

# Towards a Formal Discourse Pragmatics

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## Abstract

Could we enrich speech-act theory to deal with discourse? Wittgenstein and Searle are sceptical. In my view, the primary aim of discourse pragmatics is to analyze the structure and dynamics of language-games with an internal conversational goal. Logic can analyze felicity-conditions of such collective illocutions. For interlocutors obey systems of constitutive rules in conducting descriptive, deliberative, declaratory or expressive dialogues. I will show how to construct speaker-meaning from sentence-meaning, conversational background and maxims. I will also explain how to use the resources of formalisms and mathematical logic and to further develop *intensional* and *illocutionary* logics, the logic of *attitudes* and of *action* in order to characterize our ability to converse. I will also deal with the nature of intelligent dialogues between man and machines in A.I.

In sciences that deal with language, thought and action, one now recognizes the essential role in communication of *speech-acts* such as acts of utterance, reference and predication, illocutionary and perlocutionary acts, and of *attitudes* such as beliefs, desires and intentions of speakers. One also understands the importance of *language-games* that interlocutors collectively intend to conduct, of their *forms of life* and conversational *background*. According to speech-act theory the primary units of meaning and communication in the use and comprehension of language are not isolated true or false propositions but rather *illocutionary acts* with felicity-conditions [Austin]. *Elementary illocutionary acts* have a *force* [Frege] and a *propositional content*. Interlocutors always intend to communicate illocutions. Until now speech act theory has studied individual illocutions such as assertions, promises and requests that speakers attempt to perform by using sentences at single moments of utterance. However, speakers most often converse with other agents. Above all, the use of language is a *social form of linguistic behaviour*.

Can we extend *speech-act theory* to deal with discourse? Wittgenstein and Searle have expressed skepticism. Inter-

locutors often have an extra-linguistic goal; they are engaged in social activities and their background is indefinitely open. They can make infelicitous and irrelevant utterances without *eo ipso* interrupting the dialogue. Their purposes often change arbitrarily. So the requirement of relevance imposes few constraints on the structure of most conversations. But the ability to converse is part of linguistic competence. Moreover protagonists always perform in any discourse *master illocutionary acts* with the intention of achieving **proper linguistic goals**. They attempt to manifest attitudes (expressive goal), to describe the world (descriptive goal), to deliberate on what to do (deliberative goal) or to change things by way of declarations (declaratory goal). Such linguistic goals are **conversational**. Verbal exchanges such as salutations, debates, interviews, consultations, negotiations, compromises, agreements, collective decisions and ceremonies of inauguration, wedding and baptism are *joint illocutionary acts of higher-level* irreducible to sequences of individual instantaneous illocutions. Several agents obeying constitutive rules perform them in turn and they last during an interval of time. From a logical point of view, they have a conversational *type and theme* and their conduct requires *cooperation*. **The logic of discourse**, as I conceive of it, does not aim to study all possible language-games but only **those with a proper linguistic goal**. There are a lot of such language-games and they are indispensable to discourses with extra-linguistic goals. Interlocutors must come to agree on the kind of conversation that they want to pursue. Whenever they communicate in order to do difficult things, they have to describe their objective and to deliberate on how to proceed to achieve it. The aim of this paper is to present my approach towards discourse pragmatics and to compare it to others as regards methodology, hypotheses and issues.

Like Montague, I believe that pragmatics should use the resources of formalisms in order to construct a rigorous *theory of meaning and use*. Natural languages can be learned by human agents whose cognitive abilities are creative but limited. Formalisms enable us to better construct linguistic competence and the mechanism of understanding. However one must revise basic hypotheses of standard logics of *propositions*, *attitudes* and *action* in

order to explicate felicity-conditions. Propositions with the same truth conditions are not the contents of the same attitudes and illocutions, just as they are not the senses of synonymous sentences. Speech-act theory requires a finer criterion of propositional identity. It also requires explicating the *intentionality* and minimal *rationality* of interlocutors as well the *generation* of different kinds of speech-acts in the logic of action. We need illocutionary logic in the ideography of formal semantics in order to exhibit canonical forms of illocutions expressed by all syntactic types of sentences.

Of course the real *units of conversation* are intended rather than expressed illocutions. Often speaker-meaning is different from sentence-meaning. In the cases of irony, indirection and metaphor, speakers do not speak *literally*, just as they do not speak *seriously* when they act in a theatre. In order to contribute to *discourse pragmatics* speech-act theory should explicate complete *speaker-meaning* (all attempted illocutions whether literal, serious or not) as well as the logical **structure and dynamics of dialogues** that speakers are able to pursue by virtue of competence. For that purpose, we need *a theory of conversational maxims* and *an analysis of relevant facts of conversational background*. Unfortunately Grice's conversational maxims are vague and only apply to informative discourse. We must generalize his approach and better explicate than Sperber and Wilson relevance in discourse by taking into account conversational goals. We moreover must analyze what speakers do when they are not serious and *pretend* to perform illocutions in theatre or fiction. In order to account for discourse dynamics, I will exploit resources of game-theory and take advantage of new developments in dynamic, dialogical, paraconsistent and non-monotone logics and discourse representation and decision theories. Unfortunately current approaches neglect non-assertive utterances, practical inferences, discursive types and felicity conditions.

I agree with Searle and Wittgenstein that there is no possible theory of *all* possible language-games. There are countless kinds of forms of life and objectives that we could share. So there are "countless kinds" of language-games that we could practise in exchanging words. However in any dialogue speakers always perform *relevant individual illocutions* in order to contribute to *verbal exchanges* such as presentations, justifications, debates, compromises and agreements which are higher-level *speech-acts whose goal is conversational*. The logic of discourse can analyze the *logical structure and dynamics* of such language-games for they are conducted according to systems of constitutive rules. According to my taxonomy *there are four conversational goals* corresponding to the four different possible directions of fit between words and things. Discourses with the *word-to-world direction of fit* (like forecasts, interviews, accounts and interrogations) have a *descriptive goal*: they serve to describe how things are in the world. Discourses with the *world-to-word direction of fit* (negotiations, bets, arrangements and

sermons) have a *deliberative goal*: to deliberate on what to do in the world. Discourses with the *double direction of fit* (inaugurations, permits, baptisms and classifications) have a *declaratory goal*: they serve to do things by declarations. Finally, discourses with *no direction of fit* (greetings, eulogies, welcomes and protestations) have an *expressive goal*: they just serve to express attitudes. Competent speakers are all able to achieve conversational goal because they have intentionality. There is a one-to-one correspondence between conversational goals and possible directions of fit because interlocutors are *protagonists* in dialogues. In single contexts of utterances, the speaker is active while the hearer is passive. However, the speech-situation is entirely different in a collective deliberation. Any hearer is a potential speaker who can speak in his turn and make a contribution. Hearers can reply to speakers who give them directives and accept or refuse to commit themselves later. Often, speakers' commitments are conditional upon future hearers' commitments. So there is a single conversational goal while there are two illocutionary points with the things-to-words direction of fit. Deliberations serve both to commit speakers and to attempt to convince hearers to carry out reciprocal actions in the world. All dialogues with the same conversational goal do not have the same function. Sometimes it is better to argue in favour of a position rather than just present it unilaterally. My logical typology decomposes discourse *types into other components* than their conversational goal. Many have a characteristic *mode of achievement of their goal*, requiring the use of certain means or a particular way of conversing. Inaugural addresses, weddings, contracts and promulgations of laws have a rather formal way of conversing. Most modes of achievement impose a certain sequence of major illocutions. In a written contract, parties must commit themselves to future reciprocal actions and officially agree by giving signatures. Discourse types impose *conditions to their proper theme*. A job interview must describe the professional qualification of the interviewee. Thematic conditions determine both forces and propositional contents of major illocutions. Deliberations of a jury must give a verdict. Interlocutors take for granted that preparatory conditions obtain in the background. During a medical consultation one presupposes that the consulted person has skills in medicine and the consulting speaker wants advice for his health. Finally, many discourse types require that protagonists express common attitudes. In order to exchange greetings, speakers must express courteous acknowledgements of the other's presence upon their encountering one other. Two language-games have the same discourse type when they have the same components.

I have *recursively defined the set of all possible conversation types and analyzed their felicity-conditions*. The *types of description, deliberation, declaration and expression are the four primitive discourse types* (they are the *simplest types* with one conversational goal. *Complex*

discourse types are obtained by adding new components to primitives. The type of *negotiation* has a *special mode of achievement* of the deliberative goal: protagonists take counsel together as how to act. The type of *bargaining* has an additional *thematic condition*: protagonists negotiate the purchase and selling of certain things. The type of *peace talks* has a *special preparatory condition*: negotiators represent parts at war and are authorised to conclude peace. *Attempts of friendly settlements* have a special *sincerity condition*: negotiators express their will to come to an arrangement without animosity.

Each discourse component determines a particular success-condition corresponding to a constitutive rule. Protagonists *succeed in conducting a discourse of a certain type* during an interval of time when firstly, their theme satisfies thematic conditions of their type, secondly, they achieve the conversational goal of their type on the theme with the required mode of achievement, thirdly, they presuppose that required background conditions obtain and finally they express attitudes required by the sincerity conditions. Thus speakers *bargain* when they deliberate on a purchase and sale, (discursive goal and thematic conditions), they negotiate by making offers, counteroffers, acceptances or refusals of trade (mode of achievement), they take for granted that they are potential buyers and sellers (background conditions) and they express their will to do business (sincerity conditions). Discourse types having more components than others have *stronger success-conditions*. Thus any negotiation is a deliberation. Bargaining sessions, peace talks and attempts at friendly settlements are negotiations.

Notice that success-conditions of discourses are not the sum of success-conditions of their successive individual illocutions. First of all, a dialogue with a conversational type is not to be divided immediately into the finite sequence of individual illocutions attempted in its successive utterances. It is rather a sequence of higher-order collective illocutions where speakers proceed to make salutations, presentations, take positions, respond in concert with one other, attempt to make a decision, argue and give justifications, make replies, comments, summaries and conclusions. The conduct of discourses with a conversational goal only requires the successful performance (and sometimes also the felicity) of capital illocutions. The form and moment of performance of such *master illocutions* depend on *conversational type* and *theme*. Discourses must contain major illocutions with the direction of fit of their goal on their topic. Interlocutors make capital assertions in descriptions. Forces and contents of major illocutions must satisfy thematic conditions. In bargaining sessions protagonists can make a lot of irrelevant and superfluous remarks. But they must make offers, counter-offers or refusals of sale or purchase and try to make a deal. Sometimes a master illocution terminates the discourse. A sales agreement is a way to terminate a bargaining session. Not all illocutions have the same importance. Only master illocutions matter. Superfluous illocutions can be

unsuccessful and irrelevant. They do not prevent the successful conduct of discourses with a conversational goal. Because interlocutors keep their common conversational goal during such discourses, the requirement of relevance now imposes strong constraints on their structure and development. Interlocutors must cooperate and make appropriate capital contributions at certain moments. The *satisfaction of discourses* with a direction of fit depends on the satisfaction of their master illocutions. Descriptions are *exact* when their capital assertions are *true*. Deliberations are *respected* when their capital commitments are *kept* and their capital directives *followed*. Declaratory discourses are *satisfied* when their capital declarations are *successful*. Interlocutors can contradict themselves. But they often argue and try to convince each other. Sometimes they revise their positions and come to an agreement. When protagonists agree on how things are or on what to do, their descriptions and deliberations have a happy ending. However the theory of success requires less than felicity and good performance. Successful discourses can be bad, made in the wrong background, defective and unsatisfied.

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