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Constraints on Interpretation

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Some time ago after presenting a detailed analysis of *after all* at a conference I was asked by a member of the audience why I had devoted so much time to such a little word. In fact, *after all* is not that little, and semanticists spend a great deal of time on much smaller words (*all* and *not* for example). But perhaps what he really meant was little in importance. What does a word have to do to be important? Contribute to truth conditions perhaps. It is certainly true that according to this criterion, *after all* could not be considered important. Although the use of *after all* in (1) indicates that his braveness is to be expected given his nationality, we would not want to say that the utterance is false should this not be the case.

(1) He is brave: he is, after all an Englishman

If contributing to truth conditions is a criterion of a word's importance (or size), then there are quite a few unimportant (or little) words. As many will have recognized, the example in (1) is adapted from one given by Grice. The original is given in (2).

(2) He is an Englishman: he is, therefore, brave

The fact that Grice said relatively little about *therefore* might be taken to mean that he too thought this was a little word. For, essentially, all he said was that this was an example of linguistic meaning which contributes not to truth conditions but to implicatures. That is, it is an example of a conventional implicature. What I hope to show here is that *therefore* and *after all* do in fact play a very important role in communication, a role which can only be appreciated given a proper understanding of the principles governing the interaction of linguistic meaning and contextual information in the interpretation of utterances. In my book *Semantic Constraints on Relevance* I was concerned with this role inasmuch as it seemed to provide an explanation for non-truth-conditional linguistic meaning. However, as I shall show in the latter part of this paper, this role is not confined to those expressions which do not have truth-conditional (or conceptual) content.

Karttunen (1974) and Karttunen and Peters (1975) have linked Grice's notion of conventional implicature to the class of phenomena referred to in the presupposition literature as pragmatic presuppositions (cf Stalnaker 1974, 1975). While they recognize that it is unlikely that everything that has been called a pragmatic presupposition is in fact a case of conventional implicature, they claim that what Grice said about *therefore* applies equally well to such little words as *even*, *yet* and *too*. *Too*, says Karttunen is a rhetorical device whose presence or absence does not have any bearing on the proposition the sentence containing it expresses, but rather relates the sentence to a particular kind of conversational context. In other words, such expressions impose constraints on the context in which the

utterances containing them must be interpreted. If the appropriate context is not available, then the utterance is inappropriate.

But why should there be such words? We all know that the Gricean explanation for conversational implicature lies in the fact that the act of communicating creates certain expectations - expectations of truthfulness, informativeness, relevance and so on. One might think that conventional implicatures, because they are conventional, should have a very different explanation. However, I am going to argue that the existence of expressions that impose constraints on contexts follows from the very nature of communication, and in particular, from the role played by the assumption that the speaker has tried to be relevant.

It will be remembered that in his discussion of the rationale for the conversational maxims Grice toyed between a social explanation and a cognitive one. He ended up dismissing the idea that the maxims had their origin in the nature of society or culture on the grounds that this did not provide a sufficiently general explanation. However, he warned us that the key to a general, psychological explanation lay in the notion of relevance, a notion that he himself left unexplained.

Sperber and Wilson's (1986) Relevance Theory might be regarded as a response to the challenge implicit in Grice's warning. They argue that an account of utterance interpretation must be based on a general cognitive theory of information processing. The basic idea is that in processing information people generally aim to bring about the greatest improvement to their overall representation of the world for the least cost in processing. That is, they try to balance costs and rewards. Obviously, not every addition of information will count as an improvement. A hearer's representation of the world will not necessarily be improved by the addition of information that it already contains. Nor will it be improved by the presentation of information that is unrelated to any of the information that it already contains. The hearer's aim is to integrate new information with information that is already accessible to her, or, in other words, to recover information that is relevant to her. The point is that in every case her search for relevance leads her to process new information in a context of assumptions supplied either from memory, through the interpretation of the previous utterance or via her perceptual abilities.

In this theory computing the effect of a newly presented proposition crucially involves inference. That is, the role of contextual assumptions is to combine with the content of the utterance as premises in an argument. There is no space here to outline the nature of the inferential abilities that Sperber and Wilson believe to be involved in utterance interpretation. However, it is important to recognize that in their theory propositions are treated not just as logical objects, but as psychological representations, and that inferences are psychological computations performed over those representations. Their basic claim is that assumptions about the world come with varying degrees of strength, and that logical computations assign strength to conclusions on the basis of the strength of the premises used in deriving them. Clearly, any new assumption derived as a conclusion (or contextual implication) from a newly presented proposition in a context of existing assumptions will count as an improvement. However, in this framework a proposition whose presentation enables a hearer to derive an assumption which she has already represented may be relevant in virtue of strengthening the hearer's conviction that it is true: having two

independent pieces of evidence for an assumption will lead a hearer to assign it a greater degree of strength than she would have assigned it on the basis of just one of these pieces of evidence. Finally, because an inference system can be used to test for inconsistencies in the propositions presented to it, a proposition whose presentation leads the hearer to derive a conclusion that is inconsistent with an assumption she holds already may be relevant by virtue of leading her to abandon it.

Since the impact of an utterance depends on the context, the hearer must have some principle by which she chooses the particular contextual assumptions she brings to bear. For logically speaking, any of her beliefs and assumptions may be brought to bear on the interpretation of an utterance, which means that logically speaking, her interpretation isn't constrained at all. Since successful communication does occur and hearers often interpret utterances in the way they are expected to, the hearer's choice of context must be one that can be exploited and manipulated by the speaker.

According to Sperber and Wilson, what the speaker manipulates is the hearer's search for relevance. A hearer will only pay attention to a phenomenon if she thinks it is going to be worth her while. This means that there is no point in you attracting my attention, for example, by speaking to me, unless you think you have information that is relevant to me and hence worth processing. So if you deliberately attract my attention, and if I recognize that you are deliberately attracting my attention, then I will expect that I can recover some contextual effect from your behaviour (utterance). However, as I have said, the hearer is not just interested in obtaining some reward: her aim is to recover the greatest contextual effect for the available processing effort. This means that it is in her interest that the information presented to her is the most relevant information that could have been conveyed by the communicator. But of course, the communicator will have his own aims, and these may lead him to give the hearer information whose impact is less than other information he could have given. The point is that to be worth the hearer's attention it must have some impact.

Intuitively, it is clear that the greater the impact a proposition has on the hearer's representation of the world the greater its relevance. On the other hand, accessing contextual assumptions and using them to derive contextual effects involves a cost, and the cost of deriving them in a small easily accessible context will be less than the cost of obtaining them in a larger, less accessible context. This means that it is in the interests of a hearer who is searching for relevance that the speaker should produce an utterance whose interpretation calls for less processing effort than any other utterance he could have made to achieve the same effects. There is always a number of ways of conveying the same information. However, these may require varying amounts of effort from the hearer. Consider, for example, the discourse sequences in (3) and (4) (both adapted from Blass 1986).

- (3) He went into MacDonalds. The quarter pounder sounded good and he ordered it.
- (4) The river had been dry for a long time. Everyone attended the funeral.

Blass assumes that whereas (3) presents no difficulty for a westerner, the sequence

in (4) will seem incomprehensible. While the mention of *MacDonalds* gives a western hearer access to contextual information that she can use in the interpretation of the rest of the sequence, in (4) there is nothing in the interpretation of the first segment that can be used in the interpretation of the second. In contrast, for a speaker of Sissala (a Niger-Congo language) the sequence in (4) would present no problem, while the one in (3) would seem incomprehensible. A western speaker who wanted to communicate the information in (3) to a Sissala speaker would have to make the required contextual assumptions explicit - for example, by producing the sequence in (5), while a Sissala speaker who wished to communicate with a western speaker would have to produce the sequence in (6).

- (5) He went to a place where food is prepared and cooked. There he saw ground meat which was formed into patties, fried and placed between two pieces of bread
- (6) If a river has been dry for a long time, then a river spirit has died. When a spirit dies there is a funeral. The river had been dry for a long time

The additional complexity of these utterances is the price the speaker has to pay for successful communication. Notice, however, that the sequence in (5) would be far less relevant to a western hearer than the one in (3). The extra processing is not rewarded by an increase in contextual effects. The same point can, of course, be made about the Sissala example.

But of course no speaker who wished to communicate with a western hearer would produce the sequence in (5). Given that he does want to communicate, it is in his interests to make the utterance as easily understood as possible. Indeed, a western hearer presented with (5) might doubt that genuine communication was intended and refuse to make any processing effort at all. In other words, the presumption of relevance carried by every act of communication has two aspects: on the one hand, it carries a presumption of adequate effect, while on the other, it carries a presumption of minimally necessary effort. Taken together these presumptions define a level of optimal relevance. Sperber and Wilson call the principle which gives rise to the presumption of optimal relevance the principle of relevance.

Notice that according to this framework, the responsibility for success in communication is not shared, but taken by the speaker. The hearer simply goes ahead and recovers the interpretation that is consistent with the principle of relevance. This means that a speaker who has a specific interpretation in mind and wishes communication to succeed must have grounds for thinking that the hearer has immediate access to a context which enables her to recover the right (that is, the intended) interpretation. Clearly, these grounds may be mistaken - communication, as we all know, sometimes fails. But in many cases the speaker has good grounds for thinking that the hearer will supply the correct contextual assumptions and recover the intended interpretation. So for example, if at the end of my allotted time the chairperson produces the utterance in (7), s/he is assuming that I have immediate access to the assumptions that allow me to derive the contextual implication in (8):

- (7) Your time is up
 (8) I must stop talking now

In this case the speaker has grounds for thinking that I would recover the intended interpretation on my own accord. There was no need for him to make it clear that he expected this interpretation to be recovered. That is, there was no need to constrain my interpretation in any way. However, a speaker who has a specific interpretation in mind and has grounds for thinking that the hearer cannot be trusted to supply the required contextual assumptions may direct her towards that interpretation by making a certain set of contextual assumptions immediately accessible thus ensuring their selection under the principle of relevance. There are non-linguistic means of doing this - indirect answers are an example. However, we can now see why there are expressions and structures whose sole function is to guide the hearer in the interpretation of the utterances that contain them. Their use ensures correct context selection at minimal processing cost.

This is not the place for a detailed examination of such devices. In my book (Blakemore 1987) I was mainly concerned with the analysis of so-called discourse connectives, and I will use these now simply to illustrate in an intuitive way the general point I have just been making. Consider the sequence in (9) which I have presented as part of a dialogue. Although A's utterance provides the hearer with an immediately accessible context for the interpretation of B's, it is not clear (out of context) exactly where the relevance of B's remark lies. It could be relevant as evidence for A's claim; it could be relevant as a specification of the implications (and hence relevance) of A's remark; it could be construed as an explanation for the state of affairs A has described; it could be relevant as something that contrasts with this state of affairs; or it could be intended as an attempt to dismiss A's remark as irrelevant. In real conversation the connection between the two remarks would not have been left unspecified, and B would have made his intentions clear either through intonation alone or through intonation combined with the use of the expressions that preface the responses in (10).

- (9) A: Susan's not coming today
 B: Tom's in town
 (10)(a) After all, Tom's in town
 (b) So Tom's in town
 (c) You see, Tom's in town
 (d) However, Tom's in town
 (e) Anyway, Tom's in town

Notice that in order to establish the prescribed connection, the hearer must supply certain contextual assumptions. For example, B's remark can be construed as evidence for A's remark only given the contextual assumption in (11).

- (11) If Tom is in town, then Susan won't be coming

The same point can be made about Grice's example in (2). It is in this way that these words constrain the hearer's choice of context.

What other phenomena could be analyzed as semantic constraints on relevance? In *How To Do Things With Words* Austin lists discourse connectives (like *therefore* and *moreover*) amongst a number of devices that have the function of performative verbs - that is, to indicate explicitly the illocutionary force of the utterances that contain them. Although it is easy to see the connection between *therefore* and the performative *I conclude that*, it is rather difficult to see exactly what *act* is associated with it. This is even more difficult in the case of *moreover*. But then, as Urmson (1952) suggests, perhaps many of the verbs that have been analyzed as performatives have less to do with indicating the illocutionary act that is being performed as with priming the hearer to see the 'emotional significance, logical relevance and reliability of our statements.' Thus analyzed, many so-called performative verbs have the same sort of function as the so-called cognitive verbs like those in (12), and, of course, the discourse connectives I have just been discussing.

- (12) *I think* that he has missed the train
- I suspect* that he has missed the train
- I know* that he has missed the train

Such verbs, says Urmson, 'do not have any descriptive sense, but rather function as signals guiding the hearer to a proper appreciation of the statement in its context'. Semantic constraints on relevance again?

Although I think Urmson was right to say that many performative verbs have this function, I believe he was wrong to say that they do not have any descriptive content. As François Recanati has shown in his book on the pragmatics of performative utterances, there is no reason to think that the utterances in (13) do not express propositions with truth values.

- (13)(a) I predict that he won't come
- (b) I warn you that the path is slippery
- (c) I promise that I won't smoke
- (d) I bet \$5 that she won't come

Certainly, they cannot be regarded as describing an existing state of affairs or as reporting the speaker's belief. Nevertheless they do represent states of affairs, and the speaker can be regarded as giving evidence that the state of affairs they represent obtains. What makes them special is that this evidence consists in the very act of producing the utterance. So by producing the utterance in (13a) the speaker gives a guarantee of the truth of (14a), by producing the one in (13b) he gives a guarantee of the truth of (14b), and so on.

- (14)(a) The speaker is predicting that she won't come
- (b) The speaker is warning the hearer that the path is slippery

This is not to say that this is all there is to say about the interpretation of these utterances. However, it is not clear that the rest of the story is the same for all utterances that have been called explicit performatives.

Speech act theory proceeds on the assumption that the classification of speech acts plays an essential role in communication so that what is communicated by an utterance includes its assignment to a particular speech act type. So a speaker who is making a prediction must communicate the fact that he is making a prediction; a speaker who is issuing a warning must communicate the fact that he is issuing a warning, and so on. In each case communication will succeed only if the hearer identifies the type of speech act being performed. Sperber and Wilson have shown that this assumption can only be maintained in some cases. It is true that a hearer will understand an utterance intended as a bet only if she recognizes that this is indeed what the speaker is doing. That is, understanding such an utterance depends on being able to produce the description in (15). Similarly, a hearer will miss out on much of the intended relevance of an utterance meant as a promise unless she recovers the description in (16).

- (15) The speaker is betting that
 (16) The speaker is promising that

Betting and promising are what Sperber and Wilson call communicated acts.

In contrast, consider predicting and warning. The hearer does not have to recover the description in (14a) in order to understand (17) as a prediction.

- (17) She won't come

She will understand (17) as a prediction provided that she recognizes that the speaker is committing himself to the truth of a proposition about the future. Indeed, it is in virtue of understanding the utterance in this way that she is able to provide the description in (14a). In other words, the main relevance of the performative in (13a) lies in the embedded proposition. Similarly, a speaker who intends (18) as a warning does not intend the hearer to recover the description in (14b). He simply intends the hearer to process it in a particular way. More specifically, he expects her to recover certain types of contextual implications - ones that have to do with the dangerous or unpleasant consequences of the situation the utterance describes.

- (18) The path is slippery

Once again, if the hearer does recover the description in (14b), it is as a result of having understood the utterance. The main relevance of (13b) lies in the embedded proposition.

But if the main point of the utterance lies in the embedded proposition, what is the function of the performative verb? Why does the speaker of (13b) communicate the proposition in (14b) if the main relevance of the utterance lies in the embedded proposition? As Urmson has shown, this question arises not only for the so-called performative verbs like *warn* and *predict*, but also for the psychological verbs like *think* and *know*. The answer suggested by Sperber and Wilson is that the speaker must be understood to be performing two distinct acts of communication, one act being designed mainly to help with the processing of the other. In other words, one act of communication constrains the interpretation of another. If this

sounds strange, think of a cookery demonstrator who as she adds the flour says, 'I am now adding the flour'. The interest of utterances like (13a) and (13b) lies in the fact that the two acts of communication are simultaneous. However, in discourse we often find examples of utterances whose relevance lies entirely in the way they constrain the interpretation of the surrounding text. Consider, for example, (19) and (20).

- (19) Do you see that building over there? Well, apparently, it is on the site of a Roman theatre.
- (20) Remember the man who bought your car? I saw him at the university today and

In each case the point of the first segment is to ensure that certain information is accessible for the interpretation of following utterances. As in the case of the non-truth-conditional constraints on relevance, the phenomenon is a consequence of the speaker's goal in communication - achieving optimal relevance.

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