## LOGIC AND CONVERSATION*

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It is a commonplace of philosophical logic that there are, or appear to be, divergences in meaning between, on the one hand, at least some of what I shall call the FORMAL devices-~, $\wedge, v, \supset,(x), \exists(x), \int x$ (when these are given a standard two-valued interpretation)-and, on the other, what are taken to be their analogs or counterparts in natural language - such expressions as not, and, or, if, all, some (or at least one), the. Some logicians may at some time have wanted to claim that there are in fact no such divergences; but such claims, if made at all, have been somewhat rashly made, and those suspected of making them have been subjected to some pretty rough handling.

Those who concede that such divergences exist adhere, in the main, to one or the other of two rival groups, which for the purposes of this article I shall call the formalist and the informalist groups. An outline of a not uncharacteristic formalist position may be given as follows: Insofar as logicians are concerned with the formulation of very general patterns of valid inference, the formal devices possess a decisive advantage over their natural counterparts. For it will be possible to construct in terms of the formal devices a system of very general formulas, a considerable number of which can be regarded as, or are closely related to, patterns of inferences the expression of which involves some or all of the devices: Such a system may consist of a

[^0]certain set of simple formulas that must be acceptable if the devices have the meaning that has been assigned to them, and an indefinite number of further formulas, many of them less obviously acceptable, each of which can be shown to be acceptable if the members of the original set are acceptable. We have, thus, a way of handling dubiously acceptable patterns of inference, and if, as is sometimes possible, we can apply a decision procedure, we have an even better way. Furthermore, from a philosophical point of view, the possession by the natural counterparts of those elements in their meaning, which they do not share with the corresponding formal devices, is to be regarded as an imperfection of natural languages; the elements in question are undesirable excrescences. For the presence of these elements has the result that the concepts within which they appear cannot be precisely/clearly defined, and that at least some statements involving them cannot, in some circumstances, be assigned a definite truth value; and the indefiniteness of these concepts is not only objectionable in itself but leaves open the way to metaphysics-we cannot be certain that none of these natural language expressions is metaphysically 'loaded'. For these reasons, the expressions, as used in natural speech, cannot be regarded as finally acceptable, and may turn out to be, finally, not fully intelligible. The proper course is to conceive and begin to construct an ideal language, incorporating the formal devices, the sentences of which will be clear, determinate in truth value, and certifiably free from metaphysical implications; the foundations of science will now be philosophically secure, since the statements of the scientist will be expressible (though not necessarily actually expressed) within this ideal language. (I do not wish to suggest that all formalists would accept the whole of this outline, but I think that all would accept at least some part of it.)
To this, an informalist might reply in the following vein. The philosophical demand for an ideal language rests on certain assumptions that should not be conceded; these are, that the primary yardstick by which to judge the adequacy of a language is its ability to serve the needs of science, that an expression cannot be guaranteed as fully intelligible unless an explication or analysis of its meaning has been provided, and that every explication or analysis must take the form of a precise definition that is the expression/assertion of a logical equivalence. Language serves many important purposes besides those of seientific inquiry; we can know perfectly well what an expression means (and so a fortiori that it is intelligible) without knowing its analysis, and the provision of an analysis may (and usually does) consist in the specification, as generalized as possible, of the conditions
that count for or against the applicability of the expression being analyzed. Moreover, while it is no doubt true that the formal devices are especially amenable to systematic treatment by the logician, it remains the case that there are very many inferences and arguments, expressed in natural language and not in terms of these devices, that are nevertheless recognizably valid. So there must be a place for an unsimplified, and so more or less unsystematic, logic of the natural counterparts of these devices; this logic may be aided and guided by the simplified logic of the formal devices but cannot be supplanted by it; indeed, not only do the two logies differ, but sometimes they come into conflict; rules that hold for a formal device may not hold for its natural counterpart.
Now, on the general question of the place in philosophy of the reformation of natural language, I shall, in this article, have nothing to say. I shall confine myself to the dispute in its relation to the alleged divergences mentioned at the outset. I have, moreover, no intention of entering the fray on behalf of either contestant. I wish, rather, to maintain that the common assumption of the contestants that the divergences do in fact exist is (broadly speaking) a common mistake, and that the mistake arises from an inadequate attention to the nature and importance of the conditions governing conversation. I shall, therefore, proceed at once to inquire into the general conditions that, in one way or another, apply to conversation as such, irrespective of its subject matter.

## IMPLICATURE

Suppose that A and B are talking about a mutual friend, C, who is now working in a bank. A asks B how C is getting on in his job, and B replies, Oh quite well, I think; he likes his colleagues, and he hasn't been to prison yet. At this point, A might well inquire what B was implying, what he was suggesting, or even what he meant by saying that C had not yet been to prison. The answer might be any one of such things as that C is the sort of person likely to yield to the temptation provided by his occupation, that C's colleagues are really very unpleasant and treacherous people, and so forth. It might, of course, be quite unnecessary for A to make such an inquiry of B, the answer to it being, in the context, clear in advance. I think it is clear that whatever B implied, suggested, meant, etc., in this example, is distinct from what B said, which was simply that C had not been to prison yet. I wish to introduce, as terms of art, the verb implicate and
the related nouns implicature (cf. implying) and implicatum (cf, what is implied). The point of this maneuver is to avoid having, on each occasion, to choose between this or that member of the family of verbs for which implicate is to do general duty. I shall, for the time being at least, have to assume to a considerable extent an intuitive understanding of the meaning of say in such contexts, and an ability to recognize particular verbs as members of the family with which implicate is associated. I can, however, make one or two remarks that may help to clarify the more problematic of these assumptions, namely, that connected with the meaning of the word say.
In the sense in which I am using the word say, I intend what someone has said to be closcly related to the conventional meaning of the words (the sentence) he has uttered. Suppose someone to have uttered the sentence He is in the grip of a vice. Given a knowledge of the English language, but no knowledge of the circumstances of the utterance, one would know something about what the speaker had said, on the assumption that he was speaking standard English, and speaking literally. One would know that he had said, about some particular male person or animal $x$, that at the time of the utterance (whatever that was), either (I) $x$ was unable to rid himself of a certain kind of bad character trait or (2) some part of $x$ 's person was caught in a certain kind of tool or instrument (approximate account, of course). But for a full identification of what the speaker had said, one would need to know (a) the identity of $x$, (b) the time of utterance, and (c) the meaning, on the particular occasion of utterance, of the phrase in the grip of a vice [a decision between (1) and (2)]. This brief indication of my use of say leaves it open whether a man who says (today) Harold Wilson is a great man and another who says (also today) The British Prime Minister is a great man would, if each knew that the two singular terms had the same reference, have said the same thing, But whatever decision is made about this question, the apparatus that 1 am about to provide will be capable of accounting for any implicatures that might depend on the presence of one rather than another of these singular terms in the sentence uttered. Such implicatures would merely be related to different maxims.
In some cases the conventional meaning of the words used will determine what is implicated, besides helping to determine what is said. If I say (smugly), He is an Englishman; he is, therefore, brave, I have certainly committed myself, by virtue of the meaning of my words, to its being the case that his being brave is a consequence of (follows from) his being an Englishman. But while I have said that
he is an Englishman, and said that he is brave, I do not want to say that I have SAID (in the favored sense) that it follows from his being an Englishman that he is brave, though I have certainly indicated, and so implicated, that this is so. I do not want to say that my utterance of this sentence would be, STBICTLY SPEAKINC, false should the consequence in question fail to hold. So SOME implicatures are conventional, unlike the one with which I introduced this discussion of implicature.

I wish to represent a certain subclass of nonconventional implicatures, which I shall call CONVERSATIONAL implicatures, as being essentially connected with certain general features of discourse; so my next step is to try to say what these features are.

The following may provide a first approximation to a general principle. Our talk exchanges do not normally consist of a succession of disconnected remarks, and would not be rational if they did. They are characteristically, to some degree at least, cooperative efforts; and each participant recognizes in them, to some extent, a common purpose or set of purposes, or at least a mutually accepted direction. This purpose or direction may be fixed from the start (e.g., by an initial proposal of a question for discussion), or it may evolve during the exchange; it may be fairly definite, or it may be so indefinite as to leave very considerable latitude to the participants (as in a casual conversation). But at each stage, SOME possible conversational moves would be excluded as conversationally unsuitable. We might then formulate a rough general principle which participants will be expected (ceteris paribus) to observe, namely: Make your conversational 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. One might label this the Cooperative Principle.

On the assumption that some such general principle as this is acceptable, one may perhaps distinguish four categories under one or another of which will fall certain more specific maxims and submaxims, the following of which will, in general, yield results in aecordance with the Cooperative Principle. Echoing Kant, I call these categories Quantity, Quality, Relation, and Manner. The category of QUANTITY relates to the quantity of information to be provided, and under it fall the following maxims:

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.
(The second maxim is disputable; it might be said that to be overinformative is not a transgression of the CP but merely a waste of time. However, it might be answered that such overinformativeness may be confusing in that it is liable to raise side issues; and there may also be an indirect effect, in that the hearers may be misled as a result of thinking that there is some particular POINT in the provision of the excess of information. However this may be, there is perhaps a different reason for doubt about the admission of this second maxim, namely, that its effect will be secured by a later maxim, which concems relevance.)
Under the category of Quality falls a supermaxim - 'Try to make your contribution one that is true - and two more specific maxims:
3. Do not say what you believe to be false.
4. Do not say that for which you lack adequate evidence.

Under the category of Relation I place a single maxim, namely, 'Be relevant.' Though the maxim itself is terse, its formulation conceals a number of problems that exercise me a good deal: questions about what different kinds and focuses of relevance there may be, how these shift in the course of a talk exchange, how to allow for the fact that subjects of conversation are legitimately changed, and so on. I find the treatment of such questions exceedingly difficult, and I hope to revert to them in a later work.

Finally, under the category of Manner, which I understand as relating not (like the previous categories) to what is said but, rather, to HOW what is said is to be said, I include the supermaxim - 'Be perspicuous' - and various maxims such as:

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

And one might need others.
It is obvious that the observance of some of these maxims is a matter of less urgency than is the observance of others; a man who has expressed himself with undue prolixity would, in general, be open to milder comment than would a man who has said something he believes to be false. Indeed, it might be felt that the importance of at least the first maxim of Quality is such that it should not be included in a scheme of the kind I am constructing; other maxims come into operation only on the assumption that this maxim of Quality is satisfied. While this may be correct, so far as the generation of
implicatures is concerned it seems to play a role not totally different from the other maxims, and it will be convenient, for the present at least, to treat it as a member of the list of maxims.
There are, of course, all sorts of other maxims (aesthetic, social, or moral in character), such as 'Be polite', that are also normally observed by participants in talk exchanges, and these may also generate nonconventional implicatures. The conversational maxims, however, and the conversational implicatures connected with them, are specially connected (I hope) with the particular purposes that talk (and so, talk exchange) is adapted to serve and is primarily employed to serve. I have stated my maxims as if this purpose were a maximally effective exchange of information; this specification is, of course, too narrow, and the scheme needs to be generalized to allow for such general purposes as influencing or directing the actions of others.
As one of my avowed aims is to see talking as a special case or variety of purposive, indeed rational, behavior, it may be worth noting that the specific expectations or presumptions connected with at least some of the foregoing maxims have their analogues in the sphere of transactions that are not talk exchanges. I list briefly one such analog for each conversational category.

1. Quantity. If you are assisting me to mend a car, I expect your contribution to be neither more nor less than is required; if, for example, at a particular stage I need four screws, I expect you to hand me four, rather than two or six.
2. Quality. I expect your contributions to be genuine and not spurious. If I need sugar as an ingredient in the cake you are assisting me to make, I do not expect you to hand me salt; if I need a spoon, I do not expect a trick spoon made of rubber.
3. Relation. I expect a partner's contribution to be appropriate to immediate needs at each stage of the transaction; if I am mixing ingredients for a cake, I do not expect to be handed a good book, or even an oven cloth (though this might be an appropriate contribution at a later stage).
4. Manner. I expect a partner to make it clear what contribution he is making, and to execute his performance with reasonable dispatch.

These analogies are relevant to what I regard as a fundamental question about the CP and its attendant maxims, namely, what the basis is for the assumption which we seem to make, and on which (I hope) it will appear that a great range of implicatures depend, that talkers will in general (ceteris paribus and in the ahsence of inding
down not his audience but himself. So I would like to be able to show that observance of the CP and maxims is reasonable (rational) along the following lines: that any one who cares about the goals that are central to conversation/communication (e.g., giving and receiving information, influencing and being influenced by others) must be expected to have an interest, given suitable circumstances, in participation in talk exchanges that will be profitable only on the assumption that they are conducted in general accordance with the CP and the maxims. Whether any such conclusion can be reached, I am uncertain; in any ease, I am fairly sure that I cannot reach it until I am a good deal clearer about the nature of relevance and of the circumstances in which it is required.
It is now time to show the connection between the $C P$ and maxims, on the one hand, and conversational implicature on the
other.

A participant in a talk exchange may fail to fulfill a maxim in various ways, which include the following:

1. He may quietly and unostentatiously violate a maxim; if so, in some cases he will be liable to mislead.
2. He may opt OUt from the operation both of the maxim and of the CP; he may say, indicate, or allow it to become plain that he is unwilling to cooperate in the way the maxim requires. He may say, for example, I cannot say more; my lips are sealed.
3. He may be faced by a CLASH: He may be unable, for example, to fulfill the first maxim of Quantity (Be as informative as is required) without violating the second maxim of Quality (Have adequate evidence for what you say).
4. He may flout a maxim; that is, he may blatantly fail to fulfill it. On the assumption that the speaker is able to fulfill the maxim and to do so without violating another maxim (because of a clash), is not opting out, and is not, in view of the blatancy of his performance, trying to mislead, the hearer is faced with a minor problem: How can his saying what he did say be reconciled with the supposition that he is observing the overall CP? This situation is one that characteristically gives rise to a conversational implicature; and when a conversational implicature is generated in this way, I shall say that a maxim is being EXPLOITED.
I am now in a position to characterize the notion of conversational implicature. A man who, by (in, when) saying (or making as if to say) that $p$ has implicated that $q$, may be said to have conversationally implicated that $q$, PROVIDED THAT (1) he is to be presumed to be ob-

Group A: Examples in which no maxim is violated, or at least in which it is not clear that any maxim is violated

A is standing by an obviously immobilized car and is approached by $B$; the following exchange takes place:
(1) A: I am out of petrol.

B : There is a garage round the corner. (Gloss: B would be infringing the maxim 'Be relevant' unless he thinks, or thinks it possible, that the garage is open, and has petrol to sell; so he implicates that the garage is, or at least may be open, etc.)

In this example, unlike the case of the remark He hasn't been to prison yet, the unstated connection between B's remark and A's remark is so obvious that, even if one interprets the supermaxim of Manner, 'Be perspicuous,' as applying not only to the expression of what is said but also to the connection of what is said with adjacent remarks, there seems to be no case for regarding that supermaxim as infringed in this example. The next example is perhaps a little less clear in this respect:
(2) A: Smith doesn't seem to have a girlfriend these days.

B: He has been paying a lot of visits to New York lately.
B implicates that Smith has, or may have, a girlfriend in New York. (A gloss is unnecessary in view of that given for the previous example.)

In both examples, the speaker implicates that which he must be assumed to believe in order to preserve the assumption that he is observing the maxim of relation.

Group B: An example in which a maxim is violated, but its violation is to be explained by the supposition of a clash with another maxim

A is planning with B an itinerary for a holiday in France. Both know that A wants to see his friend C, if to do so would not involve too great a prolongation of his journey:
(3) A: Where does C live?

B: Somewhere in the South of France. (Gloss: There is no reason to suppose that $B$ is opting out; his answer is, as he well knows, less informative than is required to meet A's needs. This infringement of the first maxim of Quantity can be explained only by the supposition that B is aware that to be more informative would be to say something that infringed the maxim of Quality, 'Don't say
he is ('Methinks the lady doth protest too much'). But if it is thought of as designed, it would be an oblique way of conveying that it is to some degree controversial whether or not $p$. It is, however, arguable that such an implicature could be explained by reference to the maxim of Relation without invoking an alleged second maxim of Quantity.
(2a) Examples in which the first maxim of Quality is flouted

1. Irony. X , with whom A has been on close terms until now, has betrayed a secret of A's to a business rival. A and his audience both know this. A says ' $X$ is a fine friend'. (Gloss: It is perfectly obvious to A and his audience that what A has said or has made as if to say is something he does not believe, and the audience knows that A knows that this is obvious to the audience. So, unless A's utterance is entirely pointless, A must be trying to get across some other proposition than the one he purports to be putting forward. This must be some obviously related proposition; the most obviously related proposition is the contradictory of the one he purports to be putting forward.)
2. Metaphor. Examples like You are the cream in my coffee characteristically involve categorial falsity, so the contradictory of what the speaker has made as it to say will, strictly speaking, be a truism; so it cannot be that that such a speaker is trying to get across. The most likely supposition is that the speaker is attributing to his audience some feature or features in respect of which the audience resembles (more or less fancifully) the mentioned substance.
It is possible to combine metaphor and irony by imposing on the hearer two stages of interpretation. I say You are the cream in my coffee, intending the hearer to reach first the metaphor interpretant 'You are my pride and joy' and then the irony interpretant 'You are my bane.'
3. Meiosis. Of a man known to have broken up all the furniture, one says He was a little intoxicated.
4. Hyperbole. Every nice girl loves a sailor.
(2b) Examples in which the second maxim of Quality, 'Do not say that for which you lack adequate evidence', is flouted are perhaps not easy to find, but the following seems to be a specimen. I say of X's wife, She is probably deceiving him this evening. In a suitable context, or with a suitable gesture or tone of voice, it may be clear that I have no adequate reason for supposing this to be the case. My partner, to preserve the assumption that the conversational game is still being played, assumes that I am getting at some related proposition for the acceptance of which I Do have a reasonable basis. The
related proposition might well be that she is given to deceiving her reled proposition that she is the sort of person who would not stop short of such conduct. implicature is achieved by real, as dis(3) Examples in which an iolation of the maxim of Relation are perhaps tinct from apparent, rare, but the following seems to be a good candidate. At a genteel tea rare, but he follow. $X$ is an old bag. There is a moment of appalled silence, and then B says The weather has been quite delightful this summer, hasn't it? B has blatantly refused to make what HE says relevant to A's preceding remark. He thereby implicates that A's remark should not be discussed and, perhaps more specifically, that A has committed a social gaffe.
(4) Examples in which various maxims falling under the supermaxim 'Be perspicuous' are flouted
5. Ambiguity. We must remember that we are concerned only with ambiguity that is deliberate, and that the speaker intends or expects to be recognized by his hearer. The problem the hearer has to solve is why a speaker should, when still playing the conversational game, go out of his way to choose an ambiguous utterance. There are two types of cases:
(a) Examples in which there is no difference, or no striking difference, between two interpretations of an utterance with respect to straightforwardness; neither interpretation is notably more sophisticated, less standard, more recondite or more far-fetched than the other. We might consider Blake's lines: 'Never seek to tell thy love, Love that never told can be.' To avoid the complications introduced by the presence of the imperative mood, I shall consider the related sentence, I sought to tell my love, love that never told can be. There may be a double ambiguity here. My love may refer to either a state of emotion or an object of emotion, and love that never told can be may mean either 'Love that cannot be told' or 'love that if told cannot continue to exist.' Partly because of the sophistication of the poet and partly because of internal evidence (that the ambiguity is kept up), there seems to be no alternative to supposing that the ambiguities are deliberate and that the poet is conveying both what he would be saying if one interpretation were intended rather than the other, and vice versa; though no doubt the poet is not explicitly SAYING any one of these things but only conveying or suggesting them (cf. 'Since she [nature] pricked thee out of women's pleasure, mine be thy love, and thy love's use their treasure.)
(b) Examples in which one interpretation is notably less straightforward than another. Take the complex example of the British Gen-
eral who captured the town of Sind and sent back the message Peccavi. The ambiguity involved ('I have Sind'/'I have sinned') is phonemic, not morphemic; and the expression actually used is unambiguous, but since it is in a language foreign to speaker and hearer, translation is called for, and the ambiguity resides in the standard translation into native English

Whether or not the straightforward interpretant ('I have sinned') is being conveyed, it seems that the nonstraightforward must be. There might be stylistic reasons for conveying by a sentence merely its nonstraightforward interpretant, but it would be pointless, and perhaps also stylistically objectionable, to go to the trouble of finding an expression that nonstraightforwardly conveys that $p$, thus imposing on an audience the effort involved in finding this interpretant, if this interpretant were otiose so far as communication was concerned. Whether the straightforward interpretant is also being conveyed seems to depend on whether such a supposition would conflict with other conversational requirements, for example, would it be relevant, would it be something the speaker could be supposed to accept, and so on. If such requirements are not satisfied, then the straightforward interpretant is not being conveyed. If they are, it is. If the author of Peccavi could naturally be supposed to think that he had committed some kind of transgression, for example, had disobeyed his orders in capturing Sind, and if reference to such a transgression would be relevant to the presumed interests of the audience, then he would have been conveying both interpretants; otherwise he would be conveying only the nonstraightforward one.
2. Obscurity. How do I exploit, for the purposes of communication, a deliberate and overt violation of the requirement that I should avoid obscurity? Obviously, if the Cooperative Principle is to operate, I must intend my partner to understand what I am saying despite the obscurity I import into my utterance. Suppose that A and $B$ are having a conversation in the presence of a third party, for example, a child, then A might be deliberately obscure, though not too obscure, in the hope that B would understand and the third party not. Furthermore, if A expects B to see that A is being deliberately obscure, it seems reasonable to suppose that, in making his conversational contribution in this way, A is implicating that the contents of his communication should not be imparted to the third party.
3. Failure to be brief or succinct. Compare the remarks:
(a) Miss X sang 'Home sweet home.'
(b) Miss $X$ produced a series of sounds that corresponded closely with the score of 'Home sweet home'.

When someone, by using the form of expression an $X$, implicates that the X does not belong to or is not otherwise closely connected with some identifiable person, the implicature is present because the speaker has failed to be specific in a way in which he might have been expected to be specific, with the consequence that it is likely to be assumed that he is not in a position to be specific. This is a familiar implicature situation and is classifiable as a failure, for one reason or another, to fulfill the first maxim of Quantity. The only difficult question is why it should, in certain cases, be presumed, independently of information about particular contexts of utterance, that specification of the closeness or remoteness of the connection between a particular person or object and a further person who is mentioned or indicated by the utterance should be likely to be of interest. The answer must lie in the following region: Transactions between a person and other persons or things closely connected with him are liable to be very different as regards their concomitants and results from the same sort of transactions involving only remotely connected persons or things; the concomitants and results, for instance, of my finding a hole in My roof are likely to be very different from the concomitants and results of my finding a hole in someone else's roof. Information, like money, is often given without the giver's knowing to just what use the recipient will want to put it. If someone to whom a transaction is mentioned gives it further consideration, he is likely to find himself wanting the answers to further questions that the speaker may not be able to identify in advance; if the appropriate specification will be likely to enable the hearer to answer a considerable variety of such questions for himself, then there is a presumption that the speaker should include it in his remark; if not, then there is no such presumption.

Finally, we can now show that, conversational implicature being what it is, it must possess certain features:

1. Since, to assume the presence of a conversational implicature, we have to assume that at least the Cooperative Principle is being observed, and since it is possible to opt out of the observation of this principle, it follows that a generalized conversational implicature can be canceled in a particular case. It may be explicitly canceled, by the addition of a clause that states or implies that the speaker has opted out, or it may be contextually canceled, if the form of utterance that usually carries it is used in a context that makes it clear that the speaker is opting out.
2. Insofar as the calculation that a particular conversational implicature is present requires, besides contextual and background infor-
mation, only a knowledge of what has been said (or of the conventional commitment of the utterance), and insofar as the manner of expression plays no role in the calculation, it will not be possible to find another way of saying the same thing, which simply lacks the implicature in question, except where some special feature of the substituted version is itself relevant to the determination of an implicature (in virtue of one of the maxims of Manner). If we call this feature NONDETACHABLLITY, one may expect a generalized conversational implicature that is carried by a familiar, nonspecial locution to have a high degree of nondetachability.
3. To speak approximately, since the calculation of the presence of a conversational implicature presupposes an initial knowledge of the conventional force of the expression the utterance of which carries the implicature, a conversational implicatum will be a condition that is not included in the original specification of the expression's conventional force. Though it may not be impossible for what starts life, so to speak, as a conversational implicature to become conventionalized, to suppose that this is so in a given case would require special justification. So, initially at least, conversational implicata are not part of the meaning of the expressions to the employment of which they attach.
4. Since the truth of a conversational implicatum is not required by the truth of what is said (what is said may be true-what is implicated may be false), the implicature is not carried by what is said, but only by the saying of what is said, or by 'putting it that way.'
5. Since, to calculate a conversational implicature is to calculate what has to be supposed in order to preserve the supposition that the Cooperative Principle is being observed, and since there may be various possible specific explanations, a list of which may be open, the conversational implicatum in such cases will be disjunction of such specific explanations; and if the list of these is open, the implicatum will have just the kind of indeterminacy that many actual implicata do in fact seem to possess.

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