ILLOCUTIONARY LOGIC AND DISCOURSE TYPOLOGY

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Until now philosophy of language and linguistics have tended to analyze linguistic competence as the speakers' ability to use and understand single sentences without much taking into consideration their ability to contribute to conversations. Similarly, speech act theory tends to study isolated illocutionary acts performed by using sentences in single contexts of utterance. However, it is clear that speech acts are seldom performed alone in the use of language. On the contrary**,** speakers perform their illocutionary acts within entire discourses 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 collective intention of conducting a certain type of conversation. Above all, the use of language is a *social form of linguistic behaviour* . It consists, in general, of ordered sequences of utterances made by several speakers who tend by their verbal interactions to achieve common goals such as discussing news, coordinating their joint action, negotiating or more simply exchanging greetings. Could we enrich current speech act theory so as to develop a more general but equally powerful theory of discourse? Could we make a reasoned typology of conversations and analyze adequately their conditions of success and satisfaction? Recently, Searle[1] expressed skepticism about the possibility of constructing such a theory of discourse. He has pointed out the main difficulties and left us with the challenge of carrying out such a project. The purpose of this article is to meet his challenge. I will enrich illocutionary logic[2] so as to contribute to the foundations of the logic of discourse. For that purpose, I will analyze the logical structure of conversations such as descriptions, interviews, deliberations, consultations, regulations, evaluations, protestations and eulogies, whose type is provided with a proper discursive goal. I think that all intelligent discourses are composed of such types of conversation.

I. SEARLE'S CRITICISM

Searle admits that certain rules must be followed in order successfully to pursue various types of conversation. A basic principle of the conduct of discourse is that every speech act, performed at a certain time in a dialogue, limits in general the set of possible illocutionary acts which are appropriate replies in that dialogue to this act, However, Searle points out that even when there are systematic relations between a speech act and its possible replies, as is the case between questions and their answers, the discursive constraints are much less strong than one would expect. Thus the form of possible appropriate answers to questions may not correspond to the structure of their propositional content. Moreover, a speaker may often change the subject of a conversation or even perform an inappropriate speech act which has nothing to do with what has been said before without *eo ipso* violating a constitutive rule of the conversation which can continue successfully. Thus, the

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[1] See J.R. Searle et al.(eds.), *(On) Searle on Conversation*, John Benjamins, 1992

[2] J.R. Searle & D. Vanderveken, *Foundations of Illocutionary Logic*, Cambridge University Press, 1985 and D. Vanderveken, *Meaning and Speech Acts*, Volumes 1 and 2, Cambridge University Press, 1990-91

obvious irrelevance, failure, defectiveness or unsatisfaction of particular illocutionary acts at certain moments of time in a conversation do not necessarily interrupt that conversation or prevent it from being successful.

Second, unlike illocutionary acts which are always provided with a point internal to their force, conversations according to Searle do not have a point or purpose which is internal to them qua conversations. For this reason, the analysis that Grice, Sperber and Wilson and others have made of the maxim of relevance could hardly lead to a theory of conversation. The relevance of an illocutionary act at a moment of utterance is essentially dependent on the specific purposes of the participants in the conversation at that moment. Now such purposes can change arbitrarily in the course of a conversation. In making an utterance at a certain moment a speaker may have a new purpose which is quite different from the previously existing purpose of the conversation. Consequently, Grice's requirement of relevance imposes relatively few constraints on the proper structure of a large number of conversations.

Thirdly, as Wittgenstein[3] already pointed out, to converse is to engage in activities interwoven with various social *forms of life*. One cannot dissociate the meanings and purposes of speakers in a discourse from the *background* of their conversation which [4] contains an open *network of mental states of speakers* such as desires, intentions as well as beliefs directed at facts of the world as well as a series of speakers' *abilities and practices* relating to their common forms of life or coming from their biological constitution of human beings. According to both Wittgenstein and Searle, it is impossible to make an exhaustive theoretical description of the structure of a conversational background. Such attempts of description could never stop and would lead us to a regression *ad infinitum*.

Finally, conversations are by nature joint actions of several agents who in turn make their successive utterances with the intention of achieving common goals. As Searle [5] points out, the intentionality common to the protagonists of a conversation is a *collective intentionality* that is not reducible to the sum of their individual intentions in the first person and to their mutual knowledge of the conversational background. Of course, all the speakers and hearers of a conversation are endowed with a series of personal individual mental states which they sometimes express verbally in speaking. However, when two speakers participate to a conversation, they both perform a joint linguistic activity and not two distinct individual activities. Some of their individual intentions may differ. Thus, in a theoretical discussion, one speaker can argue for and the other speaker against a certain thesis in question. However, such different individual intentions are part of the same, higher order, shared collective intention of describing together how objects are in the world.

As Searle recognizes, the preceding considerations about discourse are not really a demonstration of the impossibility of enriching speech act theory to develop an adequate theory of conversation. They only show intrinsic difficulties of a theoretical investigation of the subject. Background and collective intentionality are also indispensable in the current semantics and pragmatics of speech

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[3] See his *Philosophical Investigations*, Blackwell, Oxford, 1968

[4] See J.R. Searle, "The Background of Meaning" in Searle et al., *Speech Act Theory and Pragmatics,* Reidel, 1980 and "Literal Meaning" in *Expression and Meaning*, Cambridge University Press, 1979

[5] See Searle "Collective Intentions and Actions" in P. Cohen et al (eds.), *Intentions in Communication*, M.I.T. Press, Bradford Books, 1990

acts. However Searle does not question these established theories. Thus one can still hope to succeed in meeting Searle's challenge with regard to the possibility of elaborating a theory of conversation .

The background

According to Searle, the propositional content of most illocutionary acts only determines truth conditions on the basis of a series of assumptions and practices which belong to the background. Consider, for example, the request expressed by saying "Please, cut the grass!" Its conditions of satisfaction are dependent on the forms of life underlying the conversation of the speaker and hearer. If the speaker's purpose is esthetical (he wants the lawn at home to be mowed just like his neighbors to make it more beautiful), the hearer would do better to cut the grass using a lawn mower. But if the shared form of life underlying the conversation is different (the speaker's purpose is to sell the lawn to neighbours who have lost their own because of drought), the hearer should transplant the lawn in order to grant the speaker's request. The very analysis of the fundamental notions of truth and satisfaction of speech act theory require then a reference to the background.[6] In order to analyze in pragmatics the meaning of non literal utterances, background is moreover indispensable at a later stage. Each interpreter must recognize facts of the background which prevent the speaker from speaking literally if he respects the conversational maxims. Of course, a proper theory of conversation requires a richer description of background than the theory of isolated illocutionary acts. For example, the theory of conversation must account for the changes that new speech acts can provoke in the assumptions that are made about the conversational background by participants. However, to require a richer description of background in the theory of conversation is not to introduce a new theoretical limit that cannot be overrun.

Collective intentionality

Collective intentionality is also part of the performance and understanding of many illocutionary acts. First, several speakers can perform simultaneously elementary illocutionary acts in collective utterances. They can use performative sentences with the first person plural pronoun such as "Together we all pledge allegiance to the flag". Second, many speech acts (for example, orders, promises, supplications and thanks) have an illocutionary force which is necessarily hearer directed. A speaker could not perform them without *communicating* to the hearer (when that hearer is different from himself). In such cases, there is no success and satisfaction without *understanding* by the hearer. Furthermore, a speaker alone cannot perform illocutionary acts such as bets, conventions and contracts. They require a *mutual joint performance* by both a speaker and a hearer.[7] Thus in order for a bet to be successfully performed, it is not sufficient that the speaker make a wager with a hearer by an utterance. It is also necessary that the hearer accept that wager. Speech acts such as betting and contracting require a *creative interlocutionary relationship* between the speaker and the hearer, who then also becomes a speaker for the purpose of making his own contribution to the joint speech act.

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[6] See « The Background of Meaning », *op. cit.*
[7] See *Foundations of Illocutionary Logic, op. cit.*

Like Francis Jacques[8] I believe that the *relationship of interlocution* between speakers and hearers is as important as the traditional *relation of correspondence* between words and things in the philosophy of language in general and in discourse theory in particular. Collective intentionality is clearly constitutive of this relation of interlocution. Many illocutionary acts belonging to the domain of current speech act theory require collective intentionality. So I do not think that we are facing here a new limitation proper to the theory of conversation. We need a better philosophy of mind and of action with a more collective and less individual approach in order to analyze higher order collective intentionality. But this does not constitute a new theoretical obstacle peculiar to the logic of discourse.

II. THE OBJECTIVES OF THE LOGIC OF DISCOURSE.

By nature, an instance of a well formed discourse is a finite sequence of successive utterances made by agents who are in turn speakers and hearers. As Frege pointed out, sentences are the syntactic units of conversation. Speakers cannot make acts of reference to an object without subsuming it under a concept and making a predication. Moreover they cannot express a propositional content without relating it to the world with a certain illocutionary force. So the analysis of basic illocutionary acts such as assertions, promises, requests, appellations and thanks that speakers attempt to perform by their use of sentences is part of the logic of discourse. However, speakers seldom talk just for the purpose of in turn performing such illocutionary acts. As Wittgenstein pointed out, speakers in conversation are engaged in common *forms of life* where they collectively attempt to achieve goals. Their speech acts are most often related to non verbal actions in a social activity such as training, going out shopping, cleaning the house, preparing a dinner, making or repairing a machine. In exchanging words, speakers often play *language games* which are not purely discursive. Their main common purpose is then *extra-linguistic*. Agents communicate in order to coordinate intelligently their non verbal actions. I agree with Wittgenstein and Searle that it is impossible to construct a theory of all kinds of language games. There are countless kinds of social forms of life and objectives that we could share. So there are "countless kinds" of language games that we could play in exchanging words and sentences. "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 logic of discourse is more restricted: it is rather to analyze only the structure of conversations whose type is provided with an internal discursive purpose. As I have pointed out[9]**, 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 descriptions, reports, accounts, stories, tales,

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[8] See F. Jacques, *L'espace logique de l'interlocution*, PUF, 1985

[9] See D. Vanderveken, *Principles of Speech Act Theory*, Shohakusha, Tokyo, 1995 and « La logique illocutoire et l'analyse du discours » in D. Luzzati *et al* (eds), *Le dialogique*, Peter Lang, 1997

memoirs, confessions, balances, public statements, comments, diagnoses, forecasts, prophesies, debates on a question, arguments, explications, demonstrations, theories, interviews and lessons, interrogations, corrections, examinations and evaluations at school.

- 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 deliberations, negotiations, bargaining sessions, peace talks, discussions aiming at a friendly settlement, a compromise or the signing of a contract, auctions, research programmes, collective planning, consultations, discourses of advertizing and of electoral propaganda, 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 declarations of war or of independence, ultimatums, amnesties, inaugural addresses, testaments, juridical codes, constitutions, regulations, creations of new symbolic languages and institutions, discourses held in ceremonies of baptism, pardon and wedding , nominations, appointments, licences 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, welcomes, congratulations, eulogies, praises, discourses which pay homage, express contrition, verbal protestations, public lamentations, cheers, boos and religious ceremonies where the participants express their faith and obedience to God.

In my opinion, we are all able to pursue conversations with the four discursive purposes. For we are all able to distinguish in thinking the four possible directions of fit from which we can achieve a correspondence between language and the world. Such directions are innate. Why are there exactly four discursive purposes while there are five illocutionary points? According to illocutionary logic, two different illocutionary points have the same things-to-words direction of fit: the *commissive* point which consists in committing the speaker to a future action and the *directive point* which consists in making an attempt to get the hearer to act. Speaker and hearer play very asymmetric roles in the contexts of single utterances: one is active and the other passive. So language distinguishes naturally a speaker-based and a hearer-based illocutionary point with the things-to-words direction of fit. In the case of commissive illocutionary acts, the responsibility for changing the world lies on the speaker, in the case of directives, it lies on the hearer. Of course, Searle's classification of illocutionary points would be more elegant if the commissive and directive illocutionary points could be unified. But this is not possible.[10] Real commitments are personal. So no speaker can commit someone else to an action by his own utterance. An attempt to get a hearer to act does not commit that hearer. Moreover a speaker who commits himself to an action does not necessarily try to influence himself.

However, the speaker and hearer are in a very different speech situation when they are protagonists of a conversation. For any hearer within a discourse is a potential speaker: he can in principle speak in his turn and contribute to the conversation. **So the protagonists of a conversation play the two complementary roles of speaker and hearer**. Thus any hearer who is

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[10] See « A Classification of Illocutionary Acts » in Searle J., *Expression & Meaning*, , op. cit.

given a directive at a moment can reply and commit himself personally later. Often, the commitment of a speaker is conditional upon a future commitment of the hearer who can accept, refuse or make a counter-offer. For that reason, there is a one-to-one correspondence between the discursive purposes and the possible directions of fit in the use of language. Discursive purposes and illocutionary points are logically related by their direction of fit. In order to achieve a discursive goal on a theme in a conversation, speakers must achieve illocutionary points with the same direction of fit on propositions about the objects under consideration.

1) The descriptive goal

Descriptive discourses serve to describe how certain objects are in the world. In the case of a lecture without questions or in the solitary writing of a treaty or of memoirs, a speaker alone is making a description. But most often descriptive discourses are verbal interactions among several speakers holding a discussion. Each of them makes his own assertions regarding the objects considered. The role of assertive illocutionary acts is central in the descriptive use of language. They have the same words-to-things direction of fit**. In order to be satisfied, a description must be exact: its assertions on the domain under consideration must be true**. Of course, speakers can disagree. In the case of disagreement, they can even contradict themselves. However in discussing, they attempt in general to convince others. So speakers can revise their assertions and sometimes come in the end to the same description.

2) The deliberative goal

Deliberative discourses serve to deliberate on what speakers and hearers should commit themselves to doing in the world. The deliberative goal is both commissive and directive. Deliberations serve as well to commit speakers and to attempt to commit hearers to reciprocal future actions in the world. Certain deliberations are negotiations where speakers act in concert with each other, they wish to mutually set out their reciprocal commitments and obligations. Such are the bargaining sessions between a potential buyer and seller about goods for sale as well as discussions aiming at the signing of a contract, a friendly settlement or the ratification of a treaty. Negotiators are potential parties who wish to decide in common their future reciprocal actions. On the other hand, in giving instructions or exhortations, in preaching and advertizing and in making electoral propaganda, speakers are more peremptory: they want rather to influence an audience who often does not participate in the conversation. However such deliberative discourses also contain commitments like promises "Buy our products! We guarantee them!" or threats "If you do not vote for us, you will regret it". Every deliberative use of language has to contain both commissive and directive illocutionary acts representing actions of the speakers and hearers in the topic of the conversation. Sometimes the type of deliberation imposes a rather directive role to some and a more commissive role to others. For example, in a consultation, the consultant asks the consulted to give him well founded directives on a subject. The role of the second is to recommend to the first certain actions to which he may finally commit himself. **In order to be satisfied, a deliberation must be respected: speakers must keep their commitments and hearer**s **obey the directives of that deliberation**.

3) The declaratory goal

Declaratory discourses serve to transform the world by way of successful declarations. In order to pursue this kind of discourse, speakers must have the authority to do certain things by way of saying that they do. Sometimes, the needed authority has been conferred on the speakers institutionally. Thus a legislating assembly has the power to promulgate new laws. Similarly, members of the jury at court have the power to give a verdict. Declaratory discourses are needed in science for the purpose of theoretical formulation. They serve to formulate ideal object languages of theories and to axiomatize their laws. Unlike formal artificial languages, natural languages were not born in the same way. Natural languages evolve with time. Sometimes, an established learned authority like the French Academy has the power to hold a discourse which can modify the existing spelling and the dictionary of an actual natural language. Declaratory illocutionary acts of course play a central role in the declaratory use of language. For they have the same double direction of fit. There is no declaratory discourse without performative utterances. **In order to be satisfied, it is enough that a declaration be successful**. Sometimes only linguistic competence is needed to hold a declaratory discourse. Thus, adults or children who together invent new games like war and video games often establish by this kind of discourse the constitutive rules to follow in the playing of these games.

4) The expressive goal

Finally, expressive discourses serve to express the mental states and attitudes of their participants with regard to objects and facts of the world. Such, for example, are the discourses which pay homage to someone, religious masses and other church ceremonies where the faithful speak to God or the expression of crowd hostility where a booing mob harasses the object of their dislike. The main illocutionary acts of such discourses are expressive. Thus, in order to render homage to someone, one must compliment, laud and sometimes acclaim that person in expressing positive and favourable mental states such as joy, approval, respect for and sometimes-even pride in his accomplishments.

III. TYPOLOGY OF CONVERSATIONS WITH DISCURSIVE GOALS

Until now, analysts of conversation have neglected discursive purposes. They have not really made a clear distinction between conversations with and without a proper discursive purpose. Moreover they have not sufficiently taken into consideration the fact that conversations are first and above all, actions provided with conditions of success. They did not analyze the structure of conversations so as to contribute to a theory of success. Many have distinguished good and bad conversations of certain discourse types. But few tried to explain why attempts to conduct discourse types can either succeed or fail. Thus Sacks, Schegloff Jefferson and others of the school of analysis of conversation have empirically analyzed recurrent models of verbal interactions such as the rules for taking turn in any conversation. Their descriptions do not offer much theoretical analysis of discourse. Some linguists (Ducrot, Jucker, Atkinson and Drew) have analyzed conversations with a discursive purpose such as argumentations, linguistic exchanges in court, job interviews, newscasts and lessons at school. Philosophers of language have studied the nature of religious discourse and

philosophers of science that of scientific discourse. Logicians have studied in proof theory the nature of mathematical demonstrations. Such investigations are unfortunately too restricted. Other linguists, psychologists and logicians have adopted a more general approach and analyzed various types of discourse. Thus, Petofi and Van Dijk used text grammar and semantics and linguists of Geneva the hierarchical model of exchanges in their analysis of discourse. Nancy psychologists used illocutionary logic in order to study intercomprehension . Hans Kamp and other logicians constructed a formal theory of discourse representation.

In my opinion, one should reinforce the theoretical approach to conversation by integrating the logical syntax, semantics and pragmatics of sentences and speech acts within a general and formal theory of discourse studying the logical form and function of all types of conversation with a proper discursive purpose. A theoretical approach too restricted to particular types or themes of discourse, too dependent on the terminology of ordinary language and deprived of theoretical vocabulary is not advisable. In order to contribute to the foundations of such a general theory, I will now attempt to answer a few important questions.

1. What are the units of a conversation?

As linguists of the Geneva school pointed out[11], a discourse is not to be divided immediately into the finite sequence of single individual illocutionary acts that speakers attempt to perform in it by their successive utterances. A discourse is rather to be divided into a finite sequence of *interventions* which are most often *exchanges* between speakers where they, for example, make presentations, take positions, respond in concert with one other, make decisions, argue and give explanations, make replies, comments, summaries and conclusions. Interventions are units of discourse of superior order, more complex than individual illocutionary acts corresponding to single utterances. They are generally collective speech acts corresponding to ordered sub-sequences of individual illocutionary acts. Wittgenstein was right to compare the conduct of a discourse with the practise of a game. A game of chess is more than the ordered sequence of all the successive moves of the two players. It consists rather of a sequence of exchanges involving the development of each player's game, the moving of their pieces in order to concentrate greater power in certain areas of the chessboard, attacks and counterattacks in order to win an advantage and attempts to checkmate or draw. Similarly, a complete discourse such as a newscast consists of various linguistic exchanges including the presentation of new events, interviews with personalities and reporters, the giving of illustrations and the drawing of conclusions.

Like Searle, I think that interventions are speech acts. But they are different from the individual auxiliary illocutionary acts that they contain. They are speech acts of a superior order. **So it is necessary to distinguish in the logic of discourse a hierarchy of structured units of different orders: interventions and basic illocutionary acts**. Interventions have a function in discourse. Often they satisfy what Dascal calls *conversational demands*. At a given moment in the conversation, speakers understand that they need to argue, to justify themselves, to explain or clarify their ideas, to reply to previous utterances, to make a compromise, to revise their position, make a decision, undertake a new development. They make an intervention with the collective intention of

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[11] Roulet, E., 1990, "On the Structure of Conversation as Negotiation", in *(On Searle) on Conversation, op. cit.*

achieving a discursive goal, which can be different from that of their entire discourse. Thus in a scientific theory, interventions like the preface, the introduction, the statement of hypotheses, the demonstrations and the explanations have the same descriptive purpose as the theory itself. However, the definition of the ideal object language of the theory and its axiomatization are rather declaratory interventions of the theory. Acknowledgements of scientists are expressive interventions while their attempts at convincing colleagues to demonstrate conjectures or proceed to experiments are deliberative. The discursive goal of many interventions is internal to their types. However, there are interventions whose discursive purpose is variable. Such are Austin's *expositive* speech acts. Acts of beginning, adding, illustrating, replying, repeating, concluding and summing up do not have a proper direction of fit.

The simplest kind of discourse consists of a single intervention and the simplest kind of intervention consists of a single (generally quite complex) illocutionary act. A policeman can report an offence in making a single description and he can make that description in a single assertion.

2. What is the logical form of a type of conversation provided with a discursive goal?

All forces having the same illocutionary point do not play the same role in language use. For example, a speaker in a position of authority should not beg but rather command the hearer if he really wants him to do something. On the other hand, he should supplicate when the hearer is all-powerful and what he desires is that he spare the life of his children. Ordinary language distinguishes many directive illocutionary forces. Requesting, asking a question, urging, begging, inviting, supplicating, imploring, praying, requiring, ordering, commanding, advising, recommending are directive illocutionary acts with different forces to be performed under different conditions. In analyzing the logical form of illocutionary forces, Searle and I decomposed each force into six components, namely: its illocutionary point, 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 all six components. Otherwise they have different linguistic functions. Similarly, conversation types having the same discursive goal can play different roles in the use of language. For example, a sermon is a rather peremptory deliberation which serves principally to influence the behavior of an audience. A discourse of electoral propaganda is a sermon aiming at the election of a candidate. On the other hand, a negotiation is a deliberation where speakers act in concert with one other. Verbal attempts at a friendly settlement are negotiations aiming at the end of a conflict. Thus ordinary language distinguishes many deliberative types of discourse. Sermons, exhortations, electoral propaganda, negotiations, friendly settlements, bargaining sessions, peace talks, consultations are types of deliberation to be conducted under different conditions. In order to analyze the logical form of discourse types I will proceed as in illocutionary logic by decomposition. What are the other components of conversation types having a discursive goal? On the basis of the analysis of illocutionary forces, I propose to identify the following other components of discourse types: a mode of achievement of discursive goal, thematic conditions, background conditions and sincerity conditions. As one might expect, these conversation components play in the conduct of discourse a similar role to that of the corresponding force components in the performance of elementary illocutionary acts. Here are some brief explanations.

The mode of achievement of the discursive purpose

Many types of conversation have a characteristic mode of achievement of their conversational goal, which requires the use of certain means or a particular way of conversing.. For example, certain types of discourse have a rather formal mode of achievement of their discursive goal. Think of inaugural addresses, solemn requests of pardon, declarations of war and ultimatums and renderings of homage. Often the mode of achievement of a discourse imposes a certain sequence of speech acts. In order for a job interview to take place, it is necessary that an official interviewer ask a job applicant questions in order to evaluate his qualifications. It is also necessary that this applicant attempt to answer with the intention of demonstrating his competence. A certain sequence of questions and answers is then needed for the successful implementation of such interviews. In the case of the proof of theorems by the axiomatic method, the formal constraints on the sequences of utterances are very strong. A proof of a theorem in an axiomatic system is a finite sequence of utterances. Any utterance in the proof is either an axiom or it is an immediate consequence by a rule of inference of utterances that precede it in the same sequence. And the last utterance is a formulation of the theorem.

Thematic conditions

Some discourse types impose conditions to their proper theme. For example, the deliberation of a jury in a trial must decide whether the accused person is guilty or innocent. A policeman's official report on someone must describe an offence. Thematic conditions proper to a discourse type are relative to both the forces and the propositional contents of illocutionary acts that it must contain. For example, the deliberations of a jury must give a verdict and a judgement at court must disculpate or condemn the accused. As we have seen, discursive goals determine thematic conditions relative to force: any conversation must contain central illocutionary acts with the direction of fit of its discursive goal. Such thematic conditions are common to all conversations having that goal. Other thematic conditions are independent of the discursive goal. For example, a news broadcast must inform and announce new events. A job interview must describe the professional qualification of the interviewed.

Background conditions

As in the case of illocutionary acts, many discourse types can only be performed non defectively where preparatory conditions obtain in the conversational background. For example, in sending their condolences, speakers presuppose that something bad (a great misfortune) has befallen the person to whom they express sympathy. The examination of a witness in court is carried out against a certain background in which one presupposes that the speakers are in a certain formal position: there is the judge, the accused, the witness, the defence lawyer and the public prosecutor. Preparatory conditions of discourse types determine in general a structured set of presuppositions often related to social forms of life of the background. The discursive goal and theme determine certain background conditions. Any deliberative discourse has the preparatory conditions that speakers and hearers have the capacity to carry out the courses of action on which they deliberate. Other preparatory conditions

are more particular. A medical consultation has the preparatory condition that the consulted person has qualifications in medicine, a funeral eulogy that the praised person is dead.

Sincerity conditions

Finally, as in the case of illocutionary acts, discourse types require the expression by their speakers of mental states having certain psychological modes. In order to exchange greetings, speakers must express courteous acknowledgements of the other's presence upon their encountering one other. In order to boo, they must collectively express unfavourable feelings such as derision, hostility and reprobation. The protagonists of a discourse type are sincere when they have the attitudes that they express in it. Most often, the attitudes to be expressed are determined by the conversational goal, thematic or background conditions. For example, negotiators must manifest their intentions to keep their reciprocal commitments because of their deliberative goal. In friendly settlements, they must express their will to settle their conflict without animosity (mode of achievement). And in funeral eulogies, they must express their belief that the praised person is dead (background conditions).

In my view there are no other kinds of discourse components than the five that I have identified. Consequently, **two conversation types are identical in my logic of discourse when they have the same discursive goals, modes of achievement of discursive goals, thematic, background and sincerity conditions.** They play exactly the same role in language use. As I will show in my next book on *Discourse,* one can formulate on the basis of my typology an adequate theory of success and satisfaction for discourses and a detailed lexical analysis of verbs of conversation.

3) What is the formal structure of the set of possible discourse types?

According to the model of illocutionary logic, I propose to make **the following recursive definition of the set of possible conversation types in the logic of discourse. There are four primitive discourse types** which are the simplest types of conversation provided with a discursive goal; they have no particular mode of achievement of their discursive goal and no particular thematic, background or sincerity conditions. These primitive types are: 1) the ***description*** *type* which is common to all descriptive discourses**, 2)** the ***deliberation type*** common to all deliberative discourses**, 3)** the ***declaration type*** common to all declaratory discourse and 4) the ***expression type*** common to all expressive discourses. **All other discourse types are more complex: they are obtained by a finite number of applications of certain Boolean operations which consist in adding to simpler discourse types new components**. Thus new discourse types are obtained by imposing to others a special mode of achievement of their discourse goal. The type of negotiation has a particular mode of achievement of the deliberative goal: negotiators must take counsel together as how to act. Similarly new discourse types are obtained by adding to others special thematic, background and sincerity conditions. Thus 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. The type of peace talks has an additional particular sincerity condition: in peace talks negotiators take for granted that they represent parts in war and are authorised to conclude peace. Finally, attempts of friendly settlements are negotiations with an additional sincerity condition:

speakers express their will to come to an agreement without any animosity. As each kind of discourse component determines a particular condition of success, discourse types having more components than others are *stronger* than them: it is not possible to pursue with success a type of conversation on a topic without pursuing *eo ipso* all weaker types of conversation on that topic. Thus any negotiation is a deliberation. And bargaining sessions, peace talks and attempts at friendly settlements are negotiations**.**

IV. ANALYSIS OF SUCCESS IN THE LOGIC OF DISCOURSE

It is more difficult to define success in the logic of discourse than in illocutionary logic. As we have seen, an instance of discourse is not the sequence of basic illocutionary acts that speakers attempt to perform in it. It is rather a sequence of interventions, which are in turn sequences of basic illocutionary acts. Elementary individual illocutionary acts are performed at the moment of an utterance in a single context of use of a language. But conversations are pursued over a longer interval of time. The speech situation lasts during the successive moments of all its utterances. From a logical point of view, interventions are speech acts whose order is superior to that of individual illocutionary acts. Speakers contribute to them with the collective intention of achieving a discursive goal**. Interventions are then sub-conversations of a certain discourse type**. They can in principle be held separately. Thus the hypotheses, demonstrations and discoveries of a scientific theory can be published as articles in learned journals. As I said earlier, discourses can consist in a single intervention.

Let us consider some facts that any adequate theory of success must take into account. First, the success conditions of conversations are not the sum of the success conditions of their constitutive interventions, just as the success conditions of these interventions are not the sum of the success conditions of their basic constitutive illocutionary acts. The successful conduct of a discourse only requires the successful performance (and sometimes also the felicity) of certain interventions and illocutionary acts which I call its *master speech acts*. A defence lawyer can make a lot of irrelevant remarks in pleading. But he could not plead without arguing in favour of the accused. This is an indispensable master speech act of a plead. From a logical point of view, all utterances do not have the same importance in a conversation. Some are superfluous. Others play a central role in its conduct. Only these have to be relevant, successful and sometimes even felicitous. Consider a ceremony of baptism. The priest can make various mistakes. He can give the child a wrong name, he can also attempt to christen the wrong child. The first mistake does not prevent the ceremony from being successful. But the second mistake is more serious. There is no baptism when the wrong child is already christened. I agree with Searle that the obvious irrelevance and even I would add the infelicity[12] of some of its utterances do not necessarily prevent a conversation in course from continuing. Only its master speech acts need to be relevant and successful.

In illocutionary logic, each component of a force determines a particular condition of success of illocutionary acts with that force. Similarly, in the logic of discourse, each discourse type determines a particular condition of success of conversations of that type. As we will see, such success conditions concern not only the nature of their constituent master speech acts but also the relations

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[12] In my terminology, a speech act is felicitous when it is successful, non defective and satisfied.

that must exist between them. **First the conduct of a discourse requires the performance of master speech acts of certain forms.** Speakers must perform illocutionary acts having the direction of fit of the discursive goal on the topic of the conversation. Of course, they can also perform other kinds of illocutionary acts. In bargaining speakers can make assertions and ask questions on the price and quality of goods. They can also express their feelings and even speak of things that have nothing to do with the objects on sale. However, they must necessarily perform commissive and directive illocutionary acts such as offers, counter-offers, acceptances or refusals to buy or sell. Otherwise there is no bargaining. Similarly, the theme of a conversation must satisfy the thematic conditions proper to its type. Speakers must make certain acts of reference and predication and perform illocutionary acts with certain propositional contents and forces. In bargaining, they must refer to goods on sale in their commitments and directives. Sometimes, thematic conditions are so strong that they require the performance of a master illocutionary act of a specific force and propositional content. For example, in the ceremony of a wedding, future spouses must formally consent to be husband and wife and an authorized person (priest, mayor, judge) must next declare that they are hereafter married. Furthermore, protagonists of a conversation must perform illocutionary acts whose preparatory conditions correspond to the background conditions of their discourse type. In bargaining they must presuppose their being potential buyers or sellers. Finally, speakers have to express with regard to the objects under consideration attitudes corresponding to the sincerity conditions of their type of conversation. So potential buyers and sellers must express intentions to buy and sell in bargaining. All the master speech acts of a conversation are essential to its conduct. It would not be possible to hold (or report) a conversation with a discursive goal without performing (or reporting) these central illocutionary acts. Sometimes, a master speech act terminates the conversation. For example, to come to an agreement of purchase and sale is a good way to terminate the bargaining.

Many speech act verbs in English are both illocutionary and discursive, for example: argue, state, describe, inform, present, criticize, exhort, claim, instruct, propose, license, appeal, petition, declare, interrogate, confirm, stipulate, institute, marry, rule, accord, condole, praise, protest, confess and pardon. As one might expect, these verbs name in their illocutionary sense illocutionary acts which turn into master speech acts in the discourse types that they name in their discursive sense

Second, the successful conduct of a discourse requires a minimal coordination between speakers. Protagonists must make relevant utterances given what they have said, the conversational background and the discourse type that they want to hold**. So the conduct of a type of discourse also imposes relations upon its master speech acts.** Thus the purchase and sale concluded at the end of a bargaining session depend on previous offers and acceptances. And the conclusion of a demonstration must be inferred from previous premises. Speakers often have a certain freedom as regards the development of their discourse. For example, the order of premises is relatively free in demonstrations. And so is the speaking turn of negotiators in most negotiations. However there are limit cases of discourse types like that of accusation trials in court where protagonists have roles fixed in advance with speaking turns and even utterances well determined. Thus the acquittal or condemnation of the judge depends upon the verdict.

In illocutionary logic, the necessary and sufficient conditions of successful performance of

elementary illocutionary acts are all the success conditions determined by the various components of their force. Similarly, in the logic of discourse, the necessary and sufficient conditions of successful conduct of conversations are all the success conditions determined by the various components of their discourse type. **So I define as follows the notion of successful conduct of a discourse:** Speakers ***succeed in holding a conversation of a certain type*** in making their successive utterances in a speech situation if and only if first, the theme of their conversation satisfies the thematic conditions of their discourse type, secondly, they achieve the discursive goal of that discourse type on the theme with the required mode of achievement, thirdly, they presuppose that the required background conditions obtain and finally they express all the mental states required by the sincerity conditions of their discourse type. Thus speakers conduct *peace talks* in a speech situation when the theme of their conversation is to conclude a peace accord (thematic conditions), their discursive goal is to deliberate on what they should commit themselves to doing in order to make peace, (discursive goal), they act in concert with each other in deliberating (mode of achievement), they take for granted that they represent parties in war (background conditions) and they express their will to conclude peace (sincerity conditions).

   As in illocutionary logic, the theory of success in the logic of discourse requires less than good performance and felicity. Just as a successful illocutionary act can sometimes be bad, performed in the wrong context, defective and unsatisfied, a successful discourse can also be bad, made in the wrong background, defective and unsatisfied. It is very important to distinguish successful discourses which are bad (for example, consultations where the consultant gave bad information and the expert bad recommendations) from failed attempts to conduct discourses of the same type (when the solicited expert wanted to make a joke and refused to give consultation). It is also important to distinguish successful and felicitous discourses. Successful discourses can be defective: they can be performed in the wrong background (the consulted expert was an impostor) and their protagonists can be insincere. Furthermore, successful discourses can be unsatisfied (a consultant can violate his commitments and disobey the directives of the consulted person). Unlike empirical social sciences, artificial intelligence and business, the logic of discourse does not have the objective of generating felicitous conversations (which would be successful, non defective and satisfied). Its objective is rather to describe theoretically under which conditions conversations are successful, non defective and satisfied.

V. APPLICATIONS OF THE THEORY TO THE ANALYSIS OF REPLIES

   Let us apply the logic of discourse to the analysis of replies to master speech acts in conversations with a proper discursive goal. Inspired by Wittgenstein, Searle and I wrote: "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. Sometimes the appropriate illocutionary act reply is very tightly constrained by the act that precedes it, as in question and answer sequences; and sometimes it is more open, as in casual conversations that move from one topic to another. But the principle remains that just as a move in a game creates and restricts the range of appropriate countermoves so each illocutionary act in a

conversation creates and constrains the range of appropriate illocutionary responses."[13]Protagonists of a conversation can react non verbally to previous utterances in order to satisfy them. When they make a reply, they react verbally in the conversation .

Replies are often important and sometimes decisive. They determine how to continue the conversation. I agree with Searle that there are times in ordinary conversations where one speaks of the weather and ask questions about the health of others only to enjoy the pleasure of speaking to others. The collective intention of speakers is sometimes to speak and talk for talking's sake. In that case, the requirement of relevance is rather an external constrain on speech acts coming from general principles of practical reason. However, the logic of discourse, as I conceive it, only treats of conversations provided with an internal discursive goal and its theory of success require the performance of master speech acts standing in certain relations. So discursive constrains turn out to be much stronger than Searle thinks. Relevance is an internal constrain on conversations whose goal is internal to them *qua* conversations.

As we will see, the form of relevant replies to a master illocutionary act is quite determined by the form of that illocutionary act given the discourse type of the conversation in course and its background.

Here are some general remarks on the matter. For the sake of clarity, I will apply my analysis to the following conversation that was held in a bookstore in Montreal:

(1)The potential buyer (hereafter B): "Good morning! Are you a salesperson here?" (2)The potential salesman (hereafter S): "Yes" (3) B: "Do you have *Hamlet* ? (4) S: "The original English book or a French translation?" (5) B: "A French translation" (6) S: "Here it is." (7) B: "Thank you!" (8) S: "It is a very good translation in a nice collection."(9) B: "How much does it cost?" (10) S: "Let me see! 30$" (11) B: "That is very expensive." (12) S: "There is another cheaper edition." (13) B: "Really?" (14) S: "In this collection it costs less than 20$." (15) B: "O.K I want it" (16) S: "Unfortunately, I don't have it in stock. Do you want me to order it for you? I'll get it soon." (17) B: "Yes." (18) S: "Please, fill this order form!" (20) B: "Here it is! Good bye!" (21) S: Thank you! I'll phone you as soon as I get it. Good bye!".

The preceding conversation was a successful negotiation of the purchase and sale of a book. The two protagonists achieved the deliberative point in committing each other reciprocally to buying and selling a book on order.

Which kinds of replies should a hearer make to a previous important utterance in a conversation?

1.Suppose that the hearer does not understand the sense or the reference of an expression, or does not know the value to give to a free variable or how to disambiguate a sentence used in that utterance. Then he should react in order to understand what the speaker has said. He should ask the speaker to be more explicit. This explains utterance (4) in the preceding conversation.

2. Often speakers do not speak literally in a conversation. They are ironic, make metaphors, indirect speech acts and conversational implicatures. The basic units of a conversation are the illocutionary acts that speakers attempt to perform by their utterances, no matter whether they are

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[13] *Foundations of Illocutionary Logic, op. cit.* (p 11)

literal or not. As Searle[14] and I[15] pointed out, in order to get understood, the speaker who means something else than what he says relies on various mental capacities and attitudes of the hearer: first the hearer's knowledge of the meaning of the sentence used and his ability to identify the literal illocutionary act, secondly their mutual knowledge of certain facts of the conversational background and finally the hearer's ability to make inference on the basis that the speaker respects conversational maxims. Suppose that the hearer understands the literal illocutionary act. But he does not know whether he should take into consideration a fact of the conversational background that would oblige the speaker to speak non literally given the conversational maxims. In that case the hearer should again ask the speaker to say what he means. For example, the salesman could have wondered whether the buyer indirectly requested to see the book by way of asking (3). So he could have asked him: "Do you want to see the book?". But he thought that it was really an indirect request. So he reacted non verbally by giving the book (6). By saying "Thank you!" the buyer confirmed his non literal interpretation. If however he had replied "No need to give me the book. I just wanted to know if you have it.", he would have specified that he only wanted to ask the literal question. As Nancy cognitive psychologists pointed out[16], speakers can make a linguistic exchange in order to fix together the interpretation to give to a previous utterance that is ambiguous or could be non literal. Their intervention then clarifies the meaning of that utterance. Inter-comprehension is often made by default as in (6) and (7). In considering utterances within the conversations to which they belong, the logic of discourse gives a new perspective to the theory of meaning. Meaning turns out to be finer and less dependent upon the single point of view of the agent of the utterance.

   3. Once the hearer has understood the attempted illocutionary act of a previous utterance, he should still react when certain felicity conditions are not fulfilled in the conversational background. The speaker could ignore the fact that aspects of the background are incompatible with the non defective performance or satisfaction of his utterance. When the utterance is central, however, the intelligent hearer should reply by saying that the speaker cannot perform the illocutionary act in question, that its presuppositions are false, that he is insincere or that the attempted illocutionary act is not entirely satisfied or satisfiable. Sometimes, the illocutionary act is satisfiable but not immediately or only if the speech situation is changed. So the resulting linguistic exchange can have important consequences. Speakers can be brought to change the background or to revise their intentions. For example, after the buyer's indirect refusal (11) to buy the first book, the bookseller replies by offering him (14) a cheaper one. When he sees that he cannot keep his promise, he then proposes to the buyer that he order it for him (15).

   In conversations interlocution is creative. Speakers have intelligently to coordinate their utterances in order to achieve their discursive goals. They manifest a practical and theoretical minimal rationality in their conversations. An important objective of the logic of discourse is to

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[14] See *Expression and Meaning, op. cit.*

[15] See my articles « Non Literal Speech Acts and Conversational Maxims » in E. LePore & R. Van Gulick (eds), *John Searle and His Critics*, Blackwell, 1991 and « Formal Pragmatics and Non Literal Utterances » in *Linguistische Berichte,* Vol 8, 1997

[16] Trognon A. & Brassac C., "Speech Act Theory and the Logic of Intercomprehension" forthcoming in D. Vanderveken & Kubo S. (eds.), *Essays in Speech Act Theory*, John Benjamins

analyze that interpersonal minimal rationality.

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