

論文

Temporal and Causal Relations Between  
“*John kissed Mary,*” and “*She hugged him.*”\*

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**Abstract:**

This essay will present brief overviews of Grice’s Cooperative Principle (CP) and Maxims, and the Relevance Theory (RT), find temporal/causal relations between the following sentences, “*John kissed Mary. She hugged him,*” then analyse whether these theories would best explain the relations or there would be other theories necessary to do it.

**Keywords:**

Pragmatics, Cooperative Principle, Maxims, Relevance Theory, Temporal/Causal Relation

## 1. Introduction

Communication would not be possible without the inferential processes involved in fleshing out the logical form and deriving contextual implications or implicatures (Iten, 2005, p. 71). Grice's distinction of an utterance is between *saying* and *implicating*. He uses the expression 'what is said' to refer to the truth-conditional content of utterances, i.e., to what is explicitly or literally said (Levinson, 1983, p. 97). For example, 'what is said' of the following utterance, 'I have a cold,' is that it is true that the speaker has a cold. It does not tell the hearer more than what is said, i.e., linguistic meaning. What is implicated is everything that is overtly communicated by an utterance but is not part of what is said (Ifantidou, 2001, p. 40). The following example demonstrates this:

Example 1: Peter: Do you like Fellini's films?

Mary: Some of them.

The linguistic meaning of Mary's utterance is that she likes some of Fellini's films. In this context, there is more conveyed than what has been said. With her reply 'some of them,' Mary expects Peter to realise what she intends him to think is that she likes some of Fellini's films, but not all. The proposition *Mary likes some of Fellini's films **but not all*** is Mary's meaning, i.e., speaker meaning which is an overt intention that is fulfilled by being recognised by the intended audience. It is not the linguistic meaning of the sentence fragment 'some of them,' which can be used in other situations to convey totally different contents. Mary's meaning goes well beyond the meaning of the linguistic expression she uttered (Sperber & Noveck, 2004, p. 2), given a specific context which makes an inference about what is implicated possible. Another example is shown below (quoted from Katsos, 2008a):

Example 2: Mary: Do you want to go swimming?

John: I have a cold.

Generally, a syntactically proper answer to Mary’s question is either yes or no. What is implicated in John’s indirect answer is that he cannot or does not want to go swimming because he has a cold.

Some pragmatic rules that specify how utterances are interpreted in context are necessary. They would tell us how the indirect information is communicated. A dominant proposal is Grice’s Cooperative Principle. The CP is a “rough general principle which participants will be expected (*ceteris paribus*) to observe, namely: Make your contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged.” (Grice, 1989, p. 26). Grice (1989, pp. 26-27) developed the CP into the four well-known maxims:

*Maxims of Quantity:*

1. Make your contribution as informative as is required  
(for the current purposes of the exchange).
2. Do not make your contribution more informative than is required.

*Maxims of Quality:* Try to make your contribution one that is true.

1. Do not say what you believe to be false.
2. Do not say things for which you lack adequate evidence.

*Maxims of Manner:* Be perspicuous.

1. Avoid obscurity of expression.
2. Avoid ambiguity.
3. Be brief (avoid unnecessary prolixity).
4. Be orderly.

*Maxim of Relation:* Be relevant.

In this essay, these maxims will be taken into consideration when analysing relations between the sentences of the question.

Relevance theory may be seen as an attempt to work out in detail one of Grice's central claims: that an essential feature of most human communication is the expression and recognition of intentions (Grice, 1989). The goal of inferential pragmatics is to explain how the hearer infers the speaker's meaning on the basis of the evidence provided. The relevance-theoretic account is based on another of Grice's central claims: that utterances automatically create expectations which guide the hearer toward the speaker's meaning. The leading idea of Sperber and Wilson's relevance theory is that an act of communication is a species of ostensive behaviour. Effectively, this means it is an act on the part of one agent to draw another agent's attention to something (Breheny, 2002, p. 181). The central claim of relevance theory is that the expectations of relevance raised by an utterance are precise and predictable enough to guide the hearer toward the speaker's meaning (Wilson & Sperber, 2005, p. 607).

According to Sperber and Wilson's (1995; also in Wilson & Sperber, 2005) relevance theory, the pragmatic criterion used to evaluate alternative hypotheses about the speaker's informative intention derives from a communicative principle of relevance stated in (1):

- (1) Communicative Principle of Relevance: Every ostensive stimulus conveys a presumption of its own optimal relevance.

Use of an ostensive stimulus, then, creates a Presumption of optimal relevance. The notion of optimal relevance is meant to spell out what the audience of an act of ostensive communication is entitled to expect in terms of effort and effect as in (2):

(2) Presumption of optimal relevance

- a. The ostensive stimulus is relevant enough to be worth the audience’s processing effort.
- b. It is the most relevant one compatible with communicator’s abilities and preferences.

The communicative principle of relevance together with the definition of optimal relevance justify the following comprehension procedures, which Sperber and Wilson maintain are automatically applied to the interpretation of utterances (Katsos, 2008b, p. 9). The hearer should take the decoded linguistic meaning; following a path of least effort, he should enrich it at the explicit level and complement it at the implicit level until the resulting interpretation meets his expectation of relevance (Wilson & Sperber, 2005, p. 614):

(3) Relevance-theoretic comprehension procedure

- a. Follow a path of least effort in computing cognitive effects: Test interpretive hypotheses  
(disambiguations, reference resolutions, implicatures, etc.) in order of accessibility.
- b. Stop when your expectations of relevance are satisfied (or abandoned).

In relevance theory, the identification of explicit content is seen as equally inferential, and equally guided by the Communicative Principle of Relevance, as the recovery of implicatures. The relevance-theoretic comprehension procedure applies in the same way to resolving linguistic underdeterminacies at both explicit and implicit levels. The hearer’s goal is to construct a hypothesis about the speaker’s meaning that satisfies the presumption of relevance conveyed by the utterance (Wilson & Sperber, 2005, p. 615).

## 2. Temporal/causal relations between the sentences

Temporal relations between utterances can be observed in the following example:

(4) Max stood up. John greeted him. (Lascarides & Asher, 1993, p. 437)

The order in which the events (Max's standing up and John's greeting Max) are described matches their temporal order (*ibid.*). It means that it is not that John's greeting preceded Max's standing up, but that the events happened in the order of the sentences' appearance.

After the first utterance of the current sentences, "*John kissed Mary. She hugged him,*" the hearer would most naturally wonder a variety of things: "Did anything happen to either John or Mary before he kissed her?," "What is the reason for John's kissing Mary?," "Where did John kiss Mary?," and so on. In order that the relevance of the utterances will be achieved, the hearer would have more specific expectations about what the speaker will do next. The hearer combines the background information to process the last bit of the discourse being uttered (what is known about kissing) with any new information which has been conveyed by the previous discourse (that John kissed Mary). This is the starting point to search for the relevant background information that will be required to process the incoming bit of the discourse (Katsos, 2008, p. 12). Then, the hearer recognises that the second sentence has a past tense marker in addition to the pronoun "*him.*" Hence, there is a need for the hearer to interpret the temporal relation between the preceding and following events. In the context of this utterance, the temporal relation could be interpreted as "it was after John kissed Mary when she hugged him."

Causal relations are shown in the example below:

(5) Mary pushed John and he fell over. (Breheny, 2002, p. 174).

It is noted that the causal connection between the two events is not part of the content in the absence of the connectives such as “and,” “because,” and “therefore” (Breheny, 2002, p. 177). In short, utterances are enriched with temporal and causal relations even without the presence of “and.” In the case of (5), a causal relation between the act of Mary’s pushing and John’s falling over is observed.

In the current utterance, the causal relation could be interpreted as it is because John kissed Mary that she hugged him. Would the act of John’s kissing Mary cause her hugging him? This question will be answered in the following section.

### 3. Can Grice’s theory and Relevance theory derive all of these relations?

This section will analyse whether the Grice’s CP and maxims, and the RT would procure the temporal/causal relations presented above.

It seems that the fourth rule of the Maxim of Manner, “be orderly” would explain the temporal relation of the utterance. This rule confirms that Mary’s hugging John happened after his kissing her. The second utterance does not fail to be relevant, therefore, the CP is not applied to explain the relations. The hearer would implicitly interpret that the pronouns “she” and “him” are referring to the characters in the utterance, not Bill and Julia, but John and Mary. As the RT states that “every ostensive stimulus conveys a presumption of its own optimal relevance,” these assumptions will satisfy the hearer’s expectation of relevance. Hobbs (1979) also mentions that pronoun resolution can be accounted for as a by-product of coherence relation resolution, e.g., “*John can open Bill’s safe. He knows the combination.*” While Grice’s theory can explain partially the relations in the current utterance, Levinson (2000, p. 38; *ibid.*, p. 117) allows that temporal, causal and teleological interpretations are all possible under the I-Principle (speaker’s

maxim: produce the minimal linguistic information sufficient to achieve the speaker's communicational ends) for a sentence such as "*Jane turned the key and the engine started.*"

Coherence theory proposes that an audience will process a discourse assuming that it is coherent. Lascarides and Asher (1993) extend Hobbs' (1979) proposal to deal with the temporal and causal relations in discourses such as "*John took his socks off and he jumped into bed*" (cited in Katsos, 2008, p. 5). According to coherence theory, the two events in the utterance are coherent, therefore, the answer to the question, "Would the act of John's kissing Mary cause her act of hugging him?" would be yes. On the other hand, Grice's theory enquires if the speaker is being cooperative, i.e., truthful, informative, relevant and clear, which is the important difference between coherence theory and Grice's (*ibid.*).

#### 4. Conclusion

In the recent experimental pragmatics study by Majid, Sanford, and Pickering (2007), they have investigated whether people would systematically infer causal antecedents or causal consequences to minimal social scenarios by using a continuation methodology. Their subjects overwhelmingly produced causal antecedent continuations for descriptions of interpersonal events (*John hugged Mary.*), but causal consequence continuations to descriptions of transfer events (*John gave a book to Mary.*). Their findings demonstrate that there is no global cognitive style, but rather inference generation is crucially tied to the input. In their further studies, they examined the role of event unusualness, number of participants, and verb-type on the likelihood of producing a causal antecedent or causal consequence inference. They conclude that inferences are critically guided by the specific verb used.

It would be interesting to empirically investigate whether people would identify certain expressions as temporally/causally related and demonstrate whether their judgements would support Grice's theory and



maxims. The findings would give suggestions to solve problems of the previous theories such as what the CP and maxims’ origin and nature are, and the lack of a definition of relevance (Grice 1989, p. 30).

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