

New insights into schemata and a discourse theory of meaning

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Abstract

Current theory of discourse analysis, schematic knowledge, and the scopes of pragmatics and semantics still present some flaws in the interrelation of their components.

In this paper we try to analyze the different components of those disciplines to establish their mutual relationship in order to achieve some clarification in the diversity of views, for instance those concerning the roles of *ideational* and *interpersonal functions of language* related to *declarative* and *procedural knowledge* in the context of semantic and pragmatic principles.

0. Introduction

During the past two decades much talk has been done on the issue of discourse, much of it from a conversational point of view (eg. Coulthard 1977), related to ethnomethodologists, such as Sack, Schegloff and others. Other approaches to discourse include those of text grammars, speech act theory.

One insightful approach to discourse, which represents in several respects an interesting shift of emphasis from the two views mentioned above, has been developed by H. G. Widdowson, close to an ethnomethodologist's position, as can be ascertained from the following quote:

«What we do when we produce discourse is to provide as many clues as we think necessary for *the satisfactory conveyance of our meanings*: we do not express everything we mean. Indeed, it is probably impossible to do this even if it were necessary. But it is not necessary. We inevitably rely on common knowledge: we make assumptions about what the person we are addressing can infer from what we say.» (Widdowson 1978:31; emphasis added)

But it is apparent that there is a lot more in his way of thinking than a mere concern with communication. Due recognition is given to two important facts of discourse: our heavy reliance on our knowledge of the world and our capability of making inferences on the basis of that sort of knowledge, which is not grammatical.

What Widdowson is doing, one might be tempted to say, is to point to an essential of discourse theory: that some effort has to be done in order to bring together and put in perspective both the *societal* and *mental* aspects of language. Linguists have frequently emphasized only one of these two aspects to the (greater or lesser) neglect of the other. Consequently, our main concern in this paper will be to shed some light on the

relationship between both aspects. This will be done on a consideration of the relationship between semantic and pragmatic meaning in discourse.

1. Mutual knowledge and background knowledge

In recent years there has been a growth of interest in the communicative aspect of language. But this may be flawed to the extent that it results in playing down the relevance of cognitive factors in explaining language.

In general outline, two types of knowledge can be taken to be part of an explanation of discourse, related to Halliday's *ideational*, *interpersonal* and *textual* function. One can be described as *knowledge of* or «declarative knowledge», and the other as *knowledge how* or «procedural knowledge» (Rumelhart & Norman 1985). For example, knowing the rules of chess, which would be of the type of Searle's constitutive rules (since they define forms of behaviour), does not amount to knowing how to play chess (the actual and strategical implementation of the rules).

Now, if we take a look at most semantic theories, we will be able to see that they are based on different analysis of declarative knowledge. This is specially true of structural and componential semantics. What these linguistic approaches tend to do, in outline, is to dissect and set in contrast the meaning components of languages thereby establishing logical or lexical relations (see Lyons 1963, Leech 1981, Bierswisch 1970). Other meaning factors have normally been considered the concern of pragmatics.

But the boundary between semantic and pragmatic meaning is by no means a clean-cut one. Some might even wonder whether one can talk of pragmatic meaning at all. The point is that the distinction between semantics and pragmatics dates back to Morris's division of semiotics into syntax, semantics, and pragmatics (see Levinson 1983). This three-fold distinction is, at least at first sight, sufficiently neat, but it is not compatible in some respects with current work in the three fields.

If we want to say that pragmatics deals with the relation between sign (form, linguistic expression) and the language user, then should we include the study of modality, that is, the speaker's own attitudinal contribution to the content of utterances, within the field? If semantics is concerned with signs and their designata, their intended referents, should deictics be included (at least partly) within the field? What about Searle's speech acts? (see Searle 1969, 1972). These would not seem to belong anywhere as a set. *Commissives*, which commit the speaker to some future action (eg. promises, threats), and *expressives*, related to the speaker's conveyed attitude, would be pragmatic. But *declaratives* and *representatives* would be semantic in so far as they are concerned with states or events in the world. A representative act simply describes a state of affairs (eg. a report, an assertion), while a declarative changes a state of affairs (eg. the naming of a ship). *Directives*, like requests and commands, attempt to regulate the behaviour of the hearer, to get him or her to do something. Where do these belong?

It might be argued that all these acts take account of the attitudinal element in language, that they are speaker-oriented and therefore the concern of pragmatics. But the fact still remains that there is a clearer involvement of the language user in

commissives and expressives (and maybe in directives) than in declaratives and representatives.

What we have been able to see so far is that such a neat boundary does not really exist. Now, we would like to suggest that while the concern of pragmatics with the language user is central, it is not so in the way implied by Morris. The main problem of his account is to be found in the point of departure: Morris seems to be concerned with the study of sign relations, but a consideration of language, while certainly dealing with signs, needs to include some work on conceptual matters too. And now we go back to a previously stated point. Every speaker of a language makes use of a number of knowledge resources in communication. If we want pragmatics to be concerned with the language user, it follows that at least part of that knowledge has to be included in pragmatic accounts. But what kind of knowledge?

Most of the information we have concerning types of knowledge and knowledge domains comes from the fields of *artificial intelligence* and *cognitive psychology*. In a seminal book written by computer scientist Roger Schank and social psychologist Robert Abelson (1977) we find at least a partial answer to our query. Their initial assumption is that part of our knowledge is organized into structures which they call *scripts*. (For useful comments on the notion of script from two different points of view, see Sanford 1985, and Widdowson 1983). Scripts seem to provide the sort of background knowledge needed for the language user to understand discourse. Other authors have used other related terms to refer essentially to the same type of knowledge structures, among them that of *schema*. We shall preferably use this second term since it seems to be a more neutral one. For example, it does not place so much emphasis on events. It must be borne in mind that a lot of our background knowledge has to do with properties of things and the relations between them, as well as with ritualistic activities. Consider the following example (Sanford 1985:197):

John was feeling hungry so he went to the restaurant.
The waiter brought him a menu.

In order to understand this easy text, the reader has to fill in a number of details which are consistent with what he knows about restaurants: that there are waiters in restaurants, and that waiters have the obligation to bring a customer the menu; that the waiter brings the menu so that John can order his meal and eat; that people eat when they are hungry, and so on.

All the previous information has to be compatible with the script (or with the schema), and using it requires some amount of inferencing. Now the question is not so much *what sort of knowledge* the script includes, as *what sort of behaviour*, if any, regulates its use. The script gives us a lot of information on a specific sequence of events and a setting, which is declarative knowledge: a restaurant is a building which consists of walls, doors, and windows, which has tables, chairs, waiters and customers, where people order meals, etc. Maybe we could some day devise a semantic theory which took account of at least a considerable portion of the vast amount of information every individual has. It plays a most important role in discourse. But how does the speaker use this encyclopedic knowledge?

We believe that this last question represents the heart and core of pragmatics. And here we go into the understanding of the concept of *mutual knowledge*. The main reason for the division between background and mutual knowledge rests on the fact that not all language users share the same set of assumptions about the world. Thus, although it is possible to see the concept of mutual knowledge as depending, to some extent, on the concept of background knowledge, which is semantic, its pragmatic nature is established by the fact that it can be formulated in a procedural fashion (see Levinson 1983: 16, 113):

«We can say that S and H mutually know *p* (or that *p*) iff S knows *p*, H knows *p*, S knows that H knows *p*, H knows that S knows that H knows *p*, and so on, ad infinitum.»

It has been suggested that the concept of mutual knowledge is heavily relied on by many pragmatic concepts, like presupposition, felicity conditions, etc. (Smith 1982). In effect, when we engage in a conversational exchange we may be said to be presupposing what our interlocutor believes. Both speaker and hearer make guesses about what each other know. Some of these guesses are sometimes made explicit in the discourse so as to provide our interlocutors with information on our own assumptions. The number and kind of presuppositions we leave for the hearer to work out by himself depends on how explicit we want to be. The process we are referring to here is called meaning negotiation (see Widdowson 1984; Widdowson 1990:99-114):

«Communication involves the transmission of information from one individual world to another, from one schematic setting to another. Negotiation is necessary to bring about the required adjustment so that there is an alignment of frames of reference.» (Widdowson 1984:91)

We shall go back to some of the previous points later on. Now, with our understanding of the distinction between mutual and background knowledge in mind, we shall attempt to give a rough outline of what the semantics and the pragmatics of a linguistic description might include according to our view of discourse.

2. *Semantic and pragmatic knowledge*

The equation of semantics with encyclopedic knowledge has always been assailed by all sorts of attacks, since it is apparent that we cannot systematize a semantic description of something which is virtually unlimited. As Quine once put it, once you invite meaning into a description of language you invite some of its rowdier acquaintances as well. This concern probably lies at the heart of Bloomfield's attitude towards semantics when he complains that our knowledge of the world is «so imperfect that we can rarely make accurate statements about the meaning of a speech form» (Bloomfield 1933:74). But we may object that excluding a semantic description from linguistic theory is unfair since meaning plays a central role in language. And the problem with a restricted non-encyclopedic semantic theory is that it ultimately leads nowhere, for semantic knowledge is but a subset of cultural knowledge with no clear boundaries so far established.

By way of illustration take the semantic concept of «selectional restrictions», which is based on the theoretical notion of the compatibility of meaning components. The sentence **The table ate the meat* apparently shows two lexical items (*table* and *eat*) which cannot co-occur in that order. Chomsky tried to accommodate facts of this sort within the grammar -in his 1965 model- by specifying in the lexicon a number of such features as mass, animate/inanimate, human/non human, male/female. If the semantic features for *eat* include the information that *eat* can only occur with animate objects, grammatical anomalies like the one above can be easily explained away. Arguments against this view are numerous in the literature, and surprisingly what they tend to substantiate is that meaning is to be understood in cultural, encyclopedic terms rather than otherwise. First, consider the anomalous sentence **The water-lily ate the goldfish*. It is clear that the feature [+animate] cannot account for the oddity, since plants are animate beings. Then one might argue that we could postulate a feature [+animal] and the restriction would hold, but the explanation would still be overly naive. Are we sure we can all tell the difference between plant and animal life in all cases? And can we really say that plants do not eat? The fact is that they do, but of course they do not generally eat solid food. However, carnivorous plants do eat solid food (insects). Should we further postulate a [+carnivorous plant] feature? We get the feeling that the list of features would be virtually limitless and that there are, as usual, some borderline cases which cannot be adequately dealt with. Second, the theory cannot account for the fact that the sequence *water-lily -eat- goldfish* is not necessarily anomalous: *My three-year old son thought the water-lily was eating the goldfish* would be perfectly permissible. The world of the three-year old is different from our world, and since the number of possible worlds is infinite, again we get the feeling that it is impossible to stick to the notion of selectional restrictions. This uncertainty was curiously shared by Fillmore, who makes use of semantic features in his work, though assuming that these are distinguishable from the properties of real world objects:

«It looks very much as if for a considerable portion of the vocabulary of a language, the conditions determining the appropriate use of a word involve statements about properties of real world objects rather than statements about the semantic features of words.» (Fillmore 1970:131)

So far so good. But what about pragmatic knowledge? We have already made a difference between two sorts of knowledge, declarative and procedural. Declarative knowledge is semantic knowledge. Does that mean that procedural knowledge is pragmatic?

Some linguists have tended to favour a definition of pragmatics which takes account of contextual factors and knowledge of the world. According to them, a pragmatic theory must try to account for the inferential nature of presupposition, implicature, illocutionary force and the like. Both features of the context of situation and of what we may call a *schematic context* have a strong bearing on interpretation. To such a extent that the pragmatic phenomena mentioned above cannot be properly understood without reference to those features. Take Grice's account of the maxims of conversation which underlie efficient co-operative use of language. These are the well-known maxims of

quantity, quality, relation and manner (Grice 1975). Now, let us see how these conversational principles work in one of the examples given above:

1. *John was feeling hungry so he went to the restaurant.*

2. *The waiter brought him a menu.*

We said before that we are able to make sense of this short stretch of discourse because of the activation of some relevant world knowledge about restaurants, waiters, customers and menus. But would one invoke such knowledge or make any inferences if one did not assume that there must be some sort of relation between sentence 1 and 2 of the utterance? What if one did not assume the speaker is telling the truth? And what if, by some kind of prejudice, one assumed the speaker is being uninformative?

Let us imagine the following exchange based on the same piece of discourse:

A : *I was feeling hungry so I went to the restaurant*

B : *What was on the menu?*

It is evident that speaker B assumes that speaker A is telling the truth, and that he has been as informative as he thought it necessary, since speaker B demands more information. Also, speaker B in no way believes his response is inadequate or unrelated to what A says, though he uses no grammatical device to achieve cohesion. A and B's utterances can only be related if the right world knowledge is activated.

It has been suggested that there are many more principles at work in language use (see Leech 1983, for example, where other conversational principles, like the Politeness Principle and the Irony Principle are proposed). Principles, unlike rules, are not absolute but scalar in nature and the violation of one principle normally results in the enforcement of another. For example, the remark *Here comes trouble!* told by someone to a friend in the street represents an obvious breach of the maxims of quality (from the Co-operative Principle) and of tact (from the Politeness Principle), only to enforce the so-called Banter Principle. It must be noted in passing that it is not only contextual clues (the street setting, meeting a friend) but also some knowledge of socially regulated conventions which is invoked in the enforcement of that principle. The inference, as Leech (1983:144) puts it, is:

«What *s* says is impolite to *h* and is clearly untrue. Therefore what *s* really means is polite to *h* and true.»

It may be apparent by now that pragmatic knowledge is essentially procedural. Pragmatic knowledge allows us to make effective use of our stock of background knowledge in at least two ways: first, by providing conventional principles of social interaction (like the co-operative and the politeness principles) which control the quantity and quality of the assumptions we make; second, by helping the language user to establish a common ground of shared knowledge with other speakers, without which communication would be severely impaired.

The division between declarative and procedural knowledge has enabled us to establish a clearer borderline between semantics and pragmatics. But both types of knowledge can be further analyzed into subtypes.

In our treatment of the «script», we tried to separate three main kinds of information in it: (1) information on event sequences; (2) information on participants and objects; (3) information on the roles of the participants and on social conventions. While (1) and (2) may be considered ideational knowledge, it is fairly obvious that (3) represents interpersonal knowledge. So, if we stick to the general, most neutral, notion of schema, as a discourse unit of semantic organization, we can talk of two main types of schema: ideational and interpersonal¹.

Pragmatic principles, on the other hand, can hardly be said to be ideational and interpersonal. The role of these principles is to establish and control communication. Therefore, they should be essentially interpersonal, which is evident from a look at the maxims of the co-operative and the politeness principles. But success in communication also depends on other principles which are not interpersonal. Take the following sentences:

- 1) Wanted- edible oil technologist²
- 2) Wanted- man to take care of cow that does not smoke or drink³
- 3) The man who the boy the students recognised pointed out is a friend of mine⁴

The anomalies exhibited by these sentences stem from the misapplication of textual principles. We cannot, strictly speaking, say that any of those sentences is plainly ungrammatical. No rules of grammar have been violated. In sentence 1), the writer has obviously wanted to make his message as short as possible, with the result that the sentence is ambiguous. In number 2), the writer must have relied a lot on our common knowledge that cows neither smoke nor drink alcohol. But the sentence is ambiguous. Sentence 3) is difficult to process since there is recurrent embedding.

Textual principles are concerned with the way we deliver our messages. In sentence 1) the economy principle has been misused. In sentence 2), the clarity principle has been violated. In sentence 3), we have a breach of the processibility principle. There is still a fourth principle, the expressivity principle, which tends to counteract any of the other three for reasons of effectiveness of expression (see Leech 1983:68). Thus, if any of the above sentences is intended as a play on words, we can say that the expressivity principle has been enforced. In any case, the language user is required to exercise his ability to make inferences on the basis of those principles in order to make sense of each sentence.

Take, also, any apparently anomalous utterance, whatever the type of anomaly it exhibits, whether semantic or pragmatic:

Wanted edible oil technologist
The water-lily ate the goldfish
John frightens sincerity

Any language user will automatically tend to make sense of them through the application of the maxim of relevance.

3. Conclusion

Pragmatics deals with interpersonal and textual principles, whereas semantics deals with ideational and interpersonal knowledge. Still, one further suggestion remains to be made concerning pragmatic principles. As language users we always assume that whatever is said might be relevant, unless we are proved wrong by evidence. The maxim of relation seems to be foremost among discourse principles.

Notes

1. In fact, Widdowson makes this distinction, which is inspired by Halliday's investigation into the functions of language, but he, rather rashly, identifies scripts with interpersonal schemata, which according to our view is wrong. One can find both ideational and interpersonal information in a script.
2. From Denys Parsons's (1971) *Fun-tastic*, London: Piccolo.
3. Ibidem.
4. From Chomsky (1965)

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