

A Reconsideration of Conditional Perfection

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Although the entailment relations between a simple conditional and a biconditional are unproblematic in symbolic logic, they have occasioned a certain amount of controversy in regard to natural language. Geis and Zwicky (1971) suggested that conditional sentences in English had a logical form characterized by a quasilogical property which they termed an 'invited inference'. This putative property (called Conditional Perfection) meant that every sentence with a logical structure of the form 'If X, then Y' in some sense suggested its converse, 'If not X, then not Y'. For example, a conditional such as (1) was said to 'invite the inference' of (2) without, of course, actually entailing (2).

- (1) If you mow the lawn, I'll give you five dollars.
- (2) If you don't mow the lawn, I won't give you five dollars.

Lilje (1972) and Boër and Lycan (1973) rejected the idea of Conditional Perfection as a real property of English conditionals, and documented a number of persuasive counterexamples to the claim that it exists as a general property of all conditional utterances.<sup>1</sup> Nevertheless, I think that the original observation has some interest if it is viewed in pragmatic rather than semantic terms. In this paper, I will try to show that there exists a systematic relationship between what type of speech act is being performed and whether the conditional embodying that speech act tends to situationally imply its converse.

When conditionals are considered in relation to their function as speech acts, it becomes necessary to recognize two kinds of relationships between antecedent clauses and their consequents. In the case of an assertion, the if-then construction expresses a contingent relation between the truth value of two propositions. That is, the if-clause expresses a sufficient condition for the consequent to be true. Moreover, both clauses are members of a unitary act of asserting. Thus, if someone uttered (3) he could be said to have made a true and felicitous assertion even if it turns out that the proposition made in each subclause is false, since the contingent relation still holds and this is what has been asserted.

- (3) If it doesn't rain, our crops will be ruined.

The point is that whether or not it rains, the act of uttering (3), and its consequences for speaker-addressee relations, will be unaffected.

However, when a conditional promise is being expressed, a rather different relation holds. When someone utters a sentence like (1), the if-clause expresses a condition on the act of promising (expressed by the consequent). Moreover, the antecedent has an illocutionary force of its own, since in this case it is understood as a request.<sup>2</sup> When the condition specified by the if-clause is not fulfilled, the obligation invoked by the promise fails to take effect, or is nullified (depending on whether one considers that the act of promising is effective at the time of speaking or at the time of the fulfillment of the condition). This is true whether the antecedent conveys a request, as in (1), or an assertion of a state-of-the-world necessary for the promise to take effect, as in

(4) If it rains, I'll take you home.

Requests work in a parallel manner. If someone utters (5) or (6), he will not expect his addressee to be bound by the request until the condition in each case has been fulfilled.

(5) If I mow the lawn, then give me five dollars.

(6) If it rains, then take me home.

Syntactically, then, we must recognize a difference between conditionals in which the antecedent functions as a sentential adverbial clause, and those in which it functions as a performative adverbial clause, qualifying the speech act performed by the consequent. This difference turns out to play a crucial role in explaining why people sometimes respond to conditionals as if they were biconditionals.

When an assertion of a conditional sentence has been made, it seems to me that any inference of the truth of its converse will depend upon the content and/or the context of the utterance. For example, if someone utters

(7) If this cactus grows native to Idaho, then it's not an Astrophytum.

(example from Lilje 1972) it is very unlikely that he intends to imply its converse,

(8) If this cactus doesn't grow native to Idaho, then it's an Astrophytum.<sup>3</sup>

Common knowledge about botany makes it improbable that anyone would believe (8) on the strength of (7). On the other hand, there seem to be many instances of the assertion of a conditional in contexts in which the converse is situationally implied. Consider

(9) If John quits, he will be replaced.

(example from Boër and Lycan (1973)). Someone who asserts (9), and is acting in good faith,<sup>4</sup> will want to be as informative as possible

about the prospect of John's being replaced, and at the same time not say more than is necessary. By itself, (9) is not sufficiently informative unless the condition expressed is the crucial condition which is relevant to the present situation. It seems quite reasonable to believe that people do typically mention all factors relevant to a conditional assertion, and that they are expected to do so by their listeners. On the other hand, they are not expected to belabour an obvious fact, since this tends to imply that the addressee was too dull-witted to notice the obvious for himself. Thus it is easy to imagine a situation in which a sentence such as (10) would be literally true, but in which only (9) would be appropriate.

- (10) If John quits, he will be replaced, but if he doesn't, he won't (at least in the relevant future and given no change in present circumstances).

(10) says too much that an addressee could have grasped for himself from his knowledge of the situation. In other words, people often use simple conditionals in contexts in which the converse would also be true, but the truth of the converse is not asserted because it is obvious.

Another good example of this phenomenon is a street corner sign like

- (11) Walk will not come on unless button is pushed.

(example from Wirth 1975). It is pretty certain that the converse of (11) will turn out to be true in this situation; that is, if the button is pushed, the walk light will come on. This follows from our knowledge of buttons that are connected by electrical wires to stop lights. It does not indicate a logical ambiguity in (11) (Wirth claims that such an ambiguity exists). What is interesting about this example is that the sign writer has bothered to state only the half of a true biconditional which is not obvious to a pedestrian. That is, he wants only to call attention to the existence of the button as a necessary condition for the walk light to work. He knows that the pedestrian will be able to figure out the rest for himself, and that in general people would rather draw their own conclusions than be given simple-minded instructions.

Pragmatic factors governing the use of conditional assertions, then, determine that in many cases the expression of a simple conditional is more appropriate than a biconditional, even though a biconditional would be equally true. This leads to a general expectation that conditional sentences will be used in this way, especially when these sentences are encountered in isolation and the content provides no obvious clue to the contrary.

When a conditional clause qualifies a speech act such as a promise or request, the inference that the converse is also true will depend upon a different chain of conversational reasoning. Consider again sentence (1), and its converse, (1a):

- (1) If you mow the lawn, I'll give you five dollars.  
 (1a) If you don't mow the lawn, I won't give you five dollars.

Whether or not someone infers (1a) on the strength of (1) depends upon his assessment of the speaker's commitment to granting the five dollars, independently of the act of promising. If the speaker's intention hangs upon the promise, it follows that failure of the condition on the promise cancels both the obligation and the intention to carry through on the action. It is easy enough to construct contexts in which the action promised is independently required by other factors. For example, the speaker might be five dollars in debt to his addressee for some other job. But it is at least a little unusual to offer as a reward something that you are otherwise committed to already. There is no reason to be motivated by (1) to mow the lawn, if you expect to receive five dollars in any case. The simplest and most common use of this type of conditional promise is to offer something as a reward which none of the participants expect to materialize independently of the promise (in the relevant future). From this situational expectation, it is easy to infer: 'No action, no reward'.

If a conditional promise involves a future state-of-the-world, the chain of reasoning that leads to a biconditional inference is somewhat different. In these cases, the if clause expresses some condition either on the speaker's ability to carry through on the promise, or the suitability of doing so under certain circumstances. For example, if someone says

- (12) If I win the lottery, I'll buy you a castle.

(12a) seems to be a reasonable inference,

- (12a) If I don't win the lottery, I won't buy you a castle.

because (12) mentions one circumstance in which the speaker foresees himself as enabled to make good his promise. Since the speaker has not mentioned any other possibility of acquiring the means to do this (and given that he is cooperating by being as informative as possible), it seems quite reasonable to infer (con conversationally) that if the condition is not fulfilled, he won't be enabled to fulfill his promise, and therefore will not.

Similarly, if a person making a promise mentions some condition on the suitability of the action promised, it is hard to see the relevance of the condition if the speaker intends to complete the action in any event. Thus, in the majority of cases, a sentence like (13) will conversationally imply (13a):

- (13) If it rains, I'll take you to the movies.  
 (13a) If it doesn't rain, I won't take you to the movies.

If the prospect of going to the movies depends upon the promise, and only the promise, sunny weather will mean no expedition to the movies.

A similar argument can be constructed for conditional requests, but a request is complicated by the fact that there are few actions which people do only because they are requested to do them. But inferring the converse from a conditional request depends upon assessing the likelihood that the addressee would perform a certain action independently of having been requested to do so. There are cases when a biconditional intent behind a conditional request is quite plausible. For example, if someone says

- (14) If this patient's temperature goes above 100, give him some of this medicine.

the addressee is likely to behave as if his instructions included

- (14a) If this patient's temperature doesn't go above 100, don't give him some of this medicine.

The inference seems obvious, because the content strongly indicates that the request involves an action that the addressee would not intend unless requested to do it. However, it is not true that (15a) is readily inferred from (15):

- (15) If I tell you to do something, do it.  
(15a) If I don't tell you to do something, don't do it.

Unless the speaker of (15) is an utter tyrant, it seems improbable that his addressee will not intend some actions independently of the requests made by the speaker of (15). Thus, an inference that a conditional request implies a biconditional will depend upon the extra situational assumption that a person would only perform the action requested if it were requested of him.

To summarize what I have said about conditional promises and requests: when a conditional promise (or offer, or threat) is made, the addressee will infer conversationally that the converse is also true if he believes that the action promised depends upon the act of promising. Although there is no general condition on making a promise to the effect that the promiser does not intend to perform the action otherwise than as a consequent of the promise, there seems to be a general expectation that this will be true. Expectations about how speech acts will be used differ from conditions on how they must be used, in that the expectation can be shown to be false through further contextual information, without voiding the speech act. Thus, English speakers might easily suppose that (16), by itself, suggests (16a):

- (16) If you try to escape, you will be killed.  
(16a) If you don't try to escape, you won't be killed.

(example from Boër and Lycan 1973). However, as Boër and Lycan point out, if you add the information that (16) is spoken by an SS guard at

Auschwitz to a Jewish prisoner, hindsight cancels the inference, because we know that the intention to kill Jewish prisoners in this situation did not rest simply upon their attempts to escape.

Conditional requests work in a similar way to promises, in that the if-clause contains a condition on the request itself, so that if the condition is not fulfilled and the intention to perform a certain action rests upon the fact of having been requested, the intention to perform the action will be cancelled. However, it is not generally the case that people request actions that others would only do if requested to do them, so that it is relatively easy to construct cases of conditional requests which would not conversationally imply their converse, except under extreme circumstances.

In assessing the 'meaning' of a sentence and what it is likely to imply conversationally, only philosophers and linguists are interested in the more exotic possibilities that mark the outside limitations of form. Ordinary speakers, however, judge sentences relative to their expectations of normal usage. What I have tried to show is that these expectations of 'normality' lead in a systematic way to the quasi-consistent associations between form and meaning which Geis and Zwicky observed concerning conditional sentences in English.

#### Footnotes

<sup>1</sup>Fillenbaum (ms. 1973) presents some figures to show that more than 90 percent of respondents on a questionnaire will agree that given a sentence of the form 'If p, then q', a sentence of the form, 'If not p, not q' provides a 'reasonable inference'. I agree with Fillenbaum that his data provide 'some justification for the claim that the former sorts of inference are "invited", and some reason to investigate what makes them so inviting' (Fillenbaum 1973, 2).

Wirth (1975) claims that all English conditionals are logically ambiguous between a simple and a biconditional interpretation. However, she does not provide any clear case of a simple conditional structure with a biconditional 'meaning', whose biconditionality cannot be inferred by a chain of conversational inferences such as those described here. One of Wirth's examples is discussed below.

<sup>2</sup>Note that it is possible to say, 'If you would please mow the lawn, I'll give you \$5'.

<sup>3</sup>If this cactus referred to a specific plant rather than a species, it would be possible for (7) to conversationally imply (8). The implication would depend upon prior assumptions that the plant fulfills all the conditions necessary and sufficient for identifying it as an *Astrophytum*, except that it grows native to Idaho and *Astrophytums* are known not to do so.

<sup>4</sup>By this I mean that he is observing Grice's (1974) conversational maxims.

## References

- Boër, Steven E. and William G. Lycan. 1973. Invited inferences and other unwelcome guests. *Papers in Linguistics* 6.483-505.
- Fillenbaum, Samuel. ms. 1973. Inferences people make: invited or uninvited.
- Geis, Michael L., and Arnold M. Zwicky. 1971. On invited inferences. *Linguistic Inquiry* 2.561-6.
- Grice, H. Paul. 1974. Logic and conversation. In: *The logic of grammar* (ed. by Donald Davidson and Gilbert Harman. Encino, California: Dickenson Publishing Co), 64-75.
- Lilje, G. W. 1972. Uninvited inferences. *Linguistic Inquiry* 3.540-2.
- Wirth, Jessica. 1975. On the explanation of invited inferences. *Glossa* 9.36-52.