sup> Thus, the question arises whether the propositional form of the (grammatically) declarative conjunct is obtained via a simple decoding. Obviously, this cannot be the case. If it were so, the thought interpreted by the propositional form in question would not describe an actual state of affairs, and the utterance would not be analyzable as a case of "saying". In fact, we do not have a plain assertion here, but an advice or warning with a conditional content.<sup>12</sup> Consequently, it must be assumed that the (grammatically) declarative conjunct expresses a propositional form  $P \rightarrow Q$ , where the conditional link and the antecedent P are obtained by the procedure of enrichment (S&W 1986: 176–183). Furthermore, the state of affairs described by this propositional form is regarded by the speaker as actual; and the fact that the state of affairs described by Q is regarded by the speaker as desirable or undesirable to the hearer cannot have any bearing on the characterization of the utterance as a case of "saying".

However, this (un)desirability of Q proves crucial for the interpretation of the whole discourse. In (12), the hearer (Peter) understands that the speaker (Mary) regards the state of affairs described by  $P \rightarrow Q$  as actual, and the state of affairs described by Q as desirable to him. He concludes that Mary regards the states of affairs described by P and Q as desirable to both of them, and thus gives him a reason to bring about both states of affairs. In (11), Peter understands that Mary regards the state of affairs described by  $P \rightarrow Q$  as actual, and the state of affairs described by Q as undesirable to him. This implies that Mary regards the state of affairs described by P as undesirable to him.<sup>13</sup> Moreover, since Mary gives him a reason to bring about the state of affairs described by  $\sim P$ , he concludes that Mary does not regard the state of affairs described by P as desirable to herself. So, the only option left, in the RT analysis, is to assume that the imperative conjunct of P has a propositional form which interprets a thought of Mary's which interprets the thought P; Mary attributes P to Peter, and this attributed thought P describes a state of affairs which is regarded by Peter as desirable to himself. This means that Mary regards it as physically possible (potential) that Peter regards the state of affairs described by P as desirable to himself.<sup>14</sup>

In SAT, Clark's analysis could be reformulated as follows. Both (11, 13) and (12) have the following logical form:<sup>15</sup>

$$(14) \quad A_1 = F_{\text{dir}}(P) \ \& \ A_2 = F_{\text{ass}}(P \rightarrow Q)$$

where the IA  $A_2$  is an advice or a warning. A speaker who performs an advice or warning with a non-conditional propositional content P presupposes that P is desirable or undesirable for the hearer because there is some Q (which may be P itself) such that the conditional  $P \rightarrow Q$  is satisfied and Q is desirable or undesirable to the hearer.<sup>16</sup> When the propositional content of an advice or a warning is a conditional  $P \rightarrow Q$ , Q is presupposed by the speaker to be desirable or undesirable to the hearer.<sup>17</sup> If  $A_2$  is an advice in (12), the speaker perlocutionarily attempts to get the hearer to bring about the state of affairs described by the antecedent P. This perlocutionary act and the IA  $A_1$  are satisfied under the same conditions. If  $A_2$  is a warning in (11) or (13), the speaker perlocutionarily attempts to get the hearer to bring about the state of affairs described by  $\sim P$ . This perlocutionary act and the IA  $A_1$  cannot be both satisfied. Assuming that the speaker is rational (i.e. cannot manifest any desire which (s)he regards as inconsistent), we conclude that either  $A_1$  or the perlocutionary act performed by performing  $A_2$  is blatantly insincere. Now, the first conjunct of (11) or (13) can

be interpreted as a “non-serious” utterance. In such a case, the propositional content of the non-literal IA is the logical complement of the propositional content of the putative literal IA:

$$(14') A_1 = F_{\text{dir}}(\sim P) \ \& \ A_2 = F_{\text{ass}}(P \rightarrow Q)$$

This comparative analysis allows us to grasp some crucial features of the RT and SAT approaches.

First, contrary to what happens in RT (S&W 1986: 237–243), SAT does not consider “non-serious” utterances as inherently echoic. In defense of this view, one could recall examples like (13), which are not dealt with adequately in current RT:

(13) Make another mistake and I’ll report it to the boss [repeated]

In order to account for clearly echoic utterances such as (11):

(11) Come one step closer and I’ll shoot [repeated]

SAT must reduce echoicity to a Gricean implicature whose derivation roughly goes as follows. By performing the directive IA  $A_1$ , the speaker implicates that it is physically possible for the hearer not to satisfy  $A_1$  (i.e., in this case, to satisfy the putative “serious” IA  $A_1$ ). If, furthermore, there are manifest reasons to believe that the state of affairs  $S$  where  $A_1$  is satisfied is desirable to the hearer, then the speaker implicates that the hearer regards  $S$  as desirable to him/herself; if such manifest reasons do not exist, as in (13), the implicature of echoicity will not be derived.

RT also claims that utterances like (10), which are both echoic and ironic, necessarily involve a propositional attitude of scornful rejection, whose content is an attributed thought (W&S 1992; Franken 1996a):

(10) [The hearer has just knocked over a wine glass]  
Go ahead and ruin my carpet! [repeated]

In SAT, the expression of this attitude should probably be viewed as a perlocutionary act.<sup>18</sup>

Another crucial difference between RT and SAT concerns the identification of “speech acts”. In SAT, it makes perfect sense to wonder whether the non-directive IA of (11–13) has a commissive illocutionary point (like a promise or a threat) rather than an assertive illocutionary point (like an assertive advice or warning). When a speaker performs a commissive IA  $A$ , he

presupposes that it is physically possible for him/her to bring about the state of affairs described by the propositional content of *A* (S&V 1985: 55–60; V 1990: 114–115). So, examples like (15) and (16) would not be spontaneously interpreted as a promise or as a threat:

- (15) You'll recover
- (16) You'll never recover

It follows that in (17) and (18), the non-directive IA should be categorized as an assertive advice or warning:

- (17) Stop drinking and you'll recover
- (18) Keep drinking and you'll never recover

On the other hand, theorem 4.3. in S&V (1985: 173–174; see also V 1991a: 72) says that “any commissive illocution commits the speaker to an assertive illocution with the same propositional content”. Given this illocutionary entailment, and the respective preparatory conditions of promises (or threats) and advices (or warnings), the second conjunct of (11), (12) and (13) will be understood as the performance of both an indirect (i.e. non-literal and primary) commissive IA and a literal secondary assertive IA; indeed, such a hypothesis agrees with the background knowledge and with the expected degree of strength of the perlocutionary act.<sup>19</sup> This result derives from Grice's maxim of quantity, as reformulated by Vanderveken: “Let your speech act be as strong as required (i.e. neither too strong nor too weak) to achieve your current purposes in the context of each utterance!” (V1991a: 378, 1994a). In some cases, the identification of an assertive or a commissive IA may prove crucial for the interpretation of the whole utterance:

- (19) Keep drinking and you'll die

In RT (S&W 1986: 244–246), “speech acts” like warning or advising, non-institutional promising or threatening, do not need to be communicated and identified as such in order to be performed and understood. As soon as certain hypotheses are made mutually manifest, a warning, an advice, a non-institutional promise, a threat,... takes place. The RT approach accounts for the fact that some “speech acts” may remain totally implicit, as in examples (6) and (10):

- (6) [Mary, seeing Peter about to throw a snowball, says threateningly:]  
Go on. Throw it. Just you dare. [repeated]
- (10) [The hearer has just knocked over a wine glass]  
Go ahead and ruin my carpet! [repeated]

According to W&S (1988: 80) and Clark (1991: 89, 1993: 105–106), both (6) and (10) involve some kind of implicit threat or warning. In order for this threat or warning to be performed and understood, the hearer of (6), Peter, does not have to reconstruct an explicit IA; he only has to entertain the hypothesis that, if he throws a snowball, Mary will act in a way which she regards as undesirable to him.

## 7. On illocutionary ‘or’

In Clark’s description, syntactically complex sentences like:

- (20) Do not make another mistake, or I’ll report it to the boss  
(21) Leave the room, or I’ll shoot you

consist of two utterances. The first disjunct is an imperative sentence which the speaker uses literally (“seriously”) in order to communicate that (s)he regards a certain state of affairs as potential and desirable to him/herself. The second disjunct is a (grammatically) declarative sentence which the speaker uses literally (seriously) in order to communicate that (s)he regards a certain state of affairs as actual. If we leave aside several details which are not essential to the present discussion, we may assume that (20) has the same logical form as (13):

- (13) Make another mistake and I’ll report it to the boss [repeated]

However, this superficial characterization implies that a pragmatically odd utterance like (22) could be used instead of (23):

- (22) ???Leave now or I’ll make you a nice dinner  
(23) Stay and I’ll make you a nice dinner

Clark (1991: 90–92, 1993: 108) argues that the oddity of (22) stems from the fact that the interpretation of (22) “would involve much more processing effort” than the interpretation of (23), so that “a speaker who expected an utterance of

[22] to be interpreted in this way would be putting the hearer to unjustifiable processing effort, given that the same effects could have been more economically achieved”. But in such a case, (13) should be odd, since (20) is definitely more relevant. Furthermore, consider the following pair of utterances:

(24) Either you leave now or I make you a nice dinner. It’s up to you to decide.

(25) You stay and I make you a nice dinner. It’s up to you to decide.

Both (24) and (25) can be interpreted as the performance of an attempt to get the hearer to stay (see Cornulier 1985: 144). If this equivalence holds for (24) and (25), why does it not extend to (22) and (23)?

One could assume (i) that the disjunction of (24) is a truth-functional connective, while the disjunction of (20), (21) and (22) is an illocutionary connective; and (ii) that the reason why De Morgan laws do not apply to illocutionary disjunction and illocutionary conjunction in (22–23) is the simple fact that this would involve a confusion between truth-functional negation and illocutionary negation (or “denegation”). Unfortunately, current illocutionary logic does not provide us with a disjunctive connective; neither is it clear whether, in SAT, sentences like (11–13) really have to be analyzed with the help of the conjunctive illocutionary connective ‘&’.<sup>20</sup>

To our knowledge, the most convincing case for “illocutionary” ‘or’ has been made by Cornulier (1985: 140–152). Consider, e.g., a sentence like (26):

(26) Love me, or leave me!

If we assign to (26) the logical form (27), we will fail to predict that the speaker who utters (26) wants to be loved, and does not regard the state of affairs where (s)he is left as desirable in itself:

(27)  $F_{\text{dir}}(P \vee Q)$

Relying on Cornulier’s informal analysis of (26) in terms of “enuntiative uncoupling” (French “*décrochage énonciatif*”), we will assign to (26) the logical form (28a), from which (28b) is assumed to derive pragmatically (by virtue of Grice’s maxim of manner, or by another procedure of implicated enrichment):

(28) a.  $A_1 = F_{\text{dir}}(P) \cup A_2 = F_{\text{dir}}(Q)$   
 b.  $A_1 = F_{\text{dir}}(P) \ \& \ (\sim P \Rightarrow A_2 = F_{\text{dir}}(Q))$

The complex (conjunctive) act is not successfully performed unless  $A_1$  and  $(\sim P \Rightarrow A_2 = F_{\text{dir}}(Q))$  are successfully performed, and it is not satisfied unless  $A_1$  and  $(\sim P \Rightarrow A_2 = F_{\text{dir}}(Q))$  are satisfied. This means that the speaker necessarily regards as desirable to him/herself the state of affairs described by  $P$ , and that (s)he regards the state of affairs described by  $Q$  as desirable to him/herself under the condition that  $P$  is not satisfied, i.e. that his/her first desire is not fulfilled.

If we apply a similar analysis to examples (20–21), we will adopt the logical forms (29a) and (29b):

- (29) a.  $A_1 = F_{\text{dir}}(P) \cup A_2 = F_{\text{ass}}(Q)$   
 b.  $A_1 = F_{\text{dir}}(P) \ \& \ (\sim P \Rightarrow A_2 = F_{\text{ass}}(Q))$

In other words, we will analyze the second disjunct of (20–21) not as a warning with a conditional content, but as a conditional warning.<sup>21</sup>

This allows us to account for the unexpected oddity of (22).

Recall that, in an advice or warning with propositional content  $P \rightarrow Q$ , the state of affairs described by the antecedent  $P$  is regarded by the speaker as desirable (resp. undesirable) to the hearer because the state of affairs described by the consequent  $Q$  is regarded by the same speaker as desirable (resp. undesirable) to the hearer. In a conditional advice or warning ( $P \Rightarrow F_{\text{ass}}(Q)$ ), the speaker need not regard as desirable (resp. undesirable) to the hearer the state of affairs described by the antecedent  $P$ ; what is necessarily regarded by the speaker as desirable (resp. undesirable) to the hearer is the state of affairs described by the conditional  $P \rightarrow Q$ . Compare, e.g., the following examples:

- (30) If you behave, you'll find biscuits in the refrigerator  
 (31) If you do not behave, you'll find no biscuits in the refrigerator  
 (32) If you are hungry, you'll find biscuits in the refrigerator  
 (33) If you are hungry, you'll find no biscuits in the refrigerator

(30) is an advice with conditional content; the state of affairs described by the consequent, and therefore, the state of affairs described by the antecedent, are regarded by the speaker as desirable to the hearer. (31) is a warning with conditional content; the state of affairs described by the consequent, and therefore, the state of affairs described by the antecedent, are regarded by the speaker as undesirable to the hearer. On the contrary, (32) and (33) are used to perform conditional IAs. Thus, the state of affairs described by the antecedent is not regarded by the speaker as desirable or undesirable to the hearer. What



the speaker regards as desirable or undesirable to the hearer is the state of affairs described by the conditional whose antecedent is identical with the antecedent of the conditional IA, and whose consequent is identical with the propositional content of the consequent of the conditional IA, i.e., the speaker regards as desirable to the hearer the state of affairs where the hearer does find biscuits in the refrigerator if (s)he is hungry, or as undesirable to the hearer the state of affairs where the hearer does not find any biscuits in the refrigerator if (s)he is hungry.<sup>22</sup>

Consider, now, sentence (22):

(22) ???Leave now or I'll make you a nice dinner [repeated]

Its first disjunct cannot be understood as a non-literal use of the imperative mood unless the speaker, when uttering the second disjunct, performs the perlocutionary act of attempting to get the hearer to stay. But in order to perform such an act, the speaker has to make the hearer aware of the fact that (s)he regards the state of affairs where the hearer stays as desirable to the hearer. This effect would be ensured if the speaker performed an advice with a conditional content. But in the present case, the speaker performs a conditional advice, so that (s)he makes the hearer aware of the sole fact that (s)he regards as desirable to the hearer the state of affairs where the speaker makes a nice dinner for the hearer if the hearer stays; which is not sufficient to trigger a non-literal interpretation of the first disjunct.

In sentences (20) and (21):

(20) Do not make another mistake, or I'll report it to the boss [repeated]

(21) Leave the room, or I'll shoot you [repeated]

the first disjunct is understood as a literal use of the imperative mood. The speaker, when uttering the second disjunct, performs a conditional warning, so that the speaker makes the hearer aware of the sole fact that the speaker regards as undesirable to the hearer the state of affairs where, e.g., the speaker shoots the hearer if the hearer does not leave the room. This explains why the second disjunct of (20) or (21), contrary to the second conjunct of (23), can be added as an "afterthought", with a perceptible intonational break before the word 'or':<sup>23</sup>

(20') Do not make another mistake!... Or I'll report it to the boss!

(21') Leave the room!... Or I'll shoot you!

- (11) Come closer and I'll give you five pounds [repeated]  
(11') ???Come closer!... And I'll give you five pounds!

## 8. Conclusion

Both SAT and RT make insightful claims about the possible uses of imperative sentences. Contrary to what is sometimes suggested (see, e.g., Moeschler 1996), SAT may provide us with efficient tools for the study of elementary conversational exchanges. Our analysis of “imperative” advices and permissions as conditional IAs accounts for many features of such utterances which remain problematic in the non-cooperative framework of RT. Moreover, given the sincerity and the preparatory conditions formulated in SAT, various uses of the imperative mood (like good wishes, or audienceless and predetermined cases) can be viewed as a reduction of a directive IA to the corresponding expressive IA. On the other hand, SAT does not really come to grips with echoicity and irony, which are better captured by the RT distinction between a literal and an interpretive use of sentences. Both SAT and RT analyses involve non-truth-conditional (or “illocutionary”) connectives; but apart from some simple cases, the semantics of such logical words remains intuitive. And last but not least, both theories make an excessively liberal use of words or predicates like “desirable”, “beneficial”, “good”, “bad”,... — which surely obscures the post-Gricean debate on the ethical foundations of pragmatics.



# Notes

## Notes to Chapter 1

1. After *Principia Mathematica* the assertion sign became a meta-linguistic sign used only to identify theorems.
2. Austin borrowed the term of force from Frege. He was the English translator of Frege's *Foundations of Arithmetic*.
3. See the last chapters of Searle and Vanderveken (1985) and Vanderveken (1990) for English performatives. See chapter 6 of Vanderveken (1988) for French performatives. See Vanderveken and Marcondes (forthcoming) for Portuguese performatives.
4. I am grateful to D. Rybarkiewicz and Jorge Rodriguez Marques for their current work on the lexical analysis of Polish and Spanish performatives respectively.
5. See Vanderveken 1997c, 1999a and 2001b.
6. Searle Cf. Searle's favorable reply (Searle, 2001).

## Notes to Chapter 2

1. Following Descartes, I distinguish here *conceptual thought* from other types of thought inherent to perception and imagination whose contents are presentations rather than representations of facts. See Descartes' *Meditations* (1641) where Descartes distinguishes in the Sixth Meditation the conception from the imagination of a polygon having one thousand sides. Both propositional attitudes and illocutionary acts are units of conceptual thought.
2. The term of force is due to Frege (1977[1918a, 1918b]).
3. See Searle and Vanderveken (1985).
4. See Searle's contribution "How Performatives Work" to the present volume.
5. See Vanderveken (1997c, 2001b) and Searle's Reply (2001).
6. The two senses are connected. For the discursive types which are named in one sense are interventions whose master speech acts have the illocutionary force which are named in the other sense.
7. See Vanderveken (1991a), for a sound and generally complete formulation of the logic of elementary illocutionary acts.

8. See Vanderveken (1991a, Chapter 4). For a richer ideographic language capable of expressing action, historic modalities, indexical and ramified time, see my forthcoming book on *Discourse*.
9. See Searle (1982) and de Sousa Melo's contribution in this volume.
10. It is a mistake to reduce acts of conceptual thought such as commitments to future actions and attempts to judgements just as it is a mistake to reduce states of conceptual thought like intentions and desires to beliefs. In order to commit himself to an action an agent must do more than judge that he is committing himself. Similarly an intention of doing something is more than a belief that one will do it.
11. Rules of translation into the ideal conceptual language of general semantics are formulated in Vanderveken (1991a, chapters 4 and 7).
12. See Cocchiarella (1997). However, as we will see later, the theory of truth of illocutionary logic is more sophisticated than that of Montague. For it analyzes differently the logical type of proposition so as to account for the fact that propositions are not only senses with truth conditions but also contents of elementary illocutionary acts.
13. See Strawson (1974).
14. One can find a first formulation of the classical theory of truth by correspondence in Aristotle's *Metaphysics*. See A. Tarski (1944). See also Vanderveken (2001a) and my forthcoming paper "What is the Logical Form of a Proposition?" for a reformulation of the theory of truth by correspondence adequate for speech act theory.
15. As de Sousa Melo points out farther in this Volume, four possible directions of fit exist between words and things because there are four possible different directions of fit between mind and things.
16. Speakers and hearers play asymmetric roles in single contexts of utterance. So language distinguishes naturally a speaker and a hearer-based illocutionary point with the world-to-words direction of fit. In the case of commissives, the world has to be transformed by the speaker and in the case of directives by the hearer. However, speakers and hearers are in a very different speech situation when they are involved in an intervention. For any hearer is then a potential speaker who can, in principle, speak in his turn and contribute to the intervention. For this reason there is a one-to-one correspondence between possible directions of fit and discursive goals in language use. So deliberations must contain both commissive and directive utterances.
17. See propositions 4.27, 4.28 and 4.3 of Wittgenstein (1961), original German edition 1921.
18. The notion of circumstance comes from Kaplan (1979). Propositions are true in circumstances. A circumstance can be a moment of time, a possible world, a pair of a moment of time and history depending on the logic under consideration.
19. As I said earlier, truth and satisfaction are logically related. In order to be satisfied, an elementary illocutionary act must have a true propositional content. So the traditional correspondence theory of truth is part of the more general theory of satisfaction of illocutionary acts.

20. The law of excluded middle holds for success and unsuccess just as it holds for truth and falsity. Either an illocutionary act is performed or it is not performed in a speech situation. *Failure* is a special case of unsuccess which occurs only when the speaker(s) make(s) an unsuccessful attempt to perform that illocutionary act.
21. The present theory of types is cumulative. To any set of different types there corresponds the derived general type common to all entities of any type of that set. So unlike Russell I admit the type of sets whose elements are of different types.
22. The term and notion of intension come from Carnap (1956).
23. See Vanderveken (1995, 1997b and 1999b).
24. The truth of the disjunction in a circumstance is compatible with all the possible truth conditions of atomic propositions which are compatible with the truth of at least one of its arguments in that circumstance. But the truth of the conjunction is only compatible with those possible truth conditions which are compatible with the truth of both arguments.
25. I have formulated a similar recursive definition of the set of discursive types of interventions in Vanderveken (1997c, 1999a, 2001b).
26. See Vanderveken (1990, the last chapter), for English performatives, Vanderveken (1989, the last chapter), for French performatives and the last chapter of my forthcoming book *Os atos de discurso* for Portuguese performatives. I have written these chapters respectively with John Searle, Kenneth MacQueen, André Leclerc and Danilo Marcondes. See also Susumu Kubo's paper in this volume and Kubo (1999).
27. See Vanderveken (1990, Chapter 5) and Vanderveken (1991a, chapter 3), for more considerations on the laws of language use.
28. See Vanderveken (1990, chapter 5) for more information on the semantic universals of language use.
29. My reformulation of Descartes' *Cogito, ergo sum*.
30. The term comes from Grice (1975) .
31. As Grice notices, the speaker may be faced with a clash between two maxims. He may be unable to respect fully at the same time the maxims of quality and quantity. For example, you might really want to ask for a whole bottle of cognac but refrain from making such a request (Violation of the maxim of quantity) because it would not be granted (Maxim of quality).
32. See Vanderveken (1991) as regards the finite number of relevant facts of the background.

### Notes to Chapter 3

1. See Zaefferer and Grewendorf (1991).
2. I fully developed these matters in my doctoral thesis, Leclerc(1990), under the supervision of D. Vanderveken, University of Quebec, Trois-Rivières. See also Leclerc (1988).

- For a brief presentation of the research program of classical Universal Grammar, see Leclerc (1993).
3. Arnould and Lancelot (1966: 114[1660]), edited by H. Brekle following the third edition of 1676.
  4. Breal (1976[1897]), where Bréal pointed out that in Sanskrit, the verb can take as far as 891 different forms!
  5. Vanderveken (1988: 16–17) makes a very similar distinction between words and syntactic features which determine the illocutionary force of a sentence, and words and syntactic features which determine its propositional content. See also Searle and Vanderveken (1985).
  6. See Nuchelmans (1983, 1988)
  7. Arnould and Lancelot (1966) pointed out, as many grammarians after them, that sometimes the infinitive, mostly in Latin, retains assertion, and links like a conjunction two sentences together, as in *scio malum esse fugiendum*, or in French *Il croit savoir toute chose*.
  8. See Dominicy (1984: 164), about the ambiguity in Port-Royal's theory of verb, which hesitates between two positions: either affirmation = inclusion, or affirmation = assent + inclusion.
  9. See Lakoff (1976); and also Dominicy (1984), *op. cit.*
  10. See Vanderveken (1988: 152), on the complexity of interrogative sentences.
  11. See Lappin (1982), for the distinction between the reductionistic approach and the mood marker view.
  12. I wish to thank R. Vallée and Edmilson Azevedo who gave me much good advice in editing this paper.

#### Notes to Chapter 4

1. E.g., McCawley (1979).
2. I believe the earliest version of this view is in Lemmon (1962). For another early statement see also Hedenius (1963).
3. Notice that I have restricted the definition of performatives to illocutionary acts. On my definition utterances of “I am now speaking” or “I am shouting” (said in a loud voice) are not performative utterances.
4. For an explanation of all these notions see Searle (1979, Chapter 1).
5. “Declare” in English also functions as an assertive prefix, as in “I declare that the contents of this document are true and complete.”
6. E.g. Lewis (1972), Bach (1975), Ginet (1979), and Bach and Harnish (1979).

7. Bach and Harnish (1979: 208).
8. Many authors have remarked on this self-referential feature. Perhaps the first was Åqvist (1972).
9. See Searle (1979, Chapter 1) for further discussion of the notion of direction of fit.
10. Suppose somebody rigs up a transducer device sensitive to acoustic signals which is such that if he stands next to his car and says, "I hereby start the car," the car will start. Has he performed a declaration? Well, obviously not. Why not? *Because the semantic properties played no role.* The acoustic properties are irrelevant except insofar as they are an expression of an encoding of the semantics. Another way to put the same point is to say that declarations can be performed in any language, and there is no set of physical properties that any given declaration has in all and only its occurrences. You can't define the declaration physically.
11. Again, I am ignoring the religious cases such as blessing, cursing, damning, etc.

### Notes to Chapter 5

1. The expression "direction of fit" comes from "How to Talk — Some Simple Ways" in Austin (1961). However, the concept comes from Anscombe (1957). See also Searle and Vanderveken (1985: 92–97).
2. Especially Austin (1962a) and Grice (1989). See Searle (1979), where Searle presents a taxonomy of illocutionary acts. See also Searle (1983), where he classifies mental states. See Vanderveken (1990).
3. The term *force* corresponds to the German *Kraft* used by Frege (1918), in "Der Gedanke", translated by P.T. Geach and R. H. Stoothoff in Frege (1977).
4. Searle stresses the importance of the symbolic aspect of the mind in the construction of social reality. See Searle (1998: 152–154).

### Notes to Chapter 7

1. In "Other Bodies" (1982), Burge's thought experiment uses aluminum rather than water. The reason is that Ruth's and Twuth's internal states are supposed to be type identical. But, if there is water on Earth and XYZ on Twin Earth, then their internal physical states cannot be type identical. Ruth's brain contains water as a constituent, while Twuth's brain contains XYZ. This problem does not arise with aluminum, since it is not a constituent of brains. Despite this, I have used 'water' in my description of Burge's thought experiment, since Putnam's original example and subsequent discussions use it. However, this has the consequence that the internal states of Ruth and Twuth are not type identical, but I shall take it that this difference is not a relevant difference. We might suppose that at the neural level of description the difference between XYZ and water plays no role.



2. I assume that neither Ruth or Twuth in uttering 11 are acting in a play, testing their vocal cords, etc., but are engaged in normal conversation.
3. I am using 'notion' here in the way in which Burge uses it (Burge 1979, 75). It is not meant to carry any philosophical weight, but is used in the way 'concept' is ordinarily used. The reason that Burge does not use 'concept' is that it carries with it a great deal of philosophical baggage that could cause misunderstanding.
4. I assume here that sentence types are individuated purely syntactically.
5. In what follows I shall use 'internal states' and 'intentional states' which can be expanded to the more accurate and longer 'internal states and events' which is meant to capture such things as brain states and processes, and 'intentional states and events' which is meant to include such things as belief states and thought events.
6. This cannot be true, given the chemistry of the brain. But the example which turns on water can be replaced with any number of other examples about elms, aluminum, sofas, etc. which have nothing to do with the chemistry of the brain.
7. Burge presents his argument in Burge (1979) and (1993) without substantial changes. In Burge (1993), he defends it against various criticisms that have been raised against it.
8. Burge is very cautious in regarding this argument as only applying to the identification of thought token events with brain events (Burge 1979, 110). However, I shall take it, or more precisely similar arguments, to show that no intentional states, including such states as beliefs, desires, and intentions are identical to brain state tokens.
9. See Forbes (1985: 96–100) for a discussion of the connection between essential properties and possible worlds.
10. Burge is not averse to attributing essential properties to mental states. See Burge (1993, 107, n. 9).
11. The reason that we want *B* to be a plausible candidate for individuation is that we want to rule out as candidates the peripheral physical properties of Ruth which may vary from the actual to the counterfactual situation, such as minute variations in a gravitational field. Variations might arise. There are physical differences between *E* and *TE*, since the former contains water and the latter XYZ. This was pointed out to me by Tyler Burge.

## Notes to Chapter 8

1. An earlier version of sections 5–6 of this paper was presented at CSLI Seminar, at CSLI, Stanford University, U.S.A, on November 8, 1990, under the title "Meaning and Content in Speech Acts." Some of the basic ideas had been presented still earlier in a draft titled "Speech Acts and Local Constraints", which had been read at a meeting of the natural language working groupe at Institute for the New Generation Computer Technology (ICOT), Japan, on January 16, 1990. The penultimate draft was read at IMLLAI (International Meeting on Language, Logic, and Artificial Intelligence, Fortaleza, Brazil), on July 15, 1998. Comments from, and discussions with, the people present at these meetings were of much help to me.

2. Though Devlin (1991: 33) treats  $w$  as if it were a situation, his “Theorem 3” says that  $w$  is not a situation. See Devlin(1991: 285–9).
3. For example, see Cohen and Levesque (1985) and Nakayama (1998).
4. For example, the relation  $>$  of one situation’s causing another, and the object-type  $I(K)$  of having an intention to perform the action  $K$  seem to be of much use. See Devlin (1991: 184 and 248).
5. It might be objected that  $t_m$  seems to be too long for joking. What we have here might not be (32), but

$$(120) \quad m \models (\forall i \subseteq t_m) \langle\langle JOKING, TY, i, 0 \rangle\rangle$$

where “ $i \subseteq t_m$ ” means that  $i$  is included in  $t_m$ . Though I find (120) more tempting than (32) as a description of the situation we have, quantified infons are beyond the scope of our minimum situation theory presented in section 2. As far as our present discussion is concerned, we don’t have to decide which is better. It doesn’t affect the points I am seeking to make in this paper. So let me simplify our discussion by adopting (32).

6. Note that  $\dot{m}$  in  $AT_\psi$  is only required to be a meeting. Strictly speaking, this is incorrect. The use of “the meeting” requires the uttering agent to exploit some resource situation in which  $\dot{m}$  is the unique meeting. More satisfactory treatment will be introduced later.
7. What Searle and Vanderveken call expressives are the sort of illocutionary acts about which the question of satisfaction will not arise. They will call for a separate treatment.
8. As this account of satisfaction does not pay attention to self-referential conditions, it cannot be said to be the full account. About self referential conditions, see Vanderveken (1990: 132–3).
9. Note that we have here included the self-referential conditions of satisfaction mentioned in the last note.
10. Though the analysis of background conditions for the various illocutionary acts is beyond the scope of present paper, I would like to note that what Searle and Vanderveken call propositional content conditions, preparatory conditions and sincerity conditions might, at least partly, be formulated as constituents of background conditions.
11. The *UNIQUE* relation is introduced in Gawron and Peters (1991: 41–3). Note that the condition imposed on  $\dot{m}$  here is captured by a unit set of a parametric proposition, namely

$$\{(\dot{r}_m \uparrow \{\langle\langle UNIQUE, \dot{r}_m, MEETING, 1 \rangle\rangle\} \models \langle\langle MEETING, \dot{m}, 1 \rangle\rangle)\}$$

Though parametric propositions are not explicitly introduced in section 2, parameters can occur not only in infons but also in propositions since they can appear wherever objects of the same type can appear. So let me suppose that not only parametric infons but also parametric propositions can be used to impose conditions on parameters. The condition imposed on  $\dot{p}_j$  is also captured by a parametric proposition ( $\dot{r}_T \models \langle\langle NAMED, \dot{p}_j, \text{“Tomoyuki”}, 1 \rangle\rangle$ )

12. A similar strategy is available even within non-Austinian theories of content. Suppose there are rules associating propositions to sentences used in particular contexts. Then, the

proposition associated with a sentence in a particular context can be used to characterize conditions of satisfaction for those illocutionary acts which can be performed by uttering that sentence in that context. In order to do so, we don't have to identify the proposition with the contents of those illocutionary acts.

13. We should expect this constraint to hold where we have the constraint (52) because we have another constraint

$$(121) \quad TELL_{\psi} \Rightarrow ASSRT_{\psi}$$

This is an example of illocutionary commitment mentioned before. It is based on the abstract conceptual relation between the illocutionary force of telling and that of asserting, and as such it holds unconditionally, though (52) and (114) do not. Moreover, it seems to provide us with more information about  $u_{\psi}$ , namely:

$$(122) \quad u_{\psi} \Rightarrow ASSRT_{\psi}[f]$$

## Notes to Chapter 9

1. Here, 'dialogical extension' is interpreted as 'an extension to dialogues and conversations' as opposed to monologues.
2. For example,  $Go(AGT(Dartagnan), DEST(repair-station))$  describes the fact that Dartagnan goes to the repair station.  $AGT$  and  $DEST$  are conceptual relations (or thematic roles),  $Dartagnan$  and  $repair-station$  are concepts.  $AGT$  indicates that Dartagnan is the agent performing the action "to go",  $DEST$  refers to the destination of this action.
3. In the restricted version of the approach presented in this paper, there is no mechanism for recognizing natural language utterances and perceiving gestures as well as body attitudes. However, locutor-agents communicate with one another by performing communicative acts that are knowledge structures which include different parameters featuring the main characteristics of human communicative acts. Hence, this approach can be used to simulate various phenomena observed in natural conversations.
4. In some ways this notion of a communicative act is an extension of the notion of move found in Sinclair and Coulthard (1975) and in Francis and Hunston (1992).
5. These temporal relations are extended forms of Allen's (1983a) relationships using the notion of delay between the time intervals.
6. We adopt here a structure similar to the structure of a move in (Francis *et al.* 1992).
7. The sub-levels of section 3.2 we address here are: communication maintenance, turn-taking management and concept transfer. Since we are not dealing with the activities related to the interpretation of natural language utterances, the ECAs corresponding to the information transfer sub-level do not appear in this version of the model.
8. For brevity's sake, we will not provide the structure of non-verbal ECAs.



illocutionary force of an utterance with the IAF in this group is not determinable simply with the IAF, but is determinable with respect to the types of performative sentence constructions in which the IAF occurs. (iii) IAF's in the last group such as *teyaru* have more than one illocutionary points irrespective of the verb with which they are conjoined. The illocutionary force of an utterance with the IAF is not determinable either with the IAF itself or with respect to the types of performative sentence constructions in which the IAF occurs, but with the property of the verb with which the IAF is conjoined. For more discussion, see Kubo (1993).

5. Categorical Morphology has been studied in the tradition of Montague Grammar. See Abe (1995) and Bach (1992).
6. Vanderveken (1990:213–219) calls these verbs which name expressive illocutionary acts expressive performative verbs.
7. The verb *kuyamu* in (3e) is taking an affix of politeness to accommodate the verb to the given linguistic context, which does not imply that the verb can not be used performatively. Observe the example below:

ore-wa yatsu-no-si-wo kyuyamu.  
I-TOP He-GEN-death-OBJ condole  
'I hereby express my condolence on him.'

8. If you replace the IAF, *teyaru* with other IAF's, *teageru* 'give the benefit of doing something less authoritatively or with love', or *te-sashi-ageru* 'give the benefit of doing something with high courtesy', every utterance in (5) comes to be acceptable.
9. Originally, these two words, *shujin* and *teishu* have different lexical meanings, they mean 'master' and 'owner', respectively.
10. As we have seen, *teyaru* has the illocutionary meaning, 'the speaker's authority over the hearer', whose existence is independently proved in virtue of the notion of conventional implicature. Since Grice's introduction of the notion, conventional implicature is defined as follows: *an implicature is conventional if and only if it is both detachable and non-cancelable*. Let us then test the implicature of the IAF, *teyaru* in line with this definition. Compare sentences (a) and (b), first.

- a. Ayamaru.  
apologize  
'I apologize.'
- b. Ayamat-teyaru.  
apologize-IAF  
'In my capacity as your superior, I apologize to you for your benefit.'

The implicature of the sentence (b) is detachable since both (a) and (b) have the same truth-conditional meaning.

- c. *Ore-wa omae-yori-mo mibun-ga takai keredo, ayamat-teyaru* .  
I-TOP you-more-than position-NOM higher though apologize-IAF  
'Though I am in the higher position in social hierarchy than you, I apologize to you for your benefit.'
- d. \**Watashi-wa anata-yori-mo mibun-ga takaku-nai keredo, ayamat-teyaru*.  
I-TOP You-more-than position-NOM high-not though apologize-IAF

‘Though I am not in the higher position in social hierarchy than you, I apologize to you for your benefit.’

If you compare (c) and (d), you will notice that the illocutionary meaning of the IAF can not be negated. Thus, the implicature is non-cancelable.

11. Examine (a) and (b) in which a verb which is neutral with respect to the property of pro/con-listener-ness is used:
  - a. *Boku-wa kimi-no seikou-wo shirase-teyaru.*  
I-TOP you-GEN success-ACC report  
‘For your benefit, I will report your success to you.’
  - b. *Boku-wa kimi-no shippai-wo shirase-teyaru.*  
I-TOP you-GEN failure-ACC report-IAF  
‘In my capacity as your superior, I will report your failure to you to your disadvantage.’

(c) and (d) show how the combination of a verb in this group and a nominal with the property of pro/con-listener-ness derives a verb phrase with the property of pro/con-listener-ness.

- c.  $seikou[+PRO-L] \times shiraseru[+/-PRO-L] = seikou-wo shiraseru[+PRO-L]$
- d.  $shippai[-PRO-L] \times shiraseru[+/-PRO-L] = shippai-wo shiraseru[-PRO-L]$

12. A detailed explication of categories is given in 3.1.
13. When the main verb with which the IAF, *teyaru* is conjoined is neutral with respect to the property of pro/con-listener-ness, only the illocutionary type of the utterance is determined, since there is no preparatory condition which clarifies whether the satisfaction of the propositional content is good or bad for the listener.
14. See Searle and Vanderveken (1985) and Vanderveken (1990).

## Notes to Chapter 11

1. See Austin (1962a: 95) for the subclassification of locutionary acts in natural language.
2. Whether a one-word utterance is regarded as a phatic or rhetoric act depends, therefore, on the linguistic context in which the expression is used.
3. The verb *say* is one of the least ‘active’ performative verbs that can be used to report the locutionary aspects of an utterance. In fact, performative verbs constitute a scale, from the least active performatives, verbs like *say*, ... to the most active ones, like *appoint*, whose actions frequently cannot be done without explicit mention (cf. Lakoff 1991: 319).
4. In a strict sense, any utterance made in an appropriate communicative context can be said to implicitly involve some kind of illocutionary force. Even in the following seemingly nonsensical text, such illocutionary forces as question, statement, etc. can be construed or detected pragmatically.

- Jute. — Are you jeff?  
 Mutt. — Somehards.  
 Jute. — But you are not jeffmute?  
 Mutt. — Noho. Only an utterer.  
 Jute. — Whoa? Whoat is the mutter with you?  
 Mutt. — I became a stun a stummer.

[James Joyce, *Finnegans Wake*: 16]

5. There exists a variety of performative verbs which characterize illocutionary forces involved in natural language. For a detailed semantic and pragmatic study of performative (or speech-act) verbs, see Searle (1969: Chaps. 2 & 3) and Vanderveken (1990: Chapt. 6). For a detailed lexicological specification of such verbs, see Wierzbicka (1987).
6. The quoting verbs observed here should be distinguished from so-called ‘manner of speaking’ verbs (e.g. *mumble*, *scream*, *shout*, etc.) (cf. Zwicky 1971), which cannot be used to describe illocutionary aspects of an utterance. In a wider sense, however, both fall under a general class of verbs of ‘communication’ (Banfield 1982: 23)
7. See Grice (1975) for a detailed discussion of the pragmatic status of conversational implicatures in general.
8. Such primitive utterances as interjection, greeting, etc. make it especially difficult to identify the exact semantic and pragmatic force, as is seen in the following dialogue (Yamanashi 1986:33–34):

“Good Morning” said Bilbo, and he meant it. ... Gandalf looked at him from under long bushy eyebrows...  
 “What do you mean?” he said. “Do you wish me a good morning, or mean that it is a good morning whether I want it or not; or that you feel good this morning; or that it is a morning to be good on?”  
 “All of them at once,” said Bilbo.

[Tolkien, *The Hobbit*: 17–18]

9. Lakoff noted the following as ‘speech act constructions’, whose conveyed meanings are conventionally fixed and associated with their constructional patterns (Lakoff 1984: 473–474).
  - i. <Deictic *There*-Constructions>  
 There goes Harry!
  - ii. <Inverted Exclamations>  
 Boy! Is he ever tall!
  - iii. <*Wh*-Exclamations>  
 What a good time I had!
  - iv. <Rhetorical Questions>  
 Who on earth can stop Bernard?
  - v. <Tag Questions>  
 He’s coming, isn’t he?

For detailed discussions on the linguistic status of such constructions, see Fillmore (1989), Taylor (1989: Chap.11) and Langacker (1991: Chap.10).

10. Here, for clarity, I use quotation marks to indicate the quoted part in question. In Japanese, however, the clause-final particle *to* is used to mark that part; i.e. “Reported speech in Japanese is always marked by the clause-final particle, *to*, regardless of whether the discourse mode is direct or indirect.” (Kuno 1988: 75)
11. The following sentences seem, on the surface, to serve as pure *yes-no* questions which can be analyzed underlyingly as reduced alternative questions. Bolinger pointed out, however, that their corresponding alternative questions are not appropriate (cf. Bolinger 1978, McCawley 1988: 491–492).
- i. a. Would you like some coffee (?? or wouldn’t you)?  
b. Could you pass me the salt (?? or couldn’t you)?
  - ii. a. Have you heard that Fred and Ethel have split up (?? or haven’t you)?  
b. Would you like to contribute to the March of Dimes (?? or wouldn’t you)?

This fact indicates that these sentences have come to serve conventionally as semi-question speech-act constructions. McCawley pointed out, however, that while the embedding of those sentences in i can be marked only by *if*, those in ii can be marked by both *if* and *whether* (McCawley 1988: 492).

- i’. a. He asked *if/whether* we’d like some coffee.  
b. He asked me *if/\*whether* I’d pass him the salt.
- ii’. a. I asked Tom *if/whether* he had heard that Fred and Ethel had split up.  
b. He asked me *if/whether* I’d like to contribute to the March of Dimes.

These facts show that the strength of the pragmatic forces of question (or the degree of the conventionality of the pragmatic forces) actually varies, depending on the types of question constructions .

12. See Frazer (1975) for the pragmatic status of performative constructions of this sort.

## Notes to Chapter 12

1. I take *discourse* to refer to any type of speeches consisting of sequences of exchanges, moves or speech acts, either monological or dialogical, following here the Geneva tradition of discourse analysis developed in Roulet *et al.* (1985). Cf. also Moeschler (1985), Moeschler (1989a) and Moeschler (forthcoming) for further developments.
2. See Moeschler (1993) for a formulation of the sequencing and interpretation problems within Sperber and Wilson’s Relevance theory (1986), and Moeschler (1992a) for a more general discussion on the domain of discourse analysis.
3. From the following extract of Searle and Vanderveken (1985, 11), we are authorised to look for sequencing principles defining the sequences of speech acts in conversation: “The key to understanding the structure of conversations is to see that each illocutionary act creates the possibility of a finite and usually quite limited set of appropriate illocutionary acts as replies”. I shall present below a coherent and complete model of sequenc-



- ing rules for conversation analysis, which is explanatorily adequate, but unfortunately descriptively inadequate.
4. One should remember here the classical opposition formulated by Levinson (1983) between *discourse analysis* (DA), which is based on speech act theory, and *conversation analysis* (CA), which comes from the ethnomethodological paradigm.
  5. Cf. Stenström (1984) for an exhaustive analysis of questions and answers within a functional model, and Moeschler (1986) for a critical review.
  6. Cf. van Dijk (1977) for a general definition of pragmatics and discourse *via* the criterion of *appropriateness*.
  7. See especially Brassac (1992), Brassac (1994), Trognon and Brassac (1993), Trognon and Larrue (1993), Trognon and Ghiglione (1993), Trognon (1994); see also Moeschler (1992b) for a general discussion of Trognon and Brassac (1993).
  8. Following Blakemore's (1987) terminology.
  9. I refer here to Luscher (1994) for a very detailed analysis of pragmatic connectives within Relevance theory.
  10. For simplicity, I present every utterance-act as a separate line.
  11. See Vanderveken (1993) and (1994) for a different analysis, and a very global proposition of discourse taxonomy in terms of direction of fit.
  12. See Sperber and Wilson (1982) for a detailed criticism of the notion of *mutual knowledge*, and Moeschler (1994) for a general discussion of warranty of uptake in conversation.
  13. See Groefsema (1993) for an analysis of *can* and more specifically of *Can you pass the salt?* within Relevance theory.

### Notes to Chapter 13

1. Viviane Chase kindly checked our English. Of course, all remaining errors and mistakes are ours.
2. We will use the following abbreviations: SAT = Speech Act Theory, IA = illocutionary act, S&V = Searle and Vanderveken, V = Vanderveken, RT = Relevance Theory, S&W = Sperber and Wilson, W&S = Wilson and Sperber.
3. In fact, RT (see S&W 1986: 243–254) distinguishes between three categories of “speech acts”. Institutional speech acts (bidding, declaring war,...) are communicated and identified as such; but they fall outside the scope of the present paper. Non-institutional speech acts like suggestions, predictions, warnings, threats,..., which correspond to the IAs of SAT, need not to be communicated and identified in order to be performed and understood; they take place. The only non-institutional speech acts that are communicated and identified as such consist in making it manifest that the utterance is a case of “saying”, “telling” or “asking” (see below).

4. In S&V (1985: 15, 41–43, 98–99), the speaker was also assumed to achieve the illocutionary point with the degree of strength required by F. Here, we follow V (1990: 120–121), who reduces the degree of strength of the illocutionary point to a function of (i) the degree of strength required by the mode of achievement of F and (ii) the degree of strength assigned by F to the “expressed” desire.
5. For the sake of the argument, we maintain the SAT distinction between *grammatically* declarative sentences/clauses and *illocutionarily* declarative utterances.
6. For the sake of brevity, we neglect the speech act of “asking”, to which we will turn back in a forthcoming paper.
7. Our SAT analysis conflicts with the following remark in S&V (1985: 156–157): “In ordinary language temporal ordering of speech acts often affects content. ‘Go outdoors and wipe the mud off your feet’ is not equivalent to ‘Wipe the mud off your feet and go outdoors’. In spite of their surface grammar such acts are not of the form  $A_1 \& A_2$ ... However, given the post-Gricean inspiration of Searle and Vanderveken’s approach, it may be argued that the temporal ordering of speech acts implicates (via the maxim of manner) a temporal enrichment of the conditions of satisfaction of both conjuncts. Indeed, if F is a primitive non-expressive force,  $F(P) \& F(Q)$  is equivalent to  $F(P \wedge Q)$  (see S&V 1985: 166–167; V 1990: 161–162, 1991a: 117–118); it follows that the maxim of manner can apply to the propositional content  $P \wedge Q$ . In RT, this enrichment would give rise to an explicature (see S&W 1986: 176–183; W&S 1990; Carston 1988, 1990).
8. As pointed out by Zunzunegui (1992, 1993), this property of conditional IAs plays a crucial part in the interpretation of legal texts.
9. When reasoning in the SAT framework, we will endorse Searle and Vanderveken’s hypothesis that the illocutionary force of a performative sentence is that of a declaration (S&V 1985: 3, 175; V 1990: 17–21).
10. Searle and Vanderveken’s definitions of threats and promises also involve recurrent confusions between ‘desirability for’ and ‘desirability to’. For instance, we read in S&V (1985: 67, 193; see also V 1990: 114, 182, 1991a: 155) that “to threaten someone to do something commits the speaker to the presupposition that the act is bad for the hearer”; but I can threaten Peter to deprive him of his favorite drug even if I believe this would be good for him. About promises, consider the following statements: “a promise [...] would [...] be defective if the thing the speaker promised to do was not in the hearer’s interest and the hearer did not want him to do it” (S&V 1985: 16–17); “In making a promise the speaker presupposes that he can do the promised act and that it is in the hearer’s interest to do it” (S&V 1985: 17, 192; see also V 1990: 183, 1991a: 155). Obviously, Searle and Vanderveken do not definitely opt for ‘desirability to’ the hearer, or ‘desirability for’ the hearer, or both. In any case, the speaker who promises to do something is assumed to regard what (s)he promises to do as ‘desirable to’ the hearer. If (s)he does not regard it as ‘desirable for’ the hearer, (s)he should be considered either as failing to make a promise or as making an immoral promise; only the second interpretation agrees with common sense. On advices and warnings, see below.
11. According to Clark (1993: 80), utterances like (11–13) or (20–21) below can be described “with analyses of *and* and *or*, along lines suggested by Grice, which treat them as truth-functional connectives and a pragmatic explanation for what seem to be their non-truth-functional properties”. But in all Gricean examples, the implicatures enrich the truth

- conditions which are compositionally derived from the truth conditions of the conjuncts/disjuncts and from the truth-functional properties of the connective (see Defrise and Dominicy 1991). This cannot be the case here, since one of the conjuncts/disjuncts has no truth conditions.
12. On the difference between assertive and directive advices or warnings, see S&V (1985: 181, 202–203): “a case of advising or warning can be *either* a case of telling the hearer what is the case, with a view of getting him to do something about it, *or* it can be one of telling him to do something *because* something is the case”.
  13. If Mary regards the state of affairs described by Q as undesirable to Peter, she regards the state of affairs described by  $\sim Q$  as desirable to him. From this result and the converse conditional  $\sim Q \rightarrow \sim P$ , it follows that Mary regards the state of affairs described by  $\sim P$  as desirable to Peter, i.e. that she regards the state of affairs described by P as undesirable to him.
  14. See Clark (1991: 87; 1993: 104): “the speaker regards the hearer as entertaining the thought, or potentially entertaining the thought, that the state of affairs in which the hearer comes closer to the speaker is both potential and desirable”.
  15. We may assume that the conditional  $P \rightarrow Q$  is obtained by enrichment via the maxim of manner.
  16. Recall that if Q is desirable (resp. undesirable) to X, and  $P \rightarrow Q$  is satisfied, then  $\sim Q$  is undesirable (resp. desirable) to X and  $\sim Q \rightarrow \sim P$  is satisfied, which entails that  $\sim P$  is undesirable (resp. desirable) to X, i.e. that P is desirable (resp. undesirable) to X.
  17. When defining advices and warnings, current SAT makes the usual confusion between ‘(un)desirability to’ and ‘(un)desirability for’: “In the assertive use [of ‘warn’ ...] there is the additional presumption [...] that it somehow bodes badly for the hearer [...]. To advise is like to warn, except that the additional presupposition is to the effect that what is advised is good for the hearer” (V 1990: 174).
  18. See Haverkate (1990: 91, 94–95). According to V (1991b: 380–381, 1994a: 51–52), “irony is a limit case of exploitation of the maxim of quality”, in that “the [non-literal] primary speech act of an ironic utterance has conditions of success, of non-defective performance or of satisfaction which are relatively inconsistent with conditions of the literal act”. One may wonder, then, whether any literal secondary act is performed (as happens in the case of indirectness; see below).
  19. In the SAT approach to indirectness (see, e.g., Searle 1975a; S&V 1985: 10–11, 25; V 1990: 71–75, 1991b: 123–124, 1994a), both the non-literal primary IA and the literal secondary IA must be performed; furthermore, the indirect speech act is always stronger than the literal speech act.
  20. See, e.g., S&V (1985: 160): “are the occurrences of ‘or’ and ‘and’ in such directive sentences as ‘Do that again and I’ll hit you’, ‘Come here or I’ll hit you’, ‘Come here and I’ll give you five dollars!’, analyzable as conditionals?” Searle (in Lepore and Van Gulick 1991: 91) analyzes utterance (21) as “an order [...] made by way of a conditional threat”.
  21. On the difference between  $(P \Rightarrow F(Q))$  and  $F(P \rightarrow Q)$ , see S&V (1985: 5, 157–158) and V (1990: 24–25).

22. Recall Austin's comment on the sentence 'There are biscuits on the sideboard if you want them' in his seminal paper on "Ifs and Cans" (1961: 212–213): "I do not know whether you want biscuits or not, but in case you do, I point out that there are some on the sideboard. It is tempting, I know, to 'expand' our sentence here to this: 'There are biscuits on the sideboard *which you can (or may) take* if you want them': but this, legitimate or not, will not make much difference, for we are still left with 'can (or may) if you want' [...], so that the *if* is still the *if* of doubt or hesitation, not the *if* of condition". See also Cornulier (1985: 183–192).
23. Compare (11–11') with (11''):

(11'') Come closer!... I'll give you five pounds!

As pointed out by Clark (1991: 73–74, 1993: 95), the speaker of (11) "assumes beforehand that the imperative alone will not be enough to persuade the hearer", while the speaker of (11'') "believes at first that the utterance of the imperative will be enough on its own to persuade the hearer to come closer. When she sees that the hearer is not moving, she realizes that she needs to provide a further incentive and for this reason she adds the declarative".



## References

- Abe, Y.  
1985 *A Theory of Categorial Morphology and Agglutination in Japanese*. Ph.D Thesis, Univ. of Massachusetts.
- Allen, J. F.  
1979 *A Plan-Based Approach to Speech Act Recognition* [Technical Report No 131]. Department of Computer Science, University of Toronto, Canada.  
1983a "Toward a General Theory of Action and Time". *Artificial Intelligence* 23 (2): 123–154.  
1983b "Recognizing Intentions from Natural Language Utterances". In *Computational Models of Discourse*, M. Bradie and R. C. Berwick (eds), 108–166. Cambridge: MIT Press.  
1990 "Two views of intention: Comments on Bratman and on Cohen and Levesque". In P.R. Cohen, J. Morgan and M.E. Pollack (eds), 71–75.
- Allen, J.F., Kautz, H.A., Pelavin, R.N. and Tenenber, J.D.  
1991 *Reasoning about Plans*. San Francisco: Morgan Kaufmann.
- Anscombe, G. E. M.  
1957 *Intention*. Oxford: Clarendon Press.
- Anscombe, J-C. and Ducrot, O.  
1983 *L'argumentation dans la langue*. Bruxelles: Pierre Mardaga.
- Åqvist, L.  
1972 "Performatives and verifiability by the use of language". *Filosofiska Studier* 14. University of Uppsala.
- Aristotle  
1979 *Categoriae et Liber de Interpretatione*. L. M. Paluello (ed). Oxford: Clarendon Press.
- Arnould, A. and Lancelot, C.  
1966 *Grammaire Générale et Raisonnée* [1660]. H. Brekle (ed). Stuttgart-Bad Cannstatt: Friedrich Frommann.
- Arnould, A., Lancelot, C. and Nicole, P.  
1970 *La Logique, ou l'Art de Penser* [1662]. Paris: Flammarion. (also from Paris: Vrin [1981]).
- Atkinson, J.M. and Drew, P.  
1979 *Order in Court: The Organisation of Verbal Interaction in Judicial Setting*. Macmillan.
- Atkinson, J.M. and Heritage, J. (eds)  
1984 *Structures of Social Action, Studies in Conversation Analysis*. Cambridge: Cambridge University Press.

- Auroux, S.  
1986 "Actes de pensée et actes linguistiques dans la grammaire générale". *Histoire, Epistémologie, Langage* 8 (2): 105–120.
- Austin, J. L.  
1950 "Truth". *Proceedings of the Aristotelian Society*. [Supplementary 24.] (Reprinted in Austin, 1961b:117–133). 1961a "How to talk — Some simple ways". In *Philosophical Papers*, J.O. Urmson and G.J. Warnock (eds). Oxford: Clarendon Press.  
1961 *Philosophical Papers*. J.O. Urmson and G.J. Warnock (eds), Oxford: Clarendon Press.  
1962a *How to Do Things with Words*. J. O. Urmson (ed) (J.O. Urmson and M. Sbisa (eds), 1975), Oxford: Clarendon Press.  
1962b "Performatif-constatif", *La Philosophie Analytique [Cahiers de Royaumont, Philosophie 4]*: 271–304. Les Éditions de Minuit.
- Bach, E.  
1992 "Talk on morphology". *Proceedings of the 1992 Seoul International Conference of Linguistics*: 134–138. The Linguistic Society of Korea.
- Bach, K.  
1975 "Performatives are statements too". *Philosophical Studies* 28: 229–236.
- Bach, K. and Harnish, R.  
1979 *Linguistic Communication and Speech Acts*. Cambridge, Mass: MIT Press.
- Banfield, A.  
1982 *Unspeakable Sentences*. London: Routledge and Kegan Paul.
- Bartsch, R and Vennemann, T  
1972 *Semantic Structures*. Frankfurt/Main: Athenäum Verlag.
- Barwise, J. and Etchmenny, J.  
1987 *The Liar*. Oxford: Oxford University Press.
- Barwise, J. and Perry, J.  
1983 *Situations and Attitudes*. Cambridge, Mass: MIT Press.
- Beattie, J.  
1968 *The Theory of Language* [a Reprint of Scholar Press, 1783]. Menston.
- Beauzée, N.  
1767 *Grammaire Générale, ou Exposition Raisonnée des éléments Nécessaires du Langage pour Servir de Fondement à l'étude de toutes les Langues*, 2 vols. Paris: Bardou.
- Berlo, D. K.  
1960 *The Process of Communication: An Introduction to Theory and Practice*. Holt, Rinehart and Winston.
- Beun, R.J.  
1993 *Mental state recognition and communicative effects* [Technical report 865/III]. Institute for Perception Research, Eindhoven, The Netherlands.
- Bierwisch, M.  
1980 "Semantic structure and illocutionary force". In J. R. Searle, F. Kiefer and M. Bierwisch (eds), 1–36.

- Bilange, E.  
1992 *Modélisation du dialogue oral finalisé personne-machine par une approche structurale. Théorie et réalisation*. Paris: Hermès.
- Blakemore, D.  
1987 *Semantic Constraints on Relevance*. Oxford: Blackwell.  
1992 *Understanding Utterances*. Oxford: Basil Blackwell.
- Boden, D. and Zimmerman, D.H.  
1991 *Talk and Social Structure*. University of California Press.
- Bolinger, D.  
1978 "Yes-no questions are not alternative questions". In *Questions*, Henry Hiz (ed), 87–105. Dordrecht: Reidel.
- Bond, A.H. and Gasser, L.  
1988 *Readings in Distributed Artificial Intelligence*. Morgan Kaufmann.
- Brassac, C.  
1992 *S'engager en conversation*. Thèse de doctorat. Nancy: Université de Nancy 2.  
1994 "Actes de langage et enchaînement conversationnel" [*Cahiers d'épistémologie* 9401]. Montréal: UQAM.
- Brassac, C. and Trognon, A.  
1990 "Implications entre énoncés, engagements entre actes illocutoires". *Verbum* 13 (4): 195–221.
- Bréal, M.  
1976 *Essai de Sémantique. Science des Significations* [1897]. Geneva: Slatkine [Reprints].
- Brentano, F.  
1924 *Psychologie vom Empirischen Standpunkt*. Meiner.
- Buffier, C.  
1709 *Grammaire Française sur un Plan Nouveau*. N. Le Clerc (ed). Paris: M. Brunet & Montalant.
- Burge, T.  
1979 "Individualism and the mental." *Midwest Studies in Philosophy* 4: 73–121.  
1982 "Other bodies". In *Thought and Object*, A. Woodfield (ed), 97–120. New York: Oxford.  
1993 "Mind-body causation and explanatory practice." In *Mental Causation*, J. Heil and A. Mele (eds), 97–120. Oxford: Clarendon Press.
- Carnap, R.  
1956 *Meaning and Necessity*. Chicago: University of Chicago Press.
- Carston, R.  
1988 "Implicature, explicature, and truth-theoretic semantics". In *Mental Representation: The Interface between Language and Reality*, R. Kempson (ed.), 155–181. Cambridge: Cambridge University Press.  
1990 "Quantity maxims and generalised implicature". *UCL Working Papers in Linguistics* 2 : 1–31.
- Chaib-draa, B., Moulin, B., Mandiaou, R. and Millot, P.  
1992 "Trends in distributed artificial intelligence". *Artificial Intelligence Review* 6: 35–66.



- Charolles, M.  
1988 "Les études sur la cohérence, la cohésion et la connexité textuelle depuis la fin des années 1960". *Modèles Linguistiques* 10 (2): 45–66.
- Chomsky, N. M.  
1969 "Quine's empirical assumptions". In D. Davidson and J. Hintikka (eds), 53–68.  
1975 *Reflexions on Language*. New York: Pantheon Books.
- Clark, B.  
1991 *Relevance Theory and the Semantics of Non-Declaratives*. Ph.D. Thesis, University College London.  
1992 "Relevance and pseudo-imperatives". *Linguistics and Philosophy* 16 : 79–121.
- Clark, H.  
1996 *Using language*. Cambridge : Cambridge University Press.
- Cocchiarella, N.  
1997 "Formally oriented work in the philosophy of language". In *Philosophy of Meaning, Knowledge and Value in the 20th Century, Routledge History of Philosophy* Volume X, J. Canfield (ed), 39–72. London: Routledge and Kegan Paul.
- Cohen, P. R.  
1978 *On knowing what to say: Planning speech acts* [Technical Report No118]. Department of Computer Science, University of Toronto, Canada.
- Cohen, P. R. and Levesque, H.J.  
1985 "Speech acts and rationality". *Proceedings of the Twenty-third Annual Meeting*, 49–60. Chicago, IL: Association for Computational Linguistics.  
1990a "Rational interaction as the basis for communication". In Cohen P. R., Morgan J. and M.E. Pollack (eds), 221–255.  
1990b "Persistence, intention and commitment". In Cohen P. R., Morgan J. and M.E. Pollack (eds), 33–69.
- Cohen P. R., Morgan J. and Pollack, M.E. (eds)  
1990 *Intentions in Communication*. Cambridge, Mass: MIT Press.
- Cole, P. and Morgan, J. L. (eds)  
1975 *Speech Acts* [Syntax and Semantics 3]. New York: Academic Press.
- Cornulier, B. de  
1985 *Effets de Sens*. Paris : Éditions de Minuit.
- Coulthard, M. (ed)  
1992 *Advances in Spoken Discourse Analysis*. London: Routledge and Kegan Paul.
- Cresswell, M.J.  
1973 *Logics and Languages*, London: Methuen.
- Dascal, M.  
1992 "On the pragmatic structure of conversation". In H. Parret and J. Verschueren (eds), 35–56.
- Davidson, D.  
1968–1969 "On saying that". *Synthese* 19 :130–146. (Reedited in D. Davidson and J. Hintikka (eds), 158–174. )

- 1969 "The individuation of events." In *Essays on Actions and Events*, 163–181. Oxford: Clarendon Press.
- 1976 "Moods and performances". In *Meaning and Use*, A. Margalit (ed.), 9–20. Dordrecht: D. Reidel.
- 1984 "Theories of meaning and learnable languages". In *Inquiries into Truth and Interpretation*, D. Davidson. Oxford: Oxford University Press.
- Davidson, D. and Hintikka, J. (eds)  
 1969 *Words and Objection: Essays on the Work of W.V. Quine*. Dordrecht: Reidel.
- Defrise, C. and Dominicy, M.  
 1991 "La construction du sens". *L'Age de la Science* 4 : 259–272.
- Descartes, R.  
 1641 *Méditations [Meditationes de Prima Philosophia]*. reedited In R. Descartes, *Oeuvres et Lettres*, A. Bridoux(ed). Paris: Bibliothèque de la Pléiade, Editions Gallimard.
- 1649 *Les passions de l'âme*. reedited In R. Descartes, *Oeuvres et Lettres*, A. Bridoux(ed). Paris: Bibliothèque de la Pléiade, Editions Gallimard.
- Destutt de Tracy, A.  
 1970 *Grammaire [Éléments d'Idéologie 2 [1803]]*. Paris: Vrin.
- De Vito, J. A.  
 1992 *The Interpersonal Book* [6th Edition]. Harper Collins.
- Devlin, K.  
 1991 *Logic and Information*. Cambridge: Cambridge University Press.
- Diderot and d'Alembert  
 1780 *Encyclopédie, ou Dictionnaire raisonnée des Sciences, des Arts et des Métiers* [1751] (reproduced from the edition of de Pellet *in quarto*). Berne and Lausanne, Les Sociétés Typographiques.
- Dijk, T. A. van  
 1977 *Text and Context. Explorations in the Semantics and Pragmatics of Discourse*. London: Longman.
- Dominicy, M.  
 1984 *La Naissance de la Grammaire Moderne: Language, Logique et Philosophie à Port-Royal*. Bruxelles: Pierre Mardaga.
- Donzé, R.  
 1967 *La Grammaire Générale et Raisonnée de Port-Royal*. Berne: Francke.
- Fauconnier, G.  
 1985 *Mental Spaces*. Cambridge, Mass: MIT Press.
- Fillmore, C. J.  
 1989 "Grammatical construction theory and the familiar dichotomies". In *Language Processing in Social Context*, Rainer Dietrich & Carl F. Graumann (eds), 17–38. Amsterdam: North-Holland.
- Fodor, J. A.  
 1975 *The Language of Thought*. Cambridge, Mass.: Harvard University Press  
 1981 *Representations: Essays in the Foundation of Cognitive Science*. Cambridge, Mass: MIT Press.  
 1982 "Cognitive science and the twin-earth problem". *Notre Dame Journal of Formal Logic* 23: 98–118.

- Forbes, G.  
1985 *The Metaphysics of Modality*. Oxford: Clarendon Press.
- Francis, G. and Hunston, S.  
1992 "Analysing everyday conversation". In *Advances in Spoken Discourse Analysis*, Coulthard (ed), 123–161. London: Routledge and Kegan Paul.
- Franken, N.  
1977 "Vagueness and approximation in relevance theory". *Journal of Pragmatics* 28 : 135–151.  
1996 "L'ironie : essai de description dans la théorie de la pertinence". to appear in *Orbis Linguarum*, 5: 223–230.
- Frazer, B.  
1975 "Hedged performatives". In P. Cole and J. L. Morgan (eds), 187–210.
- Frege, G.  
1892 "Über Sinn und Bedeutung", *Zeitschrift für Philosophie und philosophische Kritik* 100, 25–50.  
1918a "Der Gedanke". *Beiträge zur Philosophie des Deutschen Idealismus* 1:58–77 (Reedited in *Kleine Schriften*, I. Angellini (ed), 342–343. Darmstadt and Hildesheim: Wissenschaftliche Buchgesellschaft. 1967)  
1918b "Die Verneinung". *Beiträge zur Philosophie des Deutschen Idealismus* 1: 143–57.  
1952 "On sense and reference". In *Translations from the philosophical Writings of Gottlob Frege*, P. Geach and M. Black (eds). (English translation of Frege(1982) by P. Geach.) Oxford: Oxford Univ. Press.  
1977 "The Thought" and "Negation". In *Logical Investigations*, P. Geach (ed.) (English translation of Frege (1918a, 1918b)). London: Yale University Press.
- Garfinkel, H.  
1967 *Studies in Ethnomethodology*. Englewood Cliffs, NJ: Prentice Hall.  
1990 "The Curious Seriousness of Professional Sociology". In *Les formes de la conversation I*, B. Conein, M. de Fornel and L. Quere (eds): 69–79. Paris: CNET.
- Gawron, J. M. and Peters, S.  
1991 *Anaphora and Quantification in Situation Semantics* [CSLI Lecture Notes 19]. Stanford: CSLI.
- Gazdar, G.  
1979 *Pragmatics. Implicature, Presupposition and Logical Form*. New York: Academic Press.
- Geis, M. L. and Zwicky, A.  
1971 "On invited inferences". *Linguistic Inquiry* 2: 561–566.
- Ghiglione, R. and Trognon, A.  
1993 *Où Va la Pragmatique ?* Grenoble: Presses Universitaires de Grenoble.
- Gibbs R. W. and Mueller, R.A.G.  
1990 "Conversation as coordinated, cooperative interaction". In *Cognition, Computation and Cooperation*, Zachary W. W. and Robertson S. P. (eds), 95–114. Norwood, N.J.: Ablex.

- Ginet, C.  
1979 "Performativity". *Linguistics and Philosophy* 3: 245–65.
- Goffman, E.  
1973 *La Mise en Scène de la Vie Quotidienne*. Paris: Minuit.
- Good, D.  
1990 "Repair and cooperation in conversation". In *Computers and conversation*, P. Luff, N. Gilbert and D. Frohlich (eds), 133–150. New York: Academic Press.
- Gregory, J.  
1790 "Theory of the moods of verbs". In the *Transactions of the Royal Society of Edinburgh*. the Royal Society of Edinburgh.
- Grice, H. P.  
1957 "Meaning". *The Philosophical Review* 66 (3): 377–388.  
1975 "Logic and conversation". In P. Cole and J. L. Morgan (eds), 41–58. (also In Grice, 1989.)  
1982 "Meaning revisited". In *Mutual Knowledge*, N. V. Smith (ed), 223–243. London : Academic Press.  
1989 *Studies in the Way of Words*. Cambridge, Mass.: Harvard University Press.
- Groefsema, M.  
1993 "'Can you pass the salt?': A short-circuited implicature?". *Lingua* 87 (1, 2): 137–167.
- Grosz B. J. and Sidner, C.L.  
1986 "Attention, intentions, and the structure of discourse". *Computational Linguistics* 12 (3): 175–204.  
1990 "Plans for discourse". In P. R. Cohen, J. Morgan, M. E. Pollack (eds), 417–444.
- Gumperz, J.  
1989 *Engager la Conversation*. Minuit: Paris.
- Harris, J.  
1968 *Hermes, or a Philosophical Inquiry concerning Language and Universal Grammar* [1765], [Anglistica & Americana. A series of Reprints Selected by B. Fabian, E. Mertner, K. Schneider, M. Spevak], Hildesheim-New York, Georg Olms Verlag.
- Haverkate, H.  
1990 "A speech act analysis of irony". *Journal of Pragmatics* 14: 77–109.
- Hedenius, I.  
1963 "Performatives". *Theoria* 29: 115–136.
- Heritage, J.  
1990 "Interactional accountability: A conversation analytic perspective". In *Les formes de la conversation* 1, B. Conein, M. de Fornel et L. Quere (eds): 23–50. Paris: CENT.
- Husserl, E.  
1959 *Recherches Logiques II* [1913]. PUF.
- Johnson-Laird, P.H.  
1983 *Mental Models*. Cambridge: Harvard Univ. Press.

- Jucker, A. H.  
 1986 *News Interviews, A Pragmalinguistic Analysis*. Amsterdam/Philadelphia: John Benjamins.  
 1992 "Conversation: Structure or process?" In Cohen P. R., Morgan J., Pollack, M. E. (eds), 77–90.
- Julien, J.  
 1979 *Recherches sur l'Histoire de la Catégorie du Mode Verbal d'Aristote à Port-Royal*. Ph.D. Thesis, University of Paris VIII. Directed by J.-C. Chevalier.
- Kant, E.  
 1950 *Critique of Pure Reason* [1781]. New York: Humanities Press.
- Kaplan, D.  
 1979 "On the logic of demonstratives". *Journal of Philosophical Logic* 8 (1): 81–98.
- Kasher, A.  
 1982 "Gricean inference revisited". *Philosophica* 29 (3): 25–44.
- Kubo, S.  
 1993 "Speech act affixes and illocutionary force understanding". In *Language, Information and Computation*, C. Lee and B.-M. Kang (eds), 176–188. Seoul: Thaeakaksa.  
 1994 "Illocutionary potentials in illocutionary force understanding". In *Speech Acts and Linguistic Research*, E. Fava (ed), 55–70. Italy: edizioni nemo.  
 1999 *A Study of Japanese Illocutionary Force Naming Verbs*. Matsuyama University Research Institute.  
 2000 "Illocutionary morphology and speech acts". In this Volume.
- Kudo, M.  
 1995 *Asupekuto Tensu Sisutemu to Tekusuto [Aspect Tense System and Text]* Tokyo: Hitsuji.
- Kuno, S.  
 1988 "Blended quasi-direct discourse in Japanese". *Papers from the Second International Workshop on Japanese Syntax*, William J. Poser (ed) , 75–102. Stanford: CSLI.
- Lakoff, G.  
 1984 "Performative subordinate clauses". *Proceedings of Berkeley Linguistic Society 10*: 472–480, Berkeley, CA.: Berkeley Linguistic Society.
- Lakoff, R. T.  
 1976 "La grammaire générale et raisonnée ou la grammaire de Port-Royal". In *History of Linguistic Thought and Contemporary Linguistics*. H. Parret (ed): 348–373. Berlin: De Gruyter.  
 1991 "Pragmatics and the law: Speech act theory confronts the First Amendment". *Papers from the 27th Meeting of Chicago Linguistic Society*: 306–323. Chicago: Chicago Linguistic Society.
- Langaker R. W.  
 1991 *Concept, Image and Symbol: The Cognitive Basis of Grammar*. Berlin: De Gruyter.

- Lappin, S.  
1982 "On the pragmatics of mood". *Linguistics and Philosophy* 4 (4): 559–578.
- Larrue, J. and A. Trognon  
1993 "Organization of turn-taking and mechanisms for turn-taking repairs in a chaired meeting". *Journal of Pragmatics* 19: 177–196.
- Leclerc, A.  
1988 "La théorie générale des modes verbaux dans les grammaires philosophiques de l'époque classique". *Philosophiques* 15 (2): 331–387.  
1990 *Le Traitement des Aspects Illocutoires de la Signification dans la Grammaire Philosophique de l'Époque Classique: La Théorie Générale des Modes Verbaux (1660–1803)*. Ph.D. Thesis, University of Quebec, Trois-Rivières.  
1993 "La grammaire générale classique en tant que programme de recherche scientifique". *Dialogue* 32: 77–94.
- Lemmon, J. E.  
1962 "Sentences verifiable by their use". *Analysis* 12: 86–89.
- Lepore, E. and R. Van Gulick (eds)  
1991 *John Searle and His Critics*. Oxford: Basil Blackwell.
- Levinson, S.C.  
1983 *Pragmatics*. Cambridge: Cambridge University Press.
- Lewis, D.  
1969 *Convention: A Philosophical Study*. Cambridge, Mass.: Harvard University Press.  
1972 "General semantics". In *Semantics of Natural Language*, D. Davidson and G. Harman (eds), 169–218. Dordrecht: D. Reidel
- Litman, D. J. and J.F. Allen  
1987 "A plan recognition model for subdialogues in conversations". *Cognitive Science* 11: 163–200.
- Livet, P.  
1994 "La communauté virtuelle: Action et communication". Combas: L'éclat.
- Lizotte, M. and B. Moulin  
1989 "A temporal planner for modelling autonomous agents". In *Decentralized Artificial Intelligence*, Y. Demazeau, J. P. Muller (eds): 121–136. Elsevier Science.
- Luscher, J.-M.  
1994 "Les marques de connexion: des guides pour l'interprétation". In *Langage et pertinence. Référence temporelle, anaphore, connecteurs et métaphore*, J. Moeschler, A. Reboul, J.-M. Luscher and J. Jayez (eds), 175–227. Nancy: Presses Universitaires de Nancy.
- McCawley, J. D.  
1979 "Remarks on the lexicography of performative verbs". In *Adverbs, Vowels, and Other Objects of Wonder*, 161–173. Chicago and London: University of Chicago Press.  
1988 *The Syntactic Phenomena of English. Vol. 2*, Chicago: The University of Chicago Press.

- Mann, W. C. and Thompson, S.A.  
 1987 "Rhetorical structure theory: description and construction of text structures". In *Natural Language Generation*, G. Kempen (ed), 85–95. Dordrecht: Martinus Nijhoff.
- Maynard, S. K.  
 1992 *Discourse Modality*. Amsterdam/Philadelphia: John Benjamins.
- Mc Laughlin, M. L.  
 1984 *Conversation: How Talk is Organized*. Sage Publications.
- Moeschler, J.  
 1982 *Dire et contredire. Pragmatique de la négation et acte de réfutation dans la conversation*. Berne: Peter Lang.  
 1985 *Argumentation et conversation. Eléments pour une analyse pragmatique du discours*. Paris: Hatier.  
 1986 "Answers to questions about questions and answers". *Journal of Pragmatics* 10: 227–253.  
 1989a *Modélisation du dialogue. Représentation de l'inférence argumentative*. Paris: Hermès.  
 1989b "La problématique des règles d'enchaînement et d'interprétation revisitée". In *Modèles du discours. Recherches actuelles en Suisse Romande*, Christian Rubattel (ed.), 61–84. Berne: Lang.  
 1989c "Pragmatic connectives, argumentative coherence, and relevance". *Argumentation* 3: 321–339.  
 1991 "The pragmatic aspects of linguistic negation: Speech act, argumentation and pragmatic inference". *Argumentation* 6: 51–76.  
 1992a "Foundations of dialogic analysis". In *Methodologie der Dialoganalyse*, Sorin Stati and Ewa Weigand (eds.), 66–74. Tübingen: Niemeyer.  
 1992b "Théorie pragmatique, acte de langage et conversation". *Cahiers de Linguistique Française* 13: 108–124.  
 1993 "Relevance and conversation". *Lingua* 90: 149–171.  
 1994 "How do we know that what we mean is understood? Hypothesis and warranty of uptake in conversation". In Hermann Parret (ed.), *Pretending to communicate*: 33–47. Berlin: de Gruyter.  
 1999 "Speech act theory and the analysis of conversation". In this volume. (forthcoming) *Théorie pragmatique et pragmatique conversationnelle*. Paris, Armand Colin.
- Moeschler, J.(ed)  
 1993 *Théorie des Actes de Langages et Analyse des Conversations* [Les Cahiers de Linguistique Française 13]. Université de Genève.
- Moeschler, J. and Reboul, A.  
 1994 *Dictionnaire encyclopédique de pragmatique*. Paris: Seuil.
- Montague, R.  
 1974 *Formal Philosophy*. Yale University Press.
- Moulin B., Rousseau D. and Lapalme, G.  
 1994 "A multi-agent approach for modelling conversations". *Proceedings of the International Conference on Artificial Intelligence and Natural Language*: 35–50.

- Nakayama, Y.  
1998 "Attitudes and classification of utterances". *Annals of the Japan Association for Philosophy of Science*, 9(3): 37–53.
- Nuchelmans, G.  
1983 *Judgement and Proposition. From Descartes to Kant*. Amsterdam: North-Holland.  
1988 "The distinction *actus exercitus/actus significatus* in medieval semantics". In *Meaning and Inference in Medieval Philosophy*. N. Kretzmann (ed). Kluwer.
- Ortony, A., Clore, G. and Collins, A.  
1988 *The Cognitive Structure of Emotions*. Cambridge Univ. Press.
- Pariente, J.-C.  
1985 *L'Analyse du Langage à Port-Royal*. Paris: Minuit.
- Parret, H. and Verschueren, J. (eds)  
1992 *On Searle on Conversation*. Amsterdam/Philadelphia: John Benjamins.
- Parry, W.T.  
1933 "Ein Axiomensystem fuer eine neue Art von Implikation (analytische Implikation)". *Ergebnisse eines Mathematisches Colloquiums* 4: 5–6.
- Pernel, D.  
1994 *Gestion des buts multiples de l'utilisateur dans un dialogue homme-machine de recherche d'informations*. Thèse de doctorat, Orsay: LIMSI.
- Perrault, C.R.  
1990 "An application of default logic to speech act theory". In P. R. Cohen, J. Morgan, M.E. Pollack (eds), 161–186.
- Pollack, M. E.  
1990 "Plans as complex mental attitudes". In P.R. Cohen, J. Morgan, M.E. Pollack (eds), 77–103.
- Prior, A.N.  
1971 *Objects of Thought*. Oxford: Clarendon Press.
- Putnam, H.  
1975 "The meaning of meaning". *Minnesota Studies in the Philosophy of Science* 6, K. Gunderson (ed): 131–193. Minnesota: Minnesota University Press.
- Quine, W. van O.  
1960 *Word and Object*. Cambridge, Mass: M.I.T. Press.  
1969 "Reply to Chomsky" In D. Davidson & J. Hintikka (eds), 302–311.
- Quirk, R. *et al.*  
1985 *A Comprehensive Grammar of the English Language*. London: Longman.
- Rambow, O. (ed)  
1993 *Intentionality and Structure in Discourse Relations* [Proceedings of a special workshop, ACL]. Columbus Ohio, June 1993.
- Récanați, F.  
1980 "Some remarks on explicit performatives, indirect speech acts, locutionary meaning and truth-value". In J. R. Searle, F. Kiefer and M. Bierwisch (eds), 205–220.  
1981 *Les Énoncés Performatifs*. Éditions de Minuit.



- 1991 "The pragmatics of what is said" In *Pragmatics A Reader*, S. Davis (ed), 97–120. Oxford University Press.
- 2001 "Déstabiliser le sens". Special Issue 217 of *Revue internationale de philosophie*.
- Reichman-Adar, R.  
1984 "Extended person-machine interface". *Artificial Intelligence* 22:157–218.
- Reid, T.  
1969 *Essays on the Intellectual Powers of Man* [1785]. Cambridge, Mass: MIT Press.
- Reiter, R.  
1980 "A logic for default reasoning". *Artificial Intelligence* 13: 81–132.
- Ross, J.R.  
1990 "On declarative sentences". In *Readings in Transformational Grammar*, R. A. Jacobs and P. S. Rosenbaum (eds), 222–272. Waltham, Mass.: Ginn and Co.
- Roulet, E.  
1992 "On the structure of conversation as negotiation". In Parret H. and J. Verschueren (eds), 91–99.
- Roulet, E. *et al.* (eds)  
1985 *L'Articulation du Discours en Français Contemporain*. Berne: Peter Lang.
- Rousseau D., Lapalme G., and Moulin, B.  
1993 "Modélisation des conversations basée sur une perspective de systèmes multiagents". *Les actes de la conférence Informatique et Langage Nature* 1: 129–150.
- Russell, B.  
1976 *An Inquiry into Meaning and Truth*. London: George Allen and Unwin.
- Sacks H., Schlegoff E.A., and Jefferson, G.  
1978 "A simplest systematics for the organization of turn taking for conversation". In *Studies in the Organization of Conversational Interaction*, Schenkein J. (ed): 7–55. New York: Academic Press.
- Sadock, J.  
1974 *Toward a Linguistic Theory of Speech Acts*. New York: Academic Press.
- Schegloff, E. A.  
1991 "Conversation analysis and socially shared cognition". In *Perspectives on socially shared cognition*, L. B. Resnick, J. M. Levine and S. D. Teasley (eds), 150–170. Washington: American Psychological Association.  
1992 "To Searle on conversation: a note in return". In H. Parret and J. Verschueren (eds), 113–128.
- Schiffer, S. R.  
1972 *Meaning*. Oxford: Clarendon Press.
- Schmale-Buton, E. and Schmale, G.  
1984 *Conversations téléphoniques*. Bielefeld: Université de Bielefeld.
- Searle, J.R.  
1969 *Speech Acts: an Essay in the Philosophy of Language*. Cambridge: Cambridge University Press.

- 1975a "Indirect speech acts". In P. Cole and J.L. Morgan (eds), 59–82. (Also in Searle, 1979: 30–57).
- 1975b "A taxonomy of illocutionary acts", In *Language, Mind and Knowledge* [Minnesota Studies in the Philosophy of Science 7]. Minneapolis: University of Minnesota Press.
- 1979 *Expression and Meaning: Studies in the Theory of Speech Act!* Cambridge: Cambridge University Press.
- 1983 *Intentionality*. Cambridge: Cambridge University Press.
- 1984 *Minds, Brains and Science*. Harvard.
- 1985 *L'Intentionnalité*. Paris: Minuit.
- 1989 "How performatives works". *Linguistics and Philosophy* 12: 535–558. reedited in this Volume.
- 1991 "L'intentionnalité collective". In *La Communauté en Paroles: Communication, Consensus, Ruptures*, H. Parret (ed), 227–245. Brussels: Pierre Mardaga.
- 1992 "Conversation". In H. Parret and J. Verschueren (eds), 7–30.
- 1998 *Mind, Language and Society*. New York: Basic Books.
- 2001 "Extending the taxonomy of discourse: Reply to Vanderveken". Special Issue 217 of *Revue internationale de philosophie*.
- Searle, J.R., Kiefer, F. and Bierwisch, M. (eds.)  
1980 *Speech Act Theory and Pragmatics*. Dordrecht: D. Reidel.
- Searle, J.R. and Vanderveken, D.  
1985 *Foundations of Illocutionary Logic*. Cambridge: Cambridge University Press.
- Sinclair, J. and Coulthard, M.  
1975 *Towards an Analysis of Discourse. The English used by teachers and pupils*. Oxford: Oxford Univ. Press.
- de Sousa Melo, C. J.  
2000 "Possible directions of fit between mind, language and the world". In this Volume.
- Sowa, J. F.  
1984 *Conceptual Structures: Information Processing in Mind and Machine*. Addison Wesley.
- Sperber, D. and Wilson, D.  
1982 "Mutual Knowledge and relevance in Theories of Comprehension". In *Mutual Knowledge*, N.V. Smith (ed.), 61–85. New York: Academic Press.  
1986 *Relevance. Communication and Cognition*. Oxford: Basil Blackwell.
- Stenström, A.-B.  
1984 *Questions and responses in English conversation*. Lund, CWK Gleerup.
- Strawson, P.F.  
1974 *Subject and Predicate in Logic and Grammar*. Methuen.
- Suzuki, H. and Tutiya, S.  
1981 "A strictly incremental approach to Japanese grammar". In *Situation Theory and its Applications 2*, J. Barwise, J. M. Gawron, G. Plotkin and S. Tutiya (eds.), 517–532. Stanford, CA: CSLI.

- Tarski, A.  
1944 "The semantic conception of truth and the foundations of semantics". *Philosophy and Phenomenological Research* 4: 34–376.
- Taylor, J. R.  
1989 *Linguistic Categorization*. Oxford: Clarendon Press.
- Traum, D.R. and Hinkelman, E.A.  
1992 "Conversation acts in task-oriented spoken language". *Computational Intelligence* 8 (3): 575–599.
- Trognon, A.  
1991a "Fonctions de la conversation". In *Le dialogue*, G. Maurand (ed) , 375–408. C.A.L.S.  
1991b "L'interaction en général: sujets, groupes, cognitions, représentations sociales". *Connexions* 57: 9–27.  
1991c "La fixation de l'interprétation des énoncés dans l'interaction conversationnelle". In *Les sciences cognitives en débat*, G. Vergnaud (ed), 207–218. Paris : Ed. du CNRS.  
1991d "La structuration interlocutoire des groupes". *Revue de psychothérapie psychanalytique de groupe* 17: 77–92.  
1993 "La négociation du sens dans l'interaction". In *L'Interaction*, J.F. Halté (ed), CRESEF: Metz. 1994 "Sur la construction interactive du quotidien". In *La construction interactive du quotidien*, Alain Trognon et al., 7–52. Nancy: Presses Universitaires de Nancy.
- Trognon, A. and Brassac, C.  
1988 "Actes de langage et conversation". *Intellectica* 6 (2): 211–232.  
1993 "L'enchaînement conversationnel" [*Cahiers de Linguistique Française* 13]. In J. Moeschler (ed) , 76–107.
- Trognon, A. and Grusenmeyer, C.  
1994 "To resolve a technological problem through conversation". In *Discourse, Tools and Reasoning: Situated Cognition and Technologically Supported Environments*, L. B. Resnick, R. Saljo & C. Pontecorvo (eds). New York : Springer Verlag.
- Trognon, A. and Larrue, J.  
1993 "Les débats politiques télévisés". In *Pragmatique du discours politique*, A. Trognon et J. Larrue (eds). Paris: Armand Colin.  
1993 *Pragmatique du discours politique*. Paris: Armand Colin.
- Trognon, A. and Ghiglione, R.  
1993 *Où va la pragmatique? De la pragmatique à la psychologie sociale*. Grenoble: Presses Universitaires de Grenoble.
- Trognon, A. and Saint-Dizier, V.  
1999 "L'organisation conversationnelle des malentendus: Le cas d'un dialogue tutoriel". *Journal of Pragmatics* 31: 787–815.
- Urmson, J.  
1977 "Performative utterances". *Midwest Studies in Philosophy* 2: 120–127.
- Vanderveken, D.  
1980 "Illocutionary logic and self-defeating speech acts". In J. Searle, F. Kiefer & M. Bierwisch (eds), 247–272.

- 1985 Non Literal Speech Acts: An Essay on the Foundation of Formal Pragmatics (Part I), mimeo.
- 1988 *Les Actes de Discours*. Brussels: Pierre Mardaga.
- 1990 *Meaning and Speech Acts. Volume I: Principles of Language Use*, Cambridge: Cambridge University Press.
- 1991a *Meaning and Speech Acts. Volume II: Formal Semantics of Success and Satisfaction*. Cambridge: Cambridge University Press.
- 1991b “Non-literal speech acts and conversational maxims”. In E. Lepore and R. Van Gulick (eds), 371–384.
- 1991c *What is a proposition?* Univ. of Quebec at Montreal.
- 1993 “La théorie des actes de discours et l’analyse de la conversation” [*Cahiers de Linguistique Française* 13]. In J. Moeschler (ed) , 9–61.
- 1994a *Principles of Speech Act Theory* [*Cahiers d’Épistémologie* 9402]. Montréal: Université du Québec à Montréal. (1995 reedited in Vanderveken, *Principles of Speech Act Theory*. Tokyo: Shohakusha.)
- 1994b “A complete formulation of a simple logic of elementary illocutionary acts”. In *Foundations of Speech Act Theory*, S L Tsohatsidis (ed), 99–131. London: Routledge and Kegan Paul.
- 1995 “A new formulation of the logic of propositions”. In *Québec Studies in the Philosophy of Science*, Volume 1, *Logic, Mathematics and Physics*, Boston Studies in the Philosophy of Science, M. Marion and R. Cohen (eds), 95–105. Kluwer.
- 1997a “Formal pragmatics of non literal meaning”. In the special issue on Pragmatics of *Linguistische Berichte* 8: 324–341.
- 1997b “Quantification and the logic of generalized propositions”. In *Truth in Perspective*, C. Martinez, U. Rivas and L. Villegas-Forero (eds), 137–158. Averbury Series in Philosophy, Ashgate.
- 1997c “La logique illocutoire et l’analyse du discours”. In *Le dialogique*, D. Luzzati *et al* (éds), 62–100. Paris: Éditions Peter Lang.
- 1999a “La structure logique des dialogues intelligents”. In B. Moulin *et al* (eds) *Analyse et simulation de conversations. L’Interdisciplinaire*.
- 1999b “Success, satisfaction and truth in formal semantics and the logic of speech acts”. In *A Reader in Semantics*, S. Davis and B. Gillan (eds). New York: Oxford University Press.
- 2001a “Formal Ontology and Predicative Theory of Truth”. In *Cahiers d’Épistémologie* 2001–02. Université du Québec à Montréal.
- 2001b “Illocutionary logic and discourse typology”. Special issue 217 of *Revue internationale de philosophie* devoted to Searle.
- (forthcoming a) “Modality in the logic of propositions”. In *Cahiers d’Épistémologie*. Université du Québec à Montréal.
- (forthcoming b) “What is the logical form of a proposition?”. In *Logic, Language & Thought*, D. Vanderveken (ed).
- (forthcoming c) *Discourse*.
- Vanderveken, D and Marcondes, D.  
 (forthcoming) “Analise dos verbos performativos do Portugues” [Chapter 6 of

- Os Atos de Discurso*, a Portuguese translation by Candida de Sousa Melo of *Les Actes de Discours*].
- Von Martial, F.  
1992 *Coordinating Plans of Autonomous Agents* [Lecture Notes in AI 610]. Springer Verlag.
- Warnock, G. J.  
1973 "Some types of performative utterance". In *Essays on J. L. Austin*, I. Berlin et al. (eds), 69–89. Oxford: Clarendon Press.
- Wierzbicka, A.  
1987 *English Speech Act Verbs*. New York: Academic Press.
- Wilkins, D. E.  
1988 *Practical Planning: Extending the Classical AI Planning Paradigm*. Morgan Kaufmann.
- Wilson, D.  
1992–3 "Non-truth-conditional semantics: 9. Mood indicators 1". unpublished lecture, University College London.
- Wilson, D. and Sperber, D.  
1979 "Remarques sur l'interprétation des énoncés selon Paul Grice". *Communications* 30: 80–93.  
1988 "Mood and the analysis of non-declarative sentences". In *Human Agency, Language, Duty and Value. Philosophical Essays in Honor of J.O. Urmson*. J. Dancy, J.M.E. Moravcsik, and C.C.W. Taylor (eds), 77–101. Stanford: Stanford University Press.  
1990 "Linguistic form and relevance". *UCL Working Papers in Linguistics* 2: 95–111. (Also in *Lingua* 90 (1993): 1–25.)  
1992 "On verbal irony". *Lingua* 87: 53–76.
- Winograd, T. and Flores, F.  
1986 *Understanding Computers and Cognition: A New Foundation for Design*. Norwood, N.J.: Ablex.
- Wittgenstein, L.  
1953/1958 *Philosophical Investigations*, G.E. Anscombe and R. Rhees (eds) (English translation of *Philosophische Untersuchungen* [1953] by G. E. M. Anscombe). Oxford: Basil Blackwell.  
1961 *Tractatus Logico-Philosophicus*, D.F. Pears and B.F. McGuinness (English translation of *Logisch-Philosophische Abhandlung* [1918]; first published in *Annalendet Naturphilosophie* 14:185–262 [1921]). London: Routledge and Kegan Paul.
- Yamanashi, M.  
1986 *Hatsuwa Kooi* [*Speech Act*]. Tokyo: Taishukan.  
1987 "Metonymic interpretation and associative processes in natural language". In *Language and Artificial Intelligence*, M. Nagao (ed), 77–86. Amsterdam: North-Holland.  
1991 "Hatsuwa no chikara no kanten kara mita inyoo no mekanizumu" [The mechanism of quotation from the standpoint of illocutionary forces], In *Gendai Eigogaku no Shosou* [Aspects of Present-day English Linguistics]. Tokyo: Kaitakusha, 501–502.

- Zaefferer, D. and Grewendorf, G.  
1991 "Theorien der Satzmodi". In the handbook *Semantik*, D. Wunderlich and A. von Stechow (eds). Berlin: De Gruyter.
- Zunzunegui, E.  
1992 *Aplicación de la Lingüística Textual a un Texto Jurídico: Un Modelo de la Producción del Acta Unica Europea*. Ph.D. Thesis, Universidad de Deusto.  
1993 "La teoría de la acción como fundamento de una explicación pragmática de los actos de habla". *Teoría* 16-17-18: 989-1003.
- Zwicky, A.  
1971 "In a manner of speaking." *Linguistic Inquiry* 2 (2): 223-233.



## Notes on Contributors

**Steven Davis** is Professor of Philosophy at Simon Fraser University. His research interests are pragmatics, philosophy of language and theory of action and belief; linguistic communities; methodological solipsism as a research strategy for cognitive science; nature of pragmatic phenomena and how they fit within cognitive science. Currently, he is president of the Canadian Philosophical Association and general editor of *Vancouver Studies in Cognitive Sciences*. Steven Davis has edited the book *Pragmatics A Reader* (Oxford University Press, 1991)

**Marc Dominicy** is Professor of General Linguistics and Romance Philology at the Université Libre de Bruxelles. His publications include *La naissance de la grammaire moderne: langage, logique et philosophie à Port-Royal* (Pierre Mardaga, 1984) and many articles published in professional journals. His main research interests are semantics, pragmatics and rhetoric of natural language. He is the editor of the *Belgian Journal of Linguistics* (Amsterdam) and of several collections of papers.

**Nathalie Franken** was educated at the Université Libre de Bruxelles. She is now a doctorate fellow of the Belgian Fonds National de la Recherche Scientifique at the Université Libre de Bruxelles. Her publications include several articles published in professional journals (e.g. *Journal of Pragmatics*, *Revue Romane*). Her main research interests are speech act theory, intentionality, relevance theory, politeness, and the analysis of natural language connectives.

**Candida Jaci de Sousa Melo** is now a doctorate fellow at the University of Quebec at Trois-Rivières. She is a member of the Research Group on Communication and Discourse of that university. Her research interests are philosophy of mind, universal grammar and speech act theory. She has written in *Philosophiques* and is now doing a Ph.D. thesis on the intentionality of meaning at the University of Quebec.



**Susumu Kubo** is Professor of Linguistics and Cognitive Science at Matsuyama University, Japan. His major research interests are dialogical analysis of illocutionary force markers in speech act theory and its social and cognitive extension. Currently, he is developing a theory of directions of regulation which describes relations between the speaker and the hearer in dialogues. His published works include “On Illocutionary Connective *Datte*” in K. Turner (ed.) *Semantics/Pragmatics Interface from Different Points of View* (Elsevier Science, 1999), *A Study of Japanese Illocutionary Force Naming Verbs* (Matsuyama University Research Institute, 1999). He is a member of editorial advisory board for a book series, *Current Research in the Semantics/Pragmatics Interface* (Elsevier Science).

**André Leclerc** is Professor of Philosophy at the Federal University of Paraíba in João Pessoa, Brasil. He got his Ph.D. from the University of Québec at Trois-Rivières with a doctoral thesis on illocutionary aspects of meaning in the tradition of Universal Grammar. He is working and publishing regularly in the philosophy of language and of mind, and is teaching epistemology and philosophy of science. He has written an article on the research program of classical universal grammar in *Dialogue*.

**Jacques Moeschler** is Professor of Linguistics at University of Geneva. His major research interests are speech acts, argumentation, pragmatic inference, relevance, and pragmatic analysis of conversation and discourse. He has published many papers in journals such as *Argumentation*, *Journal of Pragmatics* and *Lingua*. He is the co-author with Anne Reboul of the *Dictionnaire encyclopédique de pragmatique* (Seuil, 1994) *La pragmatique d'aujourd'hui* (Seuil, 1998) and the editor of *Le temps des événements* (Kimé, 1998.)

**Bernard Moulin** is Professor of Computer Science at Laval University. He is a specialist in knowledge representation and in system analysis and design methods. His work is supported by several research councils and organisms in Quebec and Canada (NSERC, FCAR, NCE, CRDV). He has published numerous papers on discourse modeling, representation of temporal information found in discourse, software agent interactions, spatial information modeling, etc. His web address is [www.ift.ulaval.ca\Moulin](http://www.ift.ulaval.ca/Moulin).

**Daniel Rousseau** got his Ph.D. in computer science at Montreal University in 1994 under the supervision of Guy Lapalme and Bernard Moulin. The next two years he was a post-doctoral fellow in the Knowledge System Laboratory at Stanford University under the supervision of Barbara Hayes Roth. In 1997 he came back to Montreal to work for Machina Sapiens, a firm specialized in the development of artificial software for text processing.

**John R. Searle** is Mills Professor of Philosophy at the University of California at Berkeley. He is well-known for his theory of speech acts, his critique of strong AI, his work on intentionality and consciousness in the philosophy of mind and his theory of social reality and institutions. Among his publications are *Speech Acts* (Cambridge University Press, 1969), *Expression and Meaning: Studies in the Theory of Speech Acts* (Cambridge University Press, 1979), *Intentionality: An Essay in the Philosophy of Mind* (Cambridge University Press, 1983), with Daniel Vanderveken *Foundations of Illocutionary Logic* (Cambridge University Press, 1985), *The Rediscovery of the Mind* (MIT Press, 1992), *The Construction of Social Reality* (Free Press, 1995) and *The Mystery of Consciousness* (New York Review Press, 1997).

**Alain Trognon** is Professor of Social Psychology at the University of Nancy<sup>2</sup> where he is director of the Laboratoire de Psychologie de l'Interaction (GRC). His major research interests are the theory of discourse and the formalization of formal, social and cognitive properties of the mechanisms of conversation. He has published several papers and books on the subject including *Où va la pragmatique?* with R. Ghiglione (Presses de l'université de Grenoble, 1993).

**Daniel Vanderveken** is Professor at the University of Quebec at Trois-Rivières where he is the director of the Research Group on Communication and Discourse. His research interests are illocutionary and intensional logics, the logic of action, formal semantics and pragmatics of discourse and semiotics. He is the co-author with John Searle of *Foundations of Illocutionary Logic* (Cambridge University Press 1985). His other main publications are *Les actes de discours* (Pierre Mardaga, 1988), *Meaning and Speech Acts* Volume 1 *Principles of Language Use* and Volume 2 *Formal Semantics of Success and Satisfaction* (Cambridge University Press 1990–91).

**Tomoyuki Yamada** is Professor of Philosophy at Hokkaido University, Japan. He has published a number of papers in Japanese. The topics discussed concern speech acts, context dependency, intentionality, the mind-body problem, folk psychology, anomalous monism, and functionalist views of the mental.

**Masa-aki Yamanashi** is Professor of Linguistics at Kyoto University. He received his M.A. and Ph.D. from the University of Michigan. His major research interest has been in the cognitive and pragmatic studies of natural language, both descriptive and theoretical. His publications include *Hatsuwa Kooi* [Speech Acts](Taishukan, 1986), *Hiyu to Rikai* [Metaphor and Understanding] (Tokyo University Press, 1988), *Suiron to Shoou* [Inference and Anaphora] (Kuroshio, 1992), *Ninchi-Bunpou Ron* [Theory of Cognitive Grammar] (Hitsuji, 1995), *Ninchi Gengogaku Genri* [Principles of Cognitive Linguistics] (Kuroshio, 2000).

In the PRAGMATICS AND BEYOND NEW SERIES the following titles have been published thus far or are scheduled for publication:

1. WALTER, Bettyruth: *The Jury Summation as Speech Genre: An Ethnographic Study of What it Means to Those who Use it*. Amsterdam/Philadelphia, 1988.
2. BARTON, Ellen: *Nonsentential Constituents: A Theory of Grammatical Structure and Pragmatic Interpretation*. Amsterdam/Philadelphia, 1990.
3. OLEKSY, Wieslaw (ed.): *Contrastive Pragmatics*. Amsterdam/Philadelphia, 1989.
4. RAFFLER-ENGEL, Walburga von (ed.): *Doctor-Patient Interaction*. Amsterdam/Philadelphia, 1989.
5. THELIN, Nils B. (ed.): *Verbal Aspect in Discourse*. Amsterdam/Philadelphia, 1990.
6. VERSCHUEREN, Jef (ed.): *Selected Papers from the 1987 International Pragmatics Conference. Vol. I: Pragmatics at Issue. Vol. II: Levels of Linguistic Adaptation. Vol. III: The Pragmatics of Intercultural and International Communication* (ed. with Jan Blommaert). Amsterdam/Philadelphia, 1991.
7. LINDENFELD, Jacqueline: *Speech and Sociability at French Urban Market Places*. Amsterdam/Philadelphia, 1990.
8. YOUNG, Lynne: *Language as Behaviour, Language as Code: A Study of Academic English*. Amsterdam/Philadelphia, 1990.
9. LUKE, Kang-Kwong: *Utterance Particles in Cantonese Conversation*. Amsterdam/Philadelphia, 1990.
10. MURRAY, Denise E.: *Conversation for Action. The computer terminal as medium of communication*. Amsterdam/Philadelphia, 1991.
11. LUONG, Hy V.: *Discursive Practices and Linguistic Meanings. The Vietnamese system of person reference*. Amsterdam/Philadelphia, 1990.
12. ABRAHAM, Werner (ed.): *Discourse Particles. Descriptive and theoretical investigations on the logical, syntactic and pragmatic properties of discourse particles in German*. Amsterdam/Philadelphia, 1991.
13. NUYTS, Jan, A. Machtelt BOLKESTEIN and Co VET (eds): *Layers and Levels of Representation in Language Theory: a functional view*. Amsterdam/Philadelphia, 1990.
14. SCHWARTZ, Ursula: *Young Children's Dyadic Pretend Play*. Amsterdam/Philadelphia, 1991.
15. KOMTER, Martha: *Conflict and Cooperation in Job Interviews*. Amsterdam/Philadelphia, 1991.
16. MANN, William C. and Sandra A. THOMPSON (eds): *Discourse Description: Diverse Linguistic Analyses of a Fund-Raising Text*. Amsterdam/Philadelphia, 1992.
17. PIÉRAUT-LE BONNIEC, Gilberte and Marlene DOLITSKY (eds): *Language Bases ... Discourse Bases*. Amsterdam/Philadelphia, 1991.
18. JOHNSTONE, Barbara: *Repetition in Arabic Discourse. Paradigms, syntagms and the ecology of language*. Amsterdam/Philadelphia, 1991.
19. BAKER, Carolyn D. and Allan LUKE (eds): *Towards a Critical Sociology of Reading Pedagogy. Papers of the XII World Congress on Reading*. Amsterdam/Philadelphia, 1991.
20. NUYTS, Jan: *Aspects of a Cognitive-Pragmatic Theory of Language. On cognition, functionalism, and grammar*. Amsterdam/Philadelphia, 1992.
21. SEARLE, John R. et al.: *(On) Searle on Conversation*. Compiled and introduced by Herman Parret and Jef Verschueren. Amsterdam/Philadelphia, 1992.

22. AUER, Peter and Aldo Di LUZIO (eds): *The Contextualization of Language*. Amsterdam/Philadelphia, 1992.
23. FORTESCUE, Michael, Peter HARDER and Lars KRISTOFFERSEN (eds): *Layered Structure and Reference in a Functional Perspective. Papers from the Functional Grammar Conference, Copenhagen, 1990*. Amsterdam/Philadelphia, 1992.
24. MAYNARD, Senko K.: *Discourse Modality: Subjectivity, Emotion and Voice in the Japanese Language*. Amsterdam/Philadelphia, 1993.
25. COUPER-KUHLEN, Elizabeth: *English Speech Rhythm. Form and function in everyday verbal interaction*. Amsterdam/Philadelphia, 1993.
26. STYGALL, Gail: *Trial Language. A study in differential discourse processing*. Amsterdam/Philadelphia, 1994.
27. SUTER, Hans Jürg: *The Wedding Report: A Prototypical Approach to the Study of Traditional Text Types*. Amsterdam/Philadelphia, 1993.
28. VAN DE WALLE, Lieve: *Pragmatics and Classical Sanskrit*. Amsterdam/Philadelphia, 1993.
29. BARSKY, Robert F.: *Constructing a Productive Other: Discourse theory and the convention refugee hearing*. Amsterdam/Philadelphia, 1994.
30. WORTHAM, Stanton E.F.: *Acting Out Participant Examples in the Classroom*. Amsterdam/Philadelphia, 1994.
31. WILDGEN, Wolfgang: *Process, Image and Meaning. A realistic model of the meanings of sentences and narrative texts*. Amsterdam/Philadelphia, 1994.
32. SHIBATANI, Masayoshi and Sandra A. THOMPSON (eds): *Essays in Semantics and Pragmatics*. Amsterdam/Philadelphia, 1995.
33. GOOSSENS, Louis, Paul PAUWELS, Brygida RUDZKA-OSTYN, Anne-Marie SIMON-VANDENBERGEN and Johan VANPARYS: *By Word of Mouth. Metaphor, metonymy and linguistic action in a cognitive perspective*. Amsterdam/Philadelphia, 1995.
34. BARBE, Katharina: *Irony in Context*. Amsterdam/Philadelphia, 1995.
35. JUCKER, Andreas H. (ed.): *Historical Pragmatics. Pragmatic developments in the history of English*. Amsterdam/Philadelphia, 1995.
36. CHILTON, Paul, Mikhail V. ILYIN and Jacob MEY: *Political Discourse in Transition in Eastern and Western Europe (1989-1991)*. Amsterdam/Philadelphia, 1998.
37. CARSTON, Robyn and Seiji UCHIDA (eds): *Relevance Theory. Applications and implications*. Amsterdam/Philadelphia, 1998.
38. FRETHEIM, Thorstein and Jeanette K. GUNDEL (eds): *Reference and Referent Accessibility*. Amsterdam/Philadelphia, 1996.
39. HERRING, Susan (ed.): *Computer-Mediated Communication. Linguistic, social, and cross-cultural perspectives*. Amsterdam/Philadelphia, 1996.
40. DIAMOND, Julie: *Status and Power in Verbal Interaction. A study of discourse in a close-knit social network*. Amsterdam/Philadelphia, 1996.
41. VENTOLA, Eija and Anna MAURANEN, (eds): *Academic Writing. Intercultural and textual issues*. Amsterdam/Philadelphia, 1996.
42. WODAK, Ruth and Helga KOTTHOFF (eds): *Communicating Gender in Context*. Amsterdam/Philadelphia, 1997.
43. JANSSEN, Theo A.J.M. and Wim van der WURFF (eds): *Reported Speech. Forms and functions of the verb*. Amsterdam/Philadelphia, 1996.

44. BARGIELA-CHIAPPINI, Francesca and Sandra J. HARRIS: *Managing Language. The discourse of corporate meetings*. Amsterdam/Philadelphia, 1997.
45. PALTRIDGE, Brian: *Genre, Frames and Writing in Research Settings*. Amsterdam/Philadelphia, 1997.
46. GEORGAKOPOULOU, Alexandra: *Narrative Performances. A study of Modern Greek storytelling*. Amsterdam/Philadelphia, 1997.
47. CHESTERMAN, Andrew: *Contrastive Functional Analysis*. Amsterdam/Philadelphia, 1998.
48. KAMIO, Akio: *Territory of Information*. Amsterdam/Philadelphia, 1997.
49. KURZON, Dennis: *Discourse of Silence*. Amsterdam/Philadelphia, 1998.
50. GRENOBLE, Lenore: *Deixis and Information Packaging in Russian Discourse*. Amsterdam/Philadelphia, 1998.
51. BOULIMA, Jamila: *Negotiated Interaction in Target Language Classroom Discourse*. Amsterdam/Philadelphia, 1999.
52. GILLIS, Steven and Annick DE HOUWER (eds): *The Acquisition of Dutch*. Amsterdam/Philadelphia, 1998.
53. MOSEGAARD HANSEN, Maj-Britt: *The Function of Discourse Particles. A study with special reference to spoken standard French*. Amsterdam/Philadelphia, 1998.
54. HYLAND, Ken: *Hedging in Scientific Research Articles*. Amsterdam/Philadelphia, 1998.
55. ALLWOOD, Jens and Peter Gärdenfors (eds): *Cognitive Semantics. Meaning and cognition*. Amsterdam/Philadelphia, 1999.
56. TANAKA, Hiroko: *Language, Culture and Social Interaction. Turn-taking in Japanese and Anglo-American English*. Amsterdam/Philadelphia, 1999.
57. JUCKER, Andreas H. and Yael ZIV (eds): *Discourse Markers. Descriptions and theory*. Amsterdam/Philadelphia, 1998.
58. ROUCHOTA, Villy and Andreas H. JUCKER (eds): *Current Issues in Relevance Theory*. Amsterdam/Philadelphia, 1998.
59. KAMIO, Akio and Ken-ichi TAKAMI (eds): *Function and Structure. In honor of Susumu Kuno*. 1999.
60. JACOBS, Geert: *Preformulating the News. An analysis of the metapragmatics of press releases*. 1999.
61. MILLS, Margaret H. (ed.): *Slavic Gender Linguistics*. 1999.
62. TZANNE, Angeliki: *Talking at Cross-Purposes. The dynamics of miscommunication*. 2000.
63. BUBLITZ, Wolfram, Uta LENK and Eija VENTOLA (eds.): *Coherence in Spoken and Written Discourse. How to create it and how to describe it. Selected papers from the International Workshop on Coherence, Augsburg, 24-27 April 1997*. 1999.
64. SVENNEVIG, Jan: *Getting Acquainted in Conversation. A study of initial interactions*. 1999.
65. COOREN, François: *The Organizing Dimension of Communication*. 2000.
66. JUCKER, Andreas H., Gerd FRITZ and Franz LEBSANFT (eds.): *Historical Dialogue Analysis*. 1999.
67. TAAVITSAINEN, Irma, Gunnel MELCHERS and Päivi PAHTA (eds.): *Dimensions of Writing in Nonstandard English*. 1999.
68. ARNOVICK, Leslie: *Diachronic Pragmatics. Seven case studies in English illocutionary development*. 1999.

69. NOH, Eun-Ju: *The Semantics and Pragmatics of Metarepresentation in English. A relevance-theoretic account.* 2000.
70. SORJONEN, Marja-Leena: *Responding in Conversation. A study of response particles in Finnish.* 2001.
71. GÓMEZ-GONZÁLEZ, María Ángeles: *The Theme-Topic Interface. Evidence from English.* 2001.
72. MARMARIDOU, Sophia S.A.: *Pragmatic Meaning and Cognition.* 2000.
73. HESTER, Stephen and David FRANCIS (eds.): *Local Educational Order. Ethno-methodological studies of knowledge in action.* 2000.
74. TROSBORG, Anna (ed.): *Analysing Professional Genres.* 2000.
75. PILKINGTON, Adrian: *Poetic Effects. A relevance theory perspective.* 2000.
76. MATSUI, Tomoko: *Bridging and Relevance.* 2000.
77. VANDERVEKEN, Daniel and Susumu KUBO (eds.): *Essays in Speech Act Theory.* 2001.
78. SELL, Roger D. : *Literature as Communication. The foundations of mediating criticism.* 2000.
79. ANDERSEN, Gisle and Thorstein FRETHEIM (eds.): *Pragmatic Markers and Propositional Attitude.* 2000.
80. UNGERER, Friedrich (ed.): *English Media Texts – Past and Present. Language and textual structure.* 2000.
81. DILUZIO, Aldo, Susanne GÜNTNER and Franca ORLETTI (eds.): *Culture in Communication. Analyses of intercultural situations.* 2001.
82. KHALIL, Esam N.: *Grounding in English and Arabic News Discourse.* 2000.
83. MÁRQUEZ REITER, Rosina: *Linguistic Politeness in Britain and Uruguay. A contrastive study of requests and apologies.* 2000.
84. ANDERSEN, Gisle: *Pragmatic Markers and Sociolinguistic Variation. A relevance-theoretic approach to the language of adolescents.* 2001.
85. COLLINS, Daniel E.: *Reanimated Voices. Speech reporting in a historical-pragmatic perspective.* 2001.
86. IFANTIDOU, Elly: *Evidentials and Relevance.* 2001.
87. MUSHIN, Ilana: *Evidentiality and Epistemological Stance. Narrative retelling.* 2001.
88. BAYRAKTAROĞLU, Arın and Maria SIFIANOU (eds.): *Linguistic Politeness Across Boundaries. The case of Greek and Turkish.* 2001.
89. ITAKURA, Hiroko: *Conversational Dominance and Gender. A study of Japanese speakers in first and second language contexts.* 2001.
90. KENESEI, István and Robert M. HARNISH (eds.): *Perspectives on Semantics, Pragmatics, and Discourse. A Festschrift for Ferenc Kiefer.* 2001.
91. GROSS, Joan: *Speaking in Other Voices. An ethnography of Walloon puppet theaters.* 2001.
92. GARDNER, Rod: *When Listeners Talk. Response tokens and listener stance.* 2001.
93. BARON, Bettina and Helga KOTTHOFF (eds.): *Gender in Interaction. Perspectives on femininity and masculinity in ethnography and discourse.* n.y.p.
94. McILVENNY, Paul (ed.): *Talking Gender and Sexuality.* n.y.p.
95. FITZMAURICE, Susan M.: *The Familiar Letter in Early Modern English. A pragmatic approach.* n.y.p.
96. HAVERKATE, Henk: *The Syntax, Semantics and Pragmatics of Spanish Mood.* n.y.p.

97. MAYNARD, Senko K.: *Linguistic Emotivity. Centrality of place, the topic-comment dynamic, and an ideology of Pathos in Japanese discourse.* n.y.p.
98. DUSZAK, Anna (ed.): *Us and Others. Social identities across languages, discourses and cultures.* n.y.p.
99. JASZCZOLT, K.M. and Ken TURNER (eds.): *Meaning Through Language Contrast. Volume 1.* n.y.p.
100. JASZCZOLT, K.M. and Ken TURNER (eds.): *Meaning Through Language Contrast. Volume 2.* n.y.p.