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1. Introduction

1.1. It has been customary in philosophical and linguistic pragmatics to relate speech acts with single sentences. Thus, the utterance of a sentence like *I will give you the money tomorrow* may be intended, interpreted or counting as a promise, given the appropriate contextual conditions.

However, the notion of a speech act, or that of illocutionary force, also seems to apply to utterances consisting of a sequence of sentences, viz. of a whole discourse or conversation. That is, we may utter several sentences and thereby, at least at a more global level, accomplish one speech act. We may promise, warn, state, congratulate or accuse by uttering a whole discourse. Typically so, even, in conventional and/or institutional cases such as laws, contracts, statements, honorific addresses, stories, indictments, defenses, advertisements or scholarly papers. In such cases, then, it is assumed that we accomplish what may be called a *macro-speech-act*.

In this paper we will further investigate this kind of pragmatic macro-structures of discourse, not only from a linguistic point of view, but also in a cognitive perspective. It will be assumed that the notion of a macro-speech-act is necessary in order to understand the cognitive processes involved in the planning, execution, control, interpretation, and other processing of discourse and speech acts in communicative interaction.

More in particular we will point to the analogy with the hypothesis according to which at the semantic level discourse should also be accounted for in terms of 'global meaning', 'topic', or 'subject', taken as semantic macro-structures of the discourse.

One of the implications of this analogy is the urgent necessity of explicitly linking a pragmatic theory of language with grammar. In particular we will want to know how sequences of sentences of a discourse or conversation are related with sequences of speech acts.

Finally, it should be cleared in which respect we are entitled to speak of composite (compound or complex) actions, taken as units in action sequences, and how such composite actions are linked with the notion of a macro-act, on which that of macro-speech-act must of course be founded.

1.2. Clearly, neither the general theoretical background nor more specific problems relating to such notions as 'cognition', 'action' and 'discourse' could possibly be discussed in this brief paper. For general and more particular reference, we must refer to our book *Text and Context. Explorations in the Semantics arid Pragmatics of Discourse* (London: Longmans, in press; to appear Fall 1977), abbreviated below as T&C, in which notions such as (semantic) connection and coherence, macro-structures, topic of discourse, speech act sequence, etc. are treated.

In this paper we focus attention on some specific difficulties around the notion of a macro-speech-act, e.g. its relations with 'ordinary', 'lower-level' or 'local' speech acts as we know them from current writings in pragmatics.

2. Semantic macro-structures.

2.1. Since the idea of pragmatic macro-structures has been formed in analogy with macro-structures on the semantic level of discourse description, we should first briefly resume what we understand by such semantic macro-structures, especially since the cognitive basis for both is probably identical.

It is assumed that the 'meaning' of a discourse should be characterized at two levels, viz. that of the sentences and their linear, pairwise connections on the one hand, and that of the discourse, or fragments of it, taken as a 'whole', on the other hand. These accounts thus differentiate between a local or micro-level and a global or macro-level of analysis. There are several linguistic, semiotic and cognitive reasons for this theoretical distinction. First of all, semantic macro-structures make explicit the important intuitive notion of 'topic of discourse': they specify what a discourse, as a whole, 'is about', in a non-trivial way, i.e. not by a simple enumeration of the meanings of its respective sentences. Thus, I may tell a story about 'John is travelling to Ghent', even if this particular proposition is not expressed in my story.

Apart from its independent motivation in a theory of communication, the notion 'topic of discourse' is also needed in the explication of linear coherence between sentences of a discourse: two sentences may be said to be connected only *relative to* such a topic of discourse or conversation.

Within a grammar macro-structures are to be postulated also in the account of a number of linguistic phenomena, such as the use of definite noun phrases without textually expressed particular antecedents.

Macro-structures are further required in order to make explicit the semantic relations between a discourse and its (possible) summaries. Thus, it is assumed that a summary is a verbal expression of a macro-structure of the discourse it summarizes.

2.2. At the cognitive level, macro-structures are introduced as a necessary component in complex information processing. In order to be able to plan,

execute, control discourse in production, and to understand, store, retrieve and reproduce discourse, a macro-level of processing must be postulated. A normal language user is unable to store and retrieve all individual sentences (propositions) of a discourse, and yet understands the discourse as a coherent whole, being able to recall and summarize it without necessarily having access to the individual propositions. Thus, during input, a reader will on the basis of the interpretation of the respective sentences of the discourse, construct a (set of) macro-structures, which organize and reduce the highly complex information to a manageable size, being the 'schema' on which processing (storage, recall, etc.) is based.

- 2.3. In another framework of discourse description, e.g. at the more general semiotic or, more in particular rhetorical, levels, macro-structures of discourse are the basis for specific constraints from other systems. Thus, narrative structures may be mapped onto a discourse, thus assigning specific narrative functions to parts of the discourse, e.g. Setting, Complication, Resolution, Moral, etc. These narrative categories, however, do not map onto individual sentences/propositions, but onto macro-structures of the discourse. The complication of a story may for instance be expressed by a whole sequence, e.g. several paragraphs or a chapter, of the story, of which the global semantic coherence is defined in terms of macro-structure.
- 2.4. Being a semantic notion, macro-structures are also characterized in terms of propositions or conceptual networks of the usual kind. The difference with those of sentences is one of level. That is, macro-structures are obtained by semantic mappings (transformations) applied to the local, sentential meanings of the discourse. These mappings are called macro-rules. The different kinds of macro-rules generalize, delete and 'construct' with respect to those sentential meanings. At the formal, theoretical level, they represent the cognitive processes/operations of information reduction mentioned above. A typical example is given by a discourse (fragment) in which we read about the different details of house building: we map the respective sentences onto the macro-proposition 'A is building a house', representing our 'global understanding' of that passage.
- 3. Sentence sequences and speech act sequences
- 3.1. Before we will show that a similar distinction between a micro- and a macro-level of analysis is made in pragmatics, we should first have a look at the relations between sequences of sentences of a discourse and the sequences of speech acts accomplished by uttering that discourse in a certain context. When we utter a sequence such as
 - (1) 1 am hungry. Do you have a sandwich for me?

we thereby first seem to accomplish a statement, and then a request. A characteristic grammatical feature of this sequence is that we cannot simply reduce it to one compound sentence, e.g. with the connective *and*. We here touch a rather complicated issue regarding the relations between sentences and speech acts: we might try to defend the (strong) hypothesis that in principle the accomplishment of a speech act requires the utterance of (at least) one sentence and that we need a new sentence for the accomplishment of a next speech act. This means that we cannot accomplish more than one speech act by uttering one (independently, e.g. morphonologically or syntactically defined) sentence. In those cases, e.g. for compound sentences such as

- (2) I am hungry and I am going to take a sandwich. where we might want to speak of two speech acts, viz. two statements in our example, we would rather say that one speech act is performed, viz. the statement of a compound proposition (a conjunction). Although our hypothesis is not without problems, e.g. in the case of compounded explicit performative sentences (*I promise you...., but I warn you ...*), we will assume that there is a non-trivial correlation between clause/sentence boundaries and speech act boundaries, Without further investigating further inplications and problems of
- 3.2. For our purpose, another observation may be made about example (1). The two subsequent speech acts performed are not independent. By uttering discourse (1) in a conversation, the speaker does not merely want to state that he is hungry, nor even that he is hungry and that he wants a sandwich. Rather, we may say, the statement expresses a *motivation* or reason for making the request as a next speech act. In certain contexts, e.g. when polite requests are being made, such a motivational speech act seems even required, without which the hearer would have insufficient information to comply with the request. In other words, the first speech act so to say functions as a *condition* for appropriately or effectively carrying out a next speech act. In a sense, we may even say that this next speech act is more 'important', or hierarchically 'dominating', expressing the purpose of the utterance as a *whole*.

At this point we already seem to change from the level of the individual speech acts, and their connection, viz. that of motivating condition, to the macro-level of a global speech act, performed by the utterance of the discourse as a whole. However, before we study this macro-level in closer detail, as well as the action theoretical apparatus involved, let us give some further examples of speech act sequences. A variant of the previous example is the case where a statement is following another speech act, viz. as an *explanation*:

- (3) Can you please tell me the time? I forgot my watch.
- (4) Keep out of sight. He would kill you!

this one-one-mapping hypothesis here.

(5) Please forgive me. I won't do it anymore.

Although there may be less clear-cut cases, we should carefully distinguish

between semantic relations between sentences or propositions, denoting relations between facts, on the one hand, and pragmatic relations between speech acts performed by uttering these sentences, on the other hand. In the latter case appropriateness or effectiveness conditions of speech acts are related: I state that I forgot my watch, in order to make my asking the time a reasonable act. Similarly 1 may state the grounds for a warning or advice, or the sincerity of an excuse. This difference between semantic and pragmatic connection may also be expressed by different (uses of) connectives. Pragmatic connectives are usually sentence-initial and followed by a pause, whereas semantic connectives are interclausal – within one sentence – and related with different intonation, as in (6) and (7), respectively

- (6) Did you take a sandwich, or did you have a real meal?
- (7) Do you want a sandwich? Or, aren't you hungry anymore?

Whereas in (6) a disjunction of two facts is questioned, the Or in (7) expresses a sort of correction to an earlier speech act, e.g. by checking whether one of its conditions (presuppositions) is satisfied. Similar remarks may be made for pragmatic connectives such as But, Moreover, So, Yet, e.g. as in the following excuse/request pair:

(8) Sorry to bother you, But, would you mind closing the window?

In all the examples given, there is some intuitive way in which we take one speech act to be the *main* act, whereas the other is functioning as a presupposition/condition, a control or modifier of die main speech act, much in a way as a subordinate clause with respect to a main clause. Instead of grammatical (syntactic or semantic) relations involved, however, the 'subordinate' speech act must of course fulfill an action function, such as a preparatory act, an auxiliary act or an essential condition of the main act. We see, thus, that a sequence of pragmatically connected sentences of a discourse, may express a *composite speech act*. In our examples these were complex one act being subordinated to the other. They may also be *compound*, viz. if the acts are merely coordinated, i.e. functioning at the same level, as in

(9) I need a vacation. I think I'll go to Italy.

4. Macro-acts.

4.1. We have assumed that in a sequence of speech acts a number of speech acts may be *functionally* related to form a composite speech act. That is, we take a sub-sequence of speech acts as a *unit*, from a certain point of view. In action theoretical terms, this may mean that such a composite speech act is *intended* as a unit or, conversely, *interpreted* or counted as a unit. In a complex speech act, e.g. the one performed by uttering discourse (3), this means that one of the speech acts is merely intended and executed in order to make the other speech act possible or more successful: I simply do not tell strangers that I have forgotten my watch (in which they are not interested, as such), unless such a

statement explains why I ask them the tune. Hence the *purpose* of the utterance as a whole seems to coincide with the purpose of the main speech act, the request, viz. that my interlocutor knows I want him to tell me the time and, as a consequence thereof, is prepared to and actually does tell me the time.

What holds for speech acts, holds for acts in general: lighting my pipe is a normal condition for smoking a pipe, and I perform the lighting with the sole intention to be able to smoke my pipe, clearly being the main act of the sequence. Similarly, I show my passport in order to be able to cash a cheque, or I bribe important people in order to sell more planes.

4.2. There is an additional level for the description of such act sequences, however. If I would report, for instance, the events consisting of the speech acts expressed by (3), 1 would e.g. say 'I asked somebody what time it was': In other words I would only report the main speech act, viz. the request. Or rather, I report my acts taken 'as a whole', i.e. together functioning as a request. In my later report this is sensible because the way I actually performed my request may have become *irrelevant*. The same would hold for the cheque cashing event.

We may make a further step. It may be the case that in a sequence of acts there is no 'main' act, and yet they may together form an action unit, e.g. when component acts form one *global* act. For instance taking a cheque, signing it, giving it to the bank employee, receiving money, etc. as component actions of the 'global' act of cashing a cheque. The same for laying foundations, building walls, building a roof, etc. in the global act of constructing a house. In the same way as above we may say in these cases that the component acts, whether coordinated or subordinated (auxiliary), are intended only within the framework of the intention of building a house. Such a 'composite' intention will be called a *plan*.

Clearly, the notion of a *macro-act* thus introduced in a more or less intuitive way is *relative*: an act is only a macro-act relative to a sequence of acts which, together, are 'taken as' such a macro-act. The phrase 'taken as' may then be specified cognitively or socially, in the sense that the macro-act is *intended* as such, its goal being the purpose of the sequence of more specific acts, or else *interpreted* as, and further processed (stored, remembered) as this more global level, or finally *counting* as such in special interaction. Thus, cashing a cheque at the bank, rather than merely handing my cheque, is a social action unit, at least on one level of description.

4.3. At the level of action and action description/ascription we now have a similar distinction as on the samentic level. In fact in both cases we have to do with properties of *complex information processing*. We not must see whether also the *rules* or *operations* are similar, because we of course need an explicit way to relate action sequences with their corresponding macro-act.

Given our examples above, we may indeed assume that similar or even the

same rules apply here. A first obvious rule would be that of GENERALIZATION: given a sequence of actions we may map them onto their common 'super-act'. I may have done various things in my garden, such as rowing the grass, weeding, etc.. but together they would entail the super-act of 'gardening'. Depending on die context, we would in a description/report choose the most informative, hence the most immediate super-act concept.

The second rule would be one of DELETION in which all non-relevant acts would be suppressed. Non-relevance would mean in that case that the particular act is not a *condition* of other acts following in the sequence. Thus, it seems irrelevant for a sequence of cheque cashing whether I sign the cheque with my left hand or with my right hand, or whether I tell the employee about the weather or not, unless such specific things are intended or interpreted as being conditions for acts occurring later in the sequence.

Finally, the examples given above, such as cheque cashing, house building, travelling, etc. are all subject to a rule of CONSTRICTION, in which normal conditions, components or consequences may, together, entail the global act. This may mean, for instance, that although 1 see somebody accomplish a certain number of specific acts, 1 will in the bank, take those as a cognitive-social unit, viz. of cheque cashing – even when I never saw him actually getting the money. Although in principle macro-rules as in semantics, are based on eintailment (see T&G) this means that in actual processing the operations are also based on inductive inference.

We see that the action macro-rules indeed seem to reduce and organize 'action infomlation', in the sense that both our intentions and hence our plans of action, and also our interpretation/description/ascription of acts to doing-sequences make use of this possibility of 'higher level' processing. In an intuitive sense we might say that we process the acts from a more 'distant' view-point, from which only the major acts, or the acts as wholes, and their consequences seem to count.

At the cognitive level the distinction is important in a more explicit theory of planning and control of action. When we want to meet a colleague in Paris, we will, globally, plan to travel to Paris by plane, but not (yet) all action details of the travel. As for semantic macro-structures we thus build a hierarchical structure of action concepts, which in each phase of execution may be 'translated' into more particular action concepts, which ultimately are instantiated by the accomplishment of some doing, like giving a ticket to an air-hostess. The precise 'deep structure' of such particular acts, in terms of knowledge, wishes, preferences, decisions, actual intentions and their possible modification, etc. will be left undiscussed here.

4.4. A final remark is necessary here about macro-rules operating on action, or rather, we should perhaps say, on action -cognitions such as purposes/intentions and in terpretations/ascriptions. The assignment of global acts to act sequences is

based on our conventional knowledge of the world, i.e. on *frames*. We know how cheque cashing, travelling, or house building is done, at least approximately, and for non-technical action. Only then we may know that certain acts, in that particular order, form a macro-act. This means, among other things, that a macro-act as a unit must have certain conventional properties, i.e. really *function* as a unit, eg. by being itself a condition, consequence or component of another, possibly more general, act. Thus, eating in a restaurant may be a normal consequence of being hungry in a strange city, but probably not the unit <eating in a restaurant, buying a postcard>, even if this *sequence* may actually occur. So, the isolation of composite (compound or complex) acts on the one hand, and the mapping of sequences of simple or composite acts on higher level macro-acts is not arbitrary. but follows the given macro-rules *and* the frame-knowledge about the conventional units and segmentation of human-social activities.

5. Pragmatic macro-structures.

5.1. What holds for action in general also holds for speech acts. By accomplishing or interpreting a sequence of speech acts we may assign certain sub-sequences to a more global (speech) act. We now understand why the examples given in section 3 above give rise to intuitions about what actually 'has been done' in the various speech contexts. When we say, for (3), that somebody asked me the time, and for (8) that somebody asked me to close the window, we have mapped the actual sequence of acts (or act ascriptions) onto a macro-level, where only the request is relevant. Given the action macro-rules, this mapping is carried out as a CONSTRUCTION, because of the fact that giving reasons for a request may be a normal condition or component of the request. Similarly, the GENERALIZATION rule permits us to say that, ultimately, somebody told me so or so, where the actual speech act might have been an assertion, a promise, a threat, etc. Finally, we would apply DELETION on those speech act sequences in which certain speech acts have no direct conditional relevance for the main or global act accomplished, such as greetings which may introduce and terminate a conversation in which A requests B to do H:

(10) John: Hi Peter!

Peter: Hi John! How are you?

John: Fine, 'n you'

Peter: Well... I dunno. A bit lousy I guess.

John: What's the matter?

Peter: O nothing serious really. I flunked my exam again. John: Sorry to hear that. But next time you'll make it.

Peter: Let's hope so.

John: Listen, you know what? Tonight is that new Bertolucci movie, you

know...

Peter: Yeah, I heard about that.

John: I thought maybe it might be fun seeing it. Peter: I'll ask Sue. She likes Italian films.

John: OK, fine, do that.

Peter: Yeah, I'll phone her right away.

 (\ldots)

Although this conversation is artificial, especially lacking a number of typical properties of spoken conversations – e.g. as studied by ethnomethodologists we may already observe for our purpose that although a sequence of several speech acts is performed, the whole sequence may be mapped on the pair <ASSERTION A,Bp, REQUEST BAq>, or even on REQUEST B,A,q, being the only macro-speech act giving rise to further (inter-)action, such as Peter phoning his wife, or John, Peter (and others) going to the movies that night. The actual sequence consists of greetings, a question, an assertion, a consolation, etc. In fact, the request itself is not directly made in the conversation, only certain speech acts which indirectly may be interpreted as such. This means that certain conditions of requests (e.g. stating the presence of some possibly desired occasion or the positive implications of doing something (having fun)), must be actualized, as indeed is the case in our example.

5.2. Instead of studying here the precise local rules and categories of speech participants in a conversation, such as those governing opening, topic introduction, topic change, closing, and semantic or pragmatic coherence/ connection between sentences and speech acts, the pragmatic macro-structures of the discourse yield an explanation of what may be called the *pragmatic topic* of conversation. That is, at a certain point in a conversation both participants, know that they are engaged in a 'proposal', 'request' or 'promise' game, where the speaker may slowly first make some preliminaries, e.g. in order to secure some presuppositions, and where the hearer may 'help' the speaker by expressing his guesses at what the speaker is aiming at, for instance. In this way A's request to B to do H may take a relatively long conversation, depending on the intimacy of the participants, face keeping strategies, the delicacy of the request or the accusation, etc. With respect to all the possible varieties of actual execution at the local (micro-) level, the assumption of one or more macro-speech acts on which the conversation is mapped guarantees an invariant, such that the conversation acquires what may be called *pragmatic coherence*. This means, just as for semantic connection between sentences, that individual speech acts are locally and linearly connected not only by the usual connection conditions, but also relative to the macro-speech-act being performed. Thus, depending on the global pragmatic topic of conversation, a sentence like Tonight there is that Bertolucci movie may function as a (part of a proposal or as an excuse, although being a straightforward assertion.

5.3. Note that what has been said about action also holds for *interaction*, as may have become clear from the conversation example. We also have macro-acts in interaction, such that certain acts of a co-agent may become just conditions, components or consequences of a global act, or a main act of a 'main agent'. In our example it is John who makes the (global) request or proposal, whereas Peter is simply *co-operating* in getting the request done properly, e.g. by showing interest, or announcing subsequent action.

Of course, a notion of *perspective* is involved here. We might assign different macro-acts depending on whether we see or report the action sequence from the point of view of the one or from that of the other participant(s). Whereas I will say that I went to the bank to cash a cheque, an, employee will report that he helped a customer. Besides the level of description/ascription, the frame knowledge, and the macro-rules, we here meet a fourth component of action interpretation.

More in general we should say that the rules operate with respect to the *cognitive* and *social contexts* of the action planning and interpretation: it depends on the tasks; the agents or observers, etc. what kind of macro-acts are assigned and on what level. Thus, action description in a police report after a crime may be much more detailed than in the yearly report of a big organization.

5.4. An interesting by-product of the theory which we here are informally developping is that if we assume that we can plan. perform and interpret sequences of acts as macro-acts, these macro-acts must also have a 'content', i.e. a propositional basis. We would in that case be in a predicament without at the same time having semantic macro-structures which precisely yield the macro-proposition needed as the basis for a macro-speech act. Thus, the global request of A to B may be to go to the movies with him', but this actual proposition may well not be expressed as such in the conversation. For our example this means that we should assign semantic macro-structures not only to (monological) discourse, but also 'to dialogues. In fact, without doing so, we would be unable to make explicit the notion of a (semantic) topic of conversation, that is, what the conversation 'is about'. Linear connection and coherence for dialogue, thus, is basically respecting the same constraints as those operative for (monological) discourse, where the obvious differences pertain to speaker change, and hence deictic reference, perspective change, and speech act pairing (adjacency pairs like question-answer, accusation-defense, etc.).

What is purported here is *not* that all conversation should or could be assigned a macro-proposition and a macro-speech act. Actual conversations simply are not always coherent taken as a whole. There may be topic change nearly from sentence or pair to next sentence or pair. In such cases there would be no difference between micro-and macro-structure. Typically, such conversations cannot simply be recalled and reported – if they were rather long – due to lack

of overall organization Yet, although this is both theoretically and empirically possible, most conversations are 'around' a certain number of topics or 'themes', which organize parts of the conversation in the way described above for meanings and speech acts.

We now see that not only at the level of sentence and speech act sequences there is a close relation between discourse structure on the one hand and (speech) interaction on the other hand, but also at the level of higher-order concepts and actions. If we construct, in planning or comprehension, a macro-proposition we also should construct a macro-speech-act which would assign it a specific pragmatic function in the communication process. And canversely, if we talk about global speech acts, they also should have a global content. The interesting thing is that the rules or operations needed to relate different meaning-levels are also those which operate on different action-levels. Action, indeed, is an *intensional* notion, and our reference to action planning, interpretation, etc. already suggest that macro-acts should not be sought at the level of concrete bodily doings, but at the level of mental constructs. Which brings us to the cognitive basis of our theoretical speculations.

6. Pragmatics and cognition

6.1 . Little systematic attention has been paid in pragmatics to the cognitive basis of pragmatic notions. Although we are talking about speakers, hearers, appropriateness, etc. most pragmatic conditions which are formulated in order to define speech acts and their appropriateness are of the cognitive nature, such as 'knowledge', 'belief, 'wish', 'sincerity', and so on.

Of course, these notions have mostly been used, both in philosophy and in linguistics, as abstract constructs, as categories within a pragmatic theory, but actual cognitive constructs and processes which should be their postulated empirical basis have had little close study. Similarly, from the point of view of cognitive psychology and artificial intelligence, the pragmatics of natural language and communication until very recently has been a neglected theoretical and experimental domain. In fact the same holds, more in general, for the social basis for cognitive processes of communicative interaction: comprehension, storage, recall, reproduction, etc. are all co-determined by parameters of the particular and social context, such as conventions, norms and roles, values, but also knowledge and belief, constituting the frames discussed above. Although a fortiori the same applies to the important social properties of speech acts, we will in this paper limit ourselves to a few remarks about the cognitive basis of pragmatic theory.

6.2. Both in the discussion of semantic macro-structures and in that about macro-speech-acts and action in general, we have already made several remarks about the cognitive 'necessity' of macro-processing. This means, among other

things, that in the production and interpretation of discourse and speech interaction a language user is unable to process complex meaning and action information on the 'local' level alone. In order to guarantee overall coherence individual sentences and speech acts must be organized into higher level units, viz. macro-structures. We have seen that this hypothesis explains how language users can comprehend longer discourse, are able to answer questions, solve problems, give summaries and partial recalls, although the individual sentences are at least after some time, no longer accessible. Indeed, the different cognitive tasks mentioned here are all based on a constructed and stored macro-structure. Only under specific circumstances, which may be personally variable, certain details from a discourse may be retained after a certain delay, e.g. striking or unusual events, persons or properties (not having a macro-structural function).

63. Similar remarks may be made for processing speech acts, i.e. for the production, execution, control, and for the interpretation/ascription and reaction of complex sequences. It may be assumed, then, that the pragmatic planning of a discourse or conversation requires the mental actualization of a global speech act concept. It is with respect to this macro-speech-act that the purpose of the verbal interaction is constructed, i.e. a representation of the ultimate goal of the interaction: that X will know or do something. If we say, in a rather loose way, though familiar in the social sciences, that human action is goal-directed, we thereby mean that action sequences (and hence the concrete doing sequences manifesting these action sequences) are carried out under the effective control of a macro-intention, or plan, embedded within a macro-purpose, for one or more global acts. Whereas the macro-purpose is the representation of the desired consequences of an action (which may be beyond the control of the agent: X may well not believe what I say) the macro-intention or plan is the conceptual representation of the final state. i.e. the result, of a macro-action, e.g. my having accomplished an appropriate request. Without a macro-purpose and macro-intention we would be unable to decide which actual speech act would bring about a state from which the intended result and the purposed goal could be reached.

Take for example the conversation between John and Peter. Although it is not clear from the conversation whether John already before the conversation had the plan of asking Peter to go to the movies or whether this plan was formed during the conversation, eg. In order to console or distract Peter because of his flunked exam, we must assume that *before* John is making the statement about the Bertolucci film being 'on', he already has the intention to ask Peter to accompany him. Otherwise the statement would hardly fit the conversation because Peter would, as such, have little interest in this kind of information. Hence, the statement is made in order to establish a knowledge state, with respect to which a request can be made. One can only appropriately make a proposal with respect to some event or object, if one's partner knows about that

event or object. Similarly, for the suggestion that seeing the movie might be fun, which is an indirect question about the required desire or willingness of the hearer. In other words, by systematically intending and carrying out speech acts of which the results and goals (e.g. Peter's answers) are preparatory, auxiliary or necessary conditions of a global speech act, we first need the purpose and intention formation for this global speech act, which then selects the optimal 'local' strategies to accomplish the global speech act.

Note that these processing hypotheses have important social correlates. By thus systematically 'constructing' a speech act in a conversation, the speaker not only avoids miscomprehension, but also keeps open the possibility to *change* his plan, which in turn may avoid the embarassing situation in which the hearer has to comply with a request. By first 'checking', indirectly, a possible interest, the speaker creates an optimal situation for further carrying out the main speech act.

6.4. In comprehension the process is, at least in part, reversed. Given certain 'local' speech acts first, and mostly not a global plan of speech interaction, the hearer will make hypotheses about the most probable intentions and purposes of the speakers what does he want from me? Thus, when Peter in our conversation acquires the information that there is a Bertolucci movie in town, he will not normally take that assertion as such, but as a preparation for another speech act, e.g. a question ("Have you seen it?"), a request ("Can you buy me tickets for it ?"), a proposal ("Shall we go and see it ?") or a promise ("I'll take you with me to see it"). Socially, this cognitive hypothesis may provide him with the possibility to 'avoid' certain speech acts which would require an unpleasant answer (e.g. a refusal), by reacting to the preparatory speech act in a way which will make the speaker change or abolish his plans, as described above. Conversely, the anticipation which is possible through the hypothetical formation of a 'macro -interpretation' in the hearer, provides the hearer with the important social ability to help or encourage a speaker, eg. by pre-formulating awkward questions or requests for him. Typically so in therepeutic conversation.

A next role macro-speech-acts play follows from the observations made above. Only a global speech act assigns 'over-all' results to a discourse or conversation, and only over-all results are possible conditions for globally purposed goals. In other words, even if a particular request is not expressed in the conversation, but only certain component or conditional speech acts together functioning as a global request, the hearer will know that a request has been made and will be able to change his internal systems such that a possible (re-)action can be carried out. Of course, in actual conversation there may be difficulties of comprehension, typically expression by sentences like "So, what?": In such cases the speech act 'data' for the construction of a global speech act may be insufficient, although the individual sentences and speech acts may, as such, be well-understood.

6.5. It may be assumed that global speech act interpretation during comprehension at the same time provides the basis for further processing. Thus, our episodic memory about the speech event will typically store the 'major' speech acts, as defined by the macro-rules, thus yielding information in order to answer questions such as "What did he do/say"? In the long run, however, most of this episodic memory, even the macro-structural acts, will be forgotten, since most actual interactions as such do not yield more general semantic knowledge or values, but rather the semantic content of assertions, or the possible main actions of a major event in ones life.

6.6. These very few remarks, even more informal than the others, due to a lack of a serious processing theory of complex discourse and event interpretation, will have to cover some of the cognitive aspects of global speech acts. We see that both in production and in comprehension these are necessary for the 'control' of the local speech acts on the one hand, and for the recognition of ultimate results and goals on the more global interaction level on the other hand.

There are however many problems unanswered. First of all, our cognitive systems related with action are not limited to mere frame knowledge as briefly discussed above. Of course part of this conventional knowledge will also pertain to the conventional structure of speech acts and their appropriateness conditions, so that the cognitive processes of planning and comprehension as described above have 'data' to operate upon. Nevertheless, more particular knowledge or belief is necessary about our *abilities*, in particular our pragmatic abilities. We must know what we *can* do, given a certain speech context. Yet, what the precise *strategies* are which enable us to play the optimal social games of global assertions, requests, advices, etc. aiming at convincing somebody to believe or do something, remains still obscure beyond the few elements of the analysis given above.

Directly related with this knowledge about rules and strategies for appropriately accomplishing speech acts there must be a system of *norms* and *values*, regulating what in a certain context we should (not) do, what is socially preferred, and so on. As such, I would make an appropriate request by just directly asking somebody whether she will marry me, or whether he will lend me 10.000 guilders. Yet, certain questions and requests are not performed at all in certain social contexts, or are performed in an indirect way, with many hedgings, motivations, excuses, etc., even among close friends, as we saw above, due to norms and values with respect to topics of conversation or rather with respect to the kind of (re-)actions we may expect from our speech participants. The same holds, a fortiori, in institutional contexts, where certain speech acts are obligatory, e.g. in court or in other juristic transaction and interaction.

These norms and values in turn influence the *personal* system of *wishes* and *preferences* of language users which are the basis for actual decision processes leading to the formation and execution of speech act intentions. Again, we

hardly know how this system influences the precise execution of global and local speech acts. Especially the strategies applied when personal wishes and interests conflict with social norms and values need be investigated for conversation: or how do 1 ask a girl to go to the movies with me, without offending her, breaking her right to privacy, without loosing my face, and so on. One of those strategic problem,, in pragmatic interaction we are all familiar with. The notion of pragmatic macro-structures is just one component in the adequate formulation and understanding of this kind of problems in the pragmatics of discourse.

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