0. Introduction

Two completely different philosophical attitudes are represented in the field of pragmatics (reflecting of course older and deeper differences); roughly: *pragma-semantics*, or, as sometimes labelled, *radical pragmatics*, pursued by the inheritors of Paul Grice and many scholars of the referential-logical tradition, with various degrees of commitment to truth-conditionality, which is interested in the construction of meaning through cognitive or artificial
(formal) models, and the trend represented by the inheritors of speech act theorists and of discourse analysts in a wide sense, who pay close attention to social determinations of linguistic behaviour. Still roughly – since the subfields of ‘pragmatics’ are in fact countless, representing a great variety of orientations –, the first one focuses on the theory of human language understanding, assuming a ‘bottom-up’ view (where global – discursive – issues are explainable by local semantic and pragmatic phenomena), while the second one focuses on a theory of speaker’s productions of utterances and on structural patterns of discourse and interaction, assuming a ‘top-down’ view (where issues concerning single utterances are explained by global discursive or social constraints). My way of entering the *pragmatic interfaces* debate will be to defend the necessity of a bottom-up view of discourse explanation in front of a top-down approach, but with some nuances; namely that a bottom-up explanation of pragmatic understanding is a (necessary) input for top-down models of discourse.

I will thus argue that discourse is better analysed not as a *structured entity* but as a *process* (following Chafe, Sperber & Wilson, Carston, Recanati, *inter alia*). I will in particular focus on some basic assumptions of cognitive pragmatics, which form the grounds of the kind of pragmatics I am trying to develop, *procedural pragmatics*, which aims at bringing cognitive pragmatics (in particular Sperber & Wilson *Relevance theory*) to a higher level of operability for proper analysis (a first attempt is to be found in Saussure 2003 about the analysis of the interpretive procedure that handles temporal information). In the second part of the paper, I will take advantage of some of these fundamental assumptions, notably about contextuality, and argue in favour of an early integration of contextual parameters in human understanding of linguistic forms, an idea widely acknowledged already by the wide literature in psycholinguistics and experimental pragmatics. I assume that procedural pragmatics can provide a model for tracking step-by-step processes of contextualization starting at the level of the logical form, through an ongoing parallel (but not necessarily strictly speaking connectionist) process of assumption-formation, confirmation and contradiction, at different levels of representation, including explicit and implicit meaning. As a conclusion, I will turn back to the notion of discourse and suggest some ways to see what a discourse can be according to such a perspective.
1. Discourses as wholes, discourses as processes

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

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

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

A way to address the problem of discourse from a cognitive pragmatic
standpoint is to hypothesize that there exists a higher level of representation
of information than the structural and propositional ones we attach to single
utterances in context. Such higher-level representations would be
‘discursive representations’. Pragmaticists deal with a finite set of
representations: formal representations (typically the syntactic, or logical,
form), semantic representations, propositional representations of explicit
meaning (typically Sperber & Wilson’s propositional form or Grice’s what
is said etc.), and representations of implicit meaning (implicatures). A
problem is then to evaluate whether we get things like ‘discursive
representations’ which happen only in organised sets of utterances, or not.
The answer seems obvious: we certainly are capable of attributing to the
speaker complex thoughts that are only expressible with more than one
utterance, thus discourses (‘reasoning’, following ancient philosophy, which
is the combination of judgements in order to produce new judgements). This
means that most pragmaticists would, I suppose, agree that there are things
that deserve to be called discourses and which deserve scientific description.
Such a viewpoint is presupposed in a wide number of approaches from
Antiquity to Port-Royal Grammar and to contemporary theories of
argumentation, not to mention many approaches of language within social
science, sociolinguistics, social psychology of language, and of course,
within literature studies and even critical discourse analysis.

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

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

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

Second, some Discourse trends suggest that parts of discourse are distributed non-sequentially; in other words spans of discourse can attach to spans other than the directly preceding one, through a particular rhetoric relation (typically in Mann & Thompson’s Rhetorical Structure Theory, in Roulet’s modular approach of discourse, in Lascarides & Asher’s Segmented Discourse Representation Theory). On the contrary, Utterances trends will say that these are not relations between spans of discourse but relations between the current utterance and parts of the environment available, as representations, for contextualization. All this may be a dispute of words, though, since what Utterances trends call ‘context’ incorporates what comes out from the understanding of preceding utterances, therefore of parts of the preceding ‘discourse’, and since Discourse trends have to take single utterance meaning into account for anything ‘discursive’ to emerge.

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

This last point is important since Discourse approaches are more like tools for the analyst rather than explanation of natural language understanding procedures, although some theories aim at bridging the gap between the two, following the pioneering work of Searle when he, so to speak, made the Austin-Grice interface through the architecture of illocutionary force applied to a propositional content that could take into account intentional implicit meaning (van Eemeren & Grootendorst’s Pragma-dialectical approach is another example of how Searle’s early ideas can be exploited in a way that articulates natural language understanding procedures with issues regarding utterances’ interconnections in a given conversation or discourse). The pursued outcome of a number of Discourse approaches, notably within Critical Discourse Analysis, is that ordinary individuals should in the end become analysts in a weaker sense. There is no such ambition in most Utterance approaches, although a number of works might open to similar objectives if appropriately communicated to the greater public.

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

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

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

However it remains that most scholars in *Discourse* theories use non-deterministic approaches and prefer to use informal heuristics rather than formal tools. A possible reason for this is that if we don’t use a formal model, we are able to focus on much more complex concerns, leaving aside the complex and time-consuming details of consistent micro-analysis, which is by the way somehow provided ‘intuitively’. Instead of worrying about pragmatic accommodation of semantic forms, or about the semantic or pragmatic nature of existential presupposition, we can have scope over complex networks of human negotiation, and address, through observation of discourse, things like the underlying set of assumptions of the considered
discourse, its coherence, its structural effects on social matters, dismantle the way a speaker organises his speech in order to influence others, etc. On one hand, things like meaning need not, in such perspectives, be technically explained since meaning is an obvious and given data to deal with. On the other hand, it is no surprise that the conclusions obtained through Discourse approaches are qualitatively more speculative than what is obtained through formal models that don’t accept an unidentified number of possible outputs for a given input, and that these conclusions can be redundant with the ones we can get from semantic and pragmatic analysis.

Purely formal models admit (that is the case for DRT, SDRT and Ter Meulen’s Discourse Aspect Trees, Ter Meulen 1995) that they provide a model of discursive reality and organization, and that they do not worry about the complexity of cognitive reality. This position is wise in the measure in which all model-theoretic positions can be: a picture of reality is not reality but a picture; a road map has not the size of the actual land it describes (otherwise it would be of no use) but a useful – but approximate thus false – picture of that land. But this position also seems wise if we suppose, as Saussure did in his third course of general linguistics, that we don’t have access to the “folders of the mind” (Komatsu & Harris 1993:80). Along this line of thought, cognition is a black box and the best way to account for human natural information processing is to build an ideal model of it, no matter the cognitive plausibility of it. Some will use, for example, automatic non-monotonic (default) logics, or another type of rationality (other approaches will prefer to avoid, or correct, the model-theoretic bias through a focus on ‘external’ observation in the line of behaviourism or through various types of non reductionist, or less reductionist standpoints). As a matter of fact, formal theories of dynamic natural language processing, in general, boil down to computational models of natural language processing. It’s no surprise then that the model gets validated by appropriate coding for computer implementation. Yet such a way of modelling human understanding looks like building airplanes in order to address how birds fly. In the end, by doing so, we indeed end up with the ability to fly, while, the ornithologist, should he speak about birds for ages, wont see wings appear on his back. Of course, beyond these theoretical perspectives lie significantly different aims.

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

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

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

The hypotheses that we form ‘online’ about the actual structure of the linguistic string as well as its meaning have two important pragmatic properties. First, they are pragmatic in the sense that they are context-dependant. Second, they pragmatic in the sense that they have to do with
rationality and beliefs: in particular, they are assumed with a certain degree of plausibility. If that degree is too low, then the hearer waits for more reliable information before he places a (new) bet. This happens when the hypothesis cannot be exploited when confronted with the hearer’s cognitive environment in order to make new relevant information emerge (in other words, when no cognitive effect is generated by the hypothesis).

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

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

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

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

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

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

(1) Paul is not an economist, but he’s a businessman.

*context: evaluation of whether we can ask Paul a financial advice:*

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

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

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

I am thus considering that natural language interpretation is a complex procedure dealing with various types of representations and bringing sub-systems – modules, so to say – to information exchange. There is a procedure for syntactic form construction, there is a procedure for explicitness, and there is a procedure for implicatures. The next step was to raise a few hypotheses about how these representational processes work together and exchange information; in Saussure (2005c), I defend a parallel handling of information at these different levels, with sub-procedures, and a device checking what beforehand I called coherence at the level of utterance processing.

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

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

In other words, specific devices are granting the respect of principles: an effort-effect balance and plausible attribution of thoughts to the speaker. Other aspects, of course, are also taking part in this global process: the utterance can be metarepresentational, metaphorical, etc.; these aspects are managed through either extra-processing effort or direct conceptual loosening. That is not my concern here. What seems important to me is that there must be a module controlling what the plausible speaker’s intention is. Following the work pursued on Autism by Baron-Cohen (1995), this module is sometimes named mindreading module (for example by Relevance theorists); several cognitive approaches assume that a perturbation of the module, whatever his name and his specific properties may be, entails a perturbation of the capacity to interpret utterances, in particular metarepresentational ones (observed in autism). It makes sense that this module also controls relevance searching, since the target of relevance searching is a mental state corresponding to an intention: the speaker communicates that his utterance is optimally relevant; for this to make sense, it implies the possibility of self-representing the plausible speaker’s assumptions about the relevance of this utterance. This mindreading module controls the mechanistic algorithms – the procedure – of utterance understanding. And it is cognitive, not logical, nor is it conventional (but we could call it ‘social’ as soon as it concerns the abilities of the human mind to organize activity in interpersonal relationship). In a procedural approach, it would be conceived of as being a controlling device for the procedure, establishing the likelihood of the obtained result to be the one that corresponds best to the informative intention of the speaker. Again, notwithstanding controversies about the nature of this device – is it really the mindreading module posited by these approaches, is it an ability based on rationality, etc. – it is at least clear that if we think of natural language interpretation as a procedure handling elements of several kinds and making them produce meaning all together, and if we think that only seldom is one meaning alone possible for a given utterance even in a given context, then we need a device that tells us when to stop elaborating meaning reconstruction. It is more likely that this ‘mindreading’ device is a cognitive ability than a simple consequence of the rational calculus ability, or of the Fodorian ‘central’ system, since some pathologies show that subjects having
standard (or particularly efficient) rational abilities but strong mindreading perturbations at the same time (Baron-Cohen 1995 again). In other words, the mind can control ‘full meaning construction’ thanks to a metarepresentational ability.

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

3. Discourse issues

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

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

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

A discourse can also be seen as a set of organised representations held within a cultural community, appearing in specific texts. This is assumed for instance for both postmodernist continental approaches (Foucault or Bourdieu would assume something like this) and ‘dialogism’, the trend initiated by Bakhtin (see for example Bakhtin 1981), for whom any given text or conversation ‘polyphonically’ evokes and echoes dialectically other texts and conversations. I will not comment these interesting but barely operative intuitions here (on polyphony vs. metarepresentation, cf. Saussure to appear).

Second, discourses can be tackled as meaningful units. ‘Meaningful’ means there ‘corresponding to a speaker’s intention to pass on a given message’ and therefore implies, for the interpreter, speculations on not only the local meaning of individual sentences, but the global meaning of some given span of speech or text; local and global meanings are in fact local and global intentions to bring manifestness to assumptions; for local and global intentions, see Reboul & Moeschler (1998).

Whatever the best definition of discourse may be in the end, the central issue in its study is, in my view, the following: by studying the abstract structure of discourses, their types, their internal organisation, will we better understand human communication? Opinions regarding this point diverge, but it’s easy to notice that discourses, if they are not seen as a by-product of semantic and pragmatic understanding procedures, are abstract objects, which have little relation to what actually happens during the communicative action. Let me shortly elaborate on this point.

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

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

An alternative version is to say that discourse structures do actually exist, but that they are the result of meaning construction, thus of interpretation, as I will now argue; only the meaning level is easily accessible to a hearer / reader, while the structure of discourse appears only with cautious analysis. Recovery of discourse structures is not a spontaneous and automatic cognitive operation; conversely, meaning recovery is. Nonetheless, studying discourse structures can be the key to backtrack the main problem, that is, how meaningful information is recovered through related utterances. Yet I take it for granted that no discursive structure can ever be dismantled without a model of how its elements come to become meaningful.

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

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

Again, this does not imply that there is nothing like discourse structures, nor that it would be meaningless to study discourse structures according to the analysts’ intuitions. Certainly, some pragmaticists would say, elaborating on Blakemore’s claim that communication should not be studied in relation with the notion of discourse, that discourse structures are simply irrelevant. But this is far too abrupt. When considering argumentation in particular, it is clear that only discourse structures can help us understand the role of utterance sequence production with regard to things like belief-
acquisition. Studying discourse as bearing structures of functional items thus means tracing back to the cognitive operations that are driven by a typical sequence of types of utterances. That way, discourse studies combine, or interface potentially well, with semantic-pragmatic analysis. And when it comes to generalization, discourse structure studies are technically allowing for tracing back possible interpretations, and therefore tracing back potential belief inculcation and other changes of the cognitive environment of the hearer/reader (reason for which many discourse approach focus on discourses with a generic audience like media and political discourses, with a concern on how discourses are produced, rather than interpreted).

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

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

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

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

Notes

1 I am grateful to the readers of a first version of this paper, in particular to Peter Schulz, Patrick Morency and Steve Oswlad for their comments, advices and proof-reading. Remaining imprecisions and mistakes are mine.
For example, French philosopher Roland Barthes said in his inaugural lecture at the College de France that "language is fascist" (January 1977).

Saussure says in his ‘third course’: “About the folders inside our mind, we can’t explore them” (Komatsu & Harris 1993:80, translation mine).

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

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

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

References


Author’s address

Louis de Saussure
Institut de linguistique
Faculté des Lettres et Sciences Humaines
Université de Neuchâtel
Espace Louis-Agassiz 1
CH 2000 Neuchâtel
Switzerland

Email: louis.desaussure@unine.ch
http://www.louisdesaussure.tk

About the author

Louis de Saussure, PhD, is assistant-professor at the University of Neuchâtel (Switzerland). He was lecturer at the University of Texas at Austin and visiting scholar at UCL (London) and at the French CNRS, and visiting professor at the Ecole des hautes etudes en sciences sociales (Paris). He worked mostly on the pragmatics of negation and on French tenses. In his book Temps et pertinence (2003) he developed an algorithmic method inspired by cognitive pragmatics in order to account for the interpretive procedures and thus increase the operability of the philosophical concepts and principles proposed by such approaches. He is now also interested in wider problems of language and cognition such as manipulative and fallacious discourse; he recently co-edited a book on this topic, Manipulation and Ideologies in the 20th century: Discourse, language, mind in 2005.