

linguistic concept of thematic subject and the information processing concept of a key entity in a cognitive representation.

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ON THE RATIONALITY OF 'RELEVANCE' AND THE RELEVANCE OF 'RATIONALITY'

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Sperber and Wilson's attempt to replace the Gricean CP and its maxims by a general Principle of Relevance from which all the other maxims follow is shown not to be entirely satisfactory without further modifications, since it makes the wrong predictions with respect to such instances as justification of speech acts, and counter-intuitive claims in cases of redundancy. An alternative offered by Kasher, whereby the various maxims of the CP follow from some major Rationality Principle, is shown to be required alongside and not in place of the Principle of Relevance. In addition, reference is shown to be required to such independently attested reasoning principles as establishing causal relations, presumably, as part of the heuristics for the retrieval of the relevant piece of stored knowledge in a particular instance involving comprehension.

1. Introduction

Grice's theory of implicature has paved the way for various interesting linguistic and philosophical investigations concerning the nature of comprehension of speech sequences. It is now widely believed that comprehension involves not only recovering the propositional content of the utterance in question, and its intended implications in the context in which it was uttered, but also the presumption that the speaker has tried to conform to some general standards of verbal communication. The standards proposed by Grice (1975) involve his Cooperative Principle (CP) and the maxims of conversation including: Quantity, Quality, Relation and Manner, and these are used as a guide to the intended interpretation. Since the CP and the various maxims were formulated rather loosely, attempts have been made at their reformulation or modification. In particular, the maxim of Relevance (Relation) was felt to be essential but its formulation seemed to be the least well-specified. In this

* I should like to thank Asa Kasher, who, in bitterly attacking an early version of this paper which I read in a seminar on cognitive aspects of discourse at Tel Aviv University in December 1984, made me rethink the whole issue. Asa was instrumental in clarifying some of my later thoughts on this topic and in encouraging me to write this paper. A previous version of this paper was presented at the International Pragmatics Conference in Viareggio in December, 1985.

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paper I will discuss two major alternatives to the Gricean CP: Kasher's Rationality Principle and Sperber and Wilson's Principle of Relevance and show that neither is sufficient as it is, but, rather, to make the correct predictions, reference to both principles is required.

2. The Rationality Principle

The way Grice's conversational maxims were formulated they do not seem to follow from anything and Grice himself suggested that he would have liked to discover some principled reason why they are being observed by speakers. Kasher (1976, 1982) attempts to provide exactly such an explanation for the maxims in terms of what he calls 'The Rationality Principle'. The Rationality Principle is based on The Principle of Effective Means which states that:

Given a desired end, one is to choose that action which most effectively, and at least cost, attains that end, *ceteris paribus*." (1982: 32)

The Rationality Principle, which rests on the Principle of Effective Means, says:

Where there is no reason to assume the contrary, take the speaker to be a rational agent. His words and beliefs, in a context of utterance, should be assumed to supply a complete justification of his behaviour, unless there is evidence to the contrary." (1982: 33)

The Gricean maxims are then reformulated in terms of the Rationality Principle. Thus, the maxim of Quantity, for example, follows rather naturally from the Rationality Principle (RP), since for rational agents the cheaper way of attaining a given end – by being 'as informative as is required' – is preferred over the more expensive one – providing more information than is required. Likewise, the maxims of Manner and Quality are claimed, albeit with a few more auxiliary assumptions, to be inferrable from the RP. Kasher (1987b) even suggests that Leech's (1983) attempt to introduce explicit Politeness Principles alongside the Gricean maxims is unnecessary, since such principles are properly subsumed under the RP.

Despite this all embracing potential of the RP, Kasher acknowledges that 'relevance' is a hard nut to crack. His proposal, which I support, is that evasive principles of "lesser generality" need to be looked for. Yet, Kasher provides only one such principle, viz., "when you put your means to use for attaining a given desired end, try to utilize processes, actions and states which occurring anyway in the context of your action" (1982: 38), and suggests that the intuition lies in the concept of "fitting together" (*ibid.*) – a pretty vague notion as it is.

Kasher rejects the CP as being too vague and/or too weak to make any

predictions, and claims that his RP, which applies to all intentional activities, could account for all the conversational maxims in question and thus replace the CP. However, it seems that the RP suffers from a similar problem to the one suffered by the CP, that is, the lack of predictive power. In addition, 'Relevance' is left unaccounted for, except for the still vague statement that, apparently, sub-principles of relevance ought to be sought for. It is evident that unless supplemented by a principled account of 'Relevance', Kasher's proposal cannot replace the original CP. One such attempt to cope with the concept of relevance is offered by Dascal (1977).

3. Dascal on Relevance

In his 'Conversational Relevance' Dascal (1977) attempts to clarify the way Grice's maxim of relevance operates and to unfold some of the complexities involved in this notion.¹ He distinguishes two types of relevance: semantic and pragmatic, on the one hand, and, on the other, three layers of relevance: topical, marginal and background, which are determined by their relative position with respect to the speaker's/hearer's field of attention (i.e. short term memory). More important for our purposes, however, is his claim, which I support, that in Grice's approach it is very hard, if not impossible, to predict which criteria are to be used in a given case where assessment of relevance is called for. It is, thus, easier to provide an 'after the fact' analysis indicating what respect relevance has been realized on a particular occasion. Dascal's suggestion is that the procedure for the determination of speech acts need not be based on trial and error technique but, rather, in order for interpretation to function effectively, a set of heuristics needs to be postulated for the hearer to make educated guesses at the implicature. These guidelines, Dascal maintains, make use of specific linguistic factors (such as intonation, for example) which suggest what kind of contextual features to focus upon, thus reducing the number of possible implications considerably.

Dascal's concept of relevance is problematic in that he uses it to refer to a variety of notional entities (semantic and pragmatic, relational vs. monadic), but I believe that his attempt to provide heuristics for the determination of relevance is justified and I will adopt some version of this suggestion within a different frame of reference in the course of this paper.

¹ Dascal does not challenge the CP as conceived of by Grice, but, rather, seeks to shed light on the specific issue of relevance. Other types of accounts of 'relevance' by philosophers can be found for example in Anderson and Beinap (1975), where, despite the formal ingenuity that characterizes some of the treatments, no non-trivial insight is gained to an understanding of this notion.

4. Sperber and Wilson's Principle of Relevance

Sperber and Wilson (1982, 1986) reject the Gricean CP and suggest that comprehension is to be accounted for in terms of The Principle of Relevance (PRL). They try to show that all of the Gricean maxims follow from this one pragmatic principle.

Sperber and Wilson make an interesting attempt to define relevance in terms of informativity or new information, or, as they put it, non-trivial contextual implications or contextual effects. They suggest that 'Relevance' is a relative notion and that the degree of relevance is a function of the appropriate context (the one offering the largest number of non-trivial contextual implications or having the largest contextual effect) and the amount of processing (presumably measured in terms of time and 'degree of attention expended'), such that a given statement is more relevant in a given context than its competitors if it has larger contextual effect (i.e. more non-trivial contextual implications) and it requires less effort (i.e. smaller amount of processing).

Despite the difficulty in distinguishing trivial from non-trivial contextual implications and the problematicity in assessing the factors involved in the calculation of processing (cf. Gazdar and Good (1982)), this is a very serious attempt to cope with the notion of relevance and accord it a core function in pragmatic theory in general and in discourse comprehension in particular. Sperber and Wilson stand the whole picture on its head when they suggest that in fact when interpreting some talk exchange speakers proceed under the assumption that relevance is observed or, minimally, being attempted, and they search for the most appropriate context, whether linguistic, physical or part of the stored encyclopaedic knowledge (cf. Clark and Marshall (1981) and Ariel (1985)). It is evident that according to Sperber and Wilson the thrust of the PRL is cognitive saving, that is, getting more output (i.e. contextual effects) in terms of unpredictable, new information, for smaller investment (i.e. effort of processing).

Despite the elegance and initial attractiveness of Sperber and Wilson's proposal, it will become evident shortly that the PRL makes the wrong predictions in such instances as justifications of speech acts and in cases of redundancy, and is insufficient where causality or politeness are involved.² I will argue next that the PRL cannot replace the CP, if it is not supplemented by some version of the RP, and then I will propose that the model including the two principles jointly be supplemented by auxiliary assumptions about the

² Cf. also Holdcroft (ms.) and Wilks (ms.) for additional critical evaluation of Sperber and Wilson's theory and an attempt to go back to a modified version of Dascal's (1977) proposal on the part of the former and an endeavour to formulate individual knowledge and beliefs by the latter.

retrieval mechanisms or context searching algorithms in order to account for the efficiency of comprehension.

5. The insufficiency of the Principle of Relevance

The major difference between Grice's approach, on the one hand, and Sperber and Wilson's, on the other, lies in the social characteristics of the former and the cognitive nature of the latter. Thus, the Gricean maxims, which are based on social norms or conventions, can be violated for certain purposes (e.g. when a certain implicature is intended); while the presumption of relevance, which is what Sperber and Wilson's approach amounts to, is a basic property of ostensive – inferential communication and, as such, cannot be violated; in principle.

One of the basic problems with Sperber and Wilson's attempt to replace the CP by the PRL lies in the fact that the latter being a cognitive oriented notion cannot account for social conventions such as politeness, for example, in principle. For politeness to be subsumed under the PRL it would have to be considered an aspect of cognition, which it is clearly not. The essence of politeness is social, and as such the PRL cannot account for it.³

I would like to consider several examples where the two theories would make different predictions.

- (1) A: Are you coming to my party?
B: No. I've got an exam tomorrow.⁴

In order to account for such sequences in terms of relevance Sperber and Wilson have to resort to the reconstruction of a hypothetical *why* question by A in the middle of B's response. This is clearly an artifact of their specific theory of relevance and has no psychological reality; it does not accord with our intuitions that B's reaction is in some sense a conventional way of responding in such circumstances.⁵ Sperber and Wilson's theory could accommodate such cases if an appeal were made to scripts, frames or scenarios (cf. Minsky (1977), Schank and Abelson (1977)) and stored encyclopaedic infor-

³ It seems that the cases which initiated Leech's Politeness Principle (PP) as a necessary additional principle of comprehension can, thus, not be handled within the Sperber and Wilson model. For Kasher's Rationality Theory these prove unproblematic, since the PP is subsumable under the RP.

⁴ For all practical purposes this example is the same as Sperber and Wilson's dialogue between the flag-seller and the passer-by in example (4) Ch. 3 p. 121.

⁵ Incidentally, this problem could be reformulated in terms of bridging (cf. Clark (1977)). However, even the construction of this particular type of bridge is not predictable. (Why this type of relation and not any other one?)

mation, where such linguistic exchanges have been recorded. Indeed, Sperber and Wilson seem to presuppose such a frame of reference. The question, in this case, is how speakers are supposed to pull out this particular script without going over an abundance of non-fitting scripts, where going through a lot of material involves more processing and hence by Sperber and Wilson's criterion reduces relevance.⁶

My suggestion is that B's response should be considered as conforming to general conventions concerning responding in such circumstances in terms of tact or politeness (in the intuitive rather than the technical sense accorded them by Leech (1983)). Thus, a flat 'no', for example, would be taken to be most uncooperative and judged as an insult. Some explanation or justification is called for on the part of B in such instances in order to count as a socially acceptable and appropriate response. A less tactful answer will, in such cases, count as counter-productive, or showing less conformity with the Rationality Principle (RP), in the sense that it will exemplify a non-cooperative, unsuccessful interpersonal interaction.⁷ I, therefore, suggest that some principle akin to Kasher's RP, under which the tact and politeness issues are, presumably, subsumed, is in operation in such instances so that the question of relevance is automatically resolved: This is the rationale for the response and it is expected to cooccur with it.

It is important to stress at this point that reference to some version of the RP is not meant to replace the presumption of relevance which follows from the principle of relevance (PRL) but, rather, to supplement it. Thus, it was shown that the RP cannot subsume the PRL without unbearable circularity or lack of prediction.

The second issue I would like to raise in this context is somewhat related. It too concerns justification of speech acts, citing reasons for saying something (cf. Kasher (1987a)). Consider the difference between the following exchanges:

- (2) A: Are you coming to my party?
 B: I won't be able to make it. I have an appointment.
 (3) A: Are you coming to my party?
 B: I have an appointment. I won't be able to make it.

If we adopt Sperber and Wilson's theory of relevance the two exchanges will turn out to exemplify totally different properties. The first exchange, which is essentially the same as that in (1) (above), seems to indicate that B's response consists of a direct reply followed by a justification or explanation. (Even this

⁶ Sperber and Wilson do not consider such examples to be problematic. They expand on the potential script required, disregarding the questions of predictability and efficiency, which are so crucial to their concept of Relevance.

⁷ Cf. Kasher (1987b) for a view of politeness as a cost in attaining a given end.

exchange appears to be problematic for the Sperber and Wilson model, as I have just indicated.) The second exchange, however, would seem to exhibit a sequence the response part of which exemplifies irrelevance. This wrong prediction is due to Sperber and Wilson's conception of relevance in terms of contextual effect (contextual implications) or informativeness. Accordingly, a sequence which includes redundant information does not add any contextual implications that were not evident from the context prior to its utterance and consequently is considered irrelevant in the context in question.⁸ Thus, in the case under examination, B's response consists of one part ('I have an appointment') which seems to call for an implicature of negative reply to the preceding question, and another part ('I won't be able to make it') which constitutes an explicit negative response to the question and thus, apparently, does not add any new contextual implications in the context at hand. Hence, according to Sperber and Wilson the second part of B's response in (3) should count as irrelevant. It follows that Sperber and Wilson's approach would predict that the exchanges in (2) and (3) are radically distinct. I would like to argue, however, that this is not the case and suggest that Sperber and Wilson's concept of linguistic context should be modified to include the immediately following rather than just the preceding material. If this proposal is adopted, the exchanges in (2) and (3) could count as similar instances of justification or explanation of a speech act and assuming some version of the RP, which I have just argued for, they would be handled naturally.

Another sequence the analysis of which would benefit from the adoption of some version of the RP in a model assuming PRL is the following:

- (4) She is not at home. I can't see her car.

The relevance relation between the two parts of this sequence can, quite insightfully, be characterized as stating the reasons for believing X. If we adopt Sperber and Wilson's model, it will not be clear how to account for this type of interpretation where the speaker attempts to absolve herself of the full responsibility in cases where inaccuracies may arise in the final assessment. We would have to assume, counterintuitively, that the conventions governing the need to be held responsible for one's statements have a cognitive basis, where it is clear that, if anything, they are socially determined and as such could be subsumable under a cost-benefit analysis, which the RP à la Kasher allows for.

⁸ Cf. Burton-Roberts' (1985) and Holdcroft's (forthcoming) critical evaluation of a related point.

6. A model with both RP and PRL

It is clear from the preceding discussion that the PRL is an essential component of any theory of comprehension, since it does not seem to follow from anything. In particular, no theory which adopts some version of the RP can predict the effects of the PRL without explicit reference to it. On the other hand, it was shown that, unlike Sperber and Wilson's claim, the PRL cannot replace the CP. Minimally, reference would have to be made to such social conventions as politeness, which do not fit into the PRL model, in principle.⁹

The legitimate question to be asked at this point would be: What remains of the PRL proposed by Sperber and Wilson? There are, of course, other accounts of relevance either in semantic and pragmatic terms requiring relevance properties 'of lesser generality' (Kasher (1976, 1982)) or heuristics (cf. Dascal (1977)), or in discourse-topic terms (cf. Brown and Yule (1983) and Giora (1985)), but the former are still rather vague on many points, and the latter crucially depend on the problematic notion of 'discourse-topic'. In contrast Sperber and Wilson's account, despite its non-exhaustive nature, still establishes some firm basis for the understanding of the concept of relevance in terms of cognitive savings, informativity and efficient context selection. No other treatment seems as insightful or applicable in its explicitness.

It is, therefore, suggested that some version of both principles is required in an overall theory of comprehension. This, however, does not seem to be all that is required in this context; as I intimated above, some specific retrieval heuristics are required. The need for such search algorithms was recognized by Sperber and Wilson, but no attempt was made there to explicate the nature of these heuristics.

7. Retrieval heuristics or instances of Relevance

In the treatments mentioned so far reference is made to the Stored Knowledge of speakers/hearers. This is the rationale for the use of frames/scripts/scenarios/schemata mentioned in several discussions on relevance or, even more so, in studies on inference and implicature. These references to the frame-based theory of stored knowledge leave unaccounted for the search mechanism. It is evident that we need guidelines to help us locate the appropriate frame, otherwise, the search through the indefinitely large number of frames would result in a most inefficient processing of information in general and in near irrelevance in the current instance of context selection due to the effort factor.

⁹ It could be claimed that, in fact, Sperber and Wilson recognize the importance of rationality and even presuppose a rational speaker capable of complex interpretations of inference. However, they do not elaborate on this point and clearly do not abandon their all embracing PRL.

I propose that such atomic reasoning principles as establishing causal relations, which are known to be functional in general human thought processes,¹⁰ are made use of not just in general perception and interpretation, but also as retrieval heuristics in mechanisms of search for the appropriate frame in the stored knowledge. If, to take a specific example, *cause* is an essential reasoning principle utilized as a heuristic procedure in locating a desired frame, then the search process is, thereby, facilitated, it becomes more effective, and, in our particular case, sets of intuitively highly relevant described states-of-affairs exhibiting causal relations will thereby count as relevant in the Sperber and Wilson sense, since processing (effort) would be reduced significantly. Were it not for such a search mechanism, there would be no non-ad-hoc way to account for their relevance.¹¹ Note that no extra machinery is required if this retrieval heuristic is adopted. It is a fact about human reasoning that it utilizes causality, as a basic psychological tool, and, thus, despite our rather poor understanding of some of the more intricate issues involved in establishing causal relations,¹² I would like to suggest that this principle could be made more extensive use of if it is utilized, in addition, as a retrieval heuristic in the processes of search through stored knowledge.

An alternative to the suggestion that causality may form part of the retrieval heuristic mechanism could be the proposal that it may constitute an instance of relevance. Accordingly, relevance is made up of several minor principles (cf. Dascal (1977) and Kasher (1976, 1982)) causality being one of them. Thus reference is made to causality in the process of the search for relevance. However, irrespective of its status, whether as an instance of a search heuristic or as an example of one out of several types of relevance, explicit mention of and clear reference to such a concept as causality is apparently required in an overall account of comprehension.¹³

There is yet another theoretical possibility concerning the utilization of such reasoning principles as causality, that is, it could be part of both the search heuristic mechanism and an instance of a sub-principle of relevance. It might be the case, accordingly, that the same exact principle would be functional in both: It would be conceived of as an instantiation of one variety of relevance and as (or even: and *as such as*) part of the heuristic of search in the stored knowledge. That is not to say that there will be a full overlap between the

¹⁰ Cf. Piaget (1930) for an extensive discussion of the development of causality in the child.

¹¹ Clark's (1977) and Clark and Haviland's (1977) concept of 'bridging' tacitly assumes the existence of causality as a mental notion enabling various types of inferences. However, they do not elaborate on this issue.

¹² Numerous attempts by philosophers to formalize this notion or establish various distinctions between related concepts serve as evidence for its elusive nature. For one influential approach see Lewis (1973).

¹³ In searching for sub-principles of relevance it is important not to stretch this concept beyond any theoretical interest in both the present context and in that of general linguistic theory.

two, as there are clearly search heuristics the relevance correlates of which are non-existent (e.g. phonological mechanisms allowing easy access to rhymes or associationist stream-of-consciousness techniques).

I have tried to argue here that neither the RP nor the PRL as such could replace the Gricean CP. Only a model where some version of both is functional could account for the efficiency and relative accuracy of human comprehension. In addition, general non-ad-hoc reasoning principles such as causality are likely candidates for being conceived of as search heuristics and/or as instances of sub-types of relevance and they might have to be appealed to in the act of interpretation.

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