

ILLOCUTIONS, IMPLICATA, AND WHAT A CONVERSATION REQUIRES¹

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abstract:

An approach is provided to the prediction and explanation of quantity implicata (implicata whose calculation depends on adhesion to Grice's maxim of Quantity) that, unlike the majority of approaches available, does not construe Quantity as requiring speakers to make the strongest claim that their evidence permits. Central to this treatment is an elaboration of the notion of what a conversation requires as appealed to in the Cooperative Principle and the Quantity maxim. What a conversation requires is construed as depending, at any given point, upon (i) the aim(s) of the conversation taking place, (ii) the conversational record, which includes such features as common ground and salience relations among objects, and (iii) any proffered illocution calling for a reply. In accounting for this third dimension a partial characterization is provided of the speech acts of assertion and interrogation in terms of their role in constraining the progress of the conversation in which they occur.

(From *Pragmatics and Cognition* 7 (1999): 65-91.)

I. Introduction

Taken literally, Grice's two maxims falling under the rubric Quantity

- (1) QUANTITY 1: Make your contribution as informative as is required (for the current purposes of the exchange)

QUANTITY 2: Do not make your contribution more informative than is required.

enjoin speakers to be as informative as they are required to be, and no more informative than they are required to be. Grice is not, however, typically read as supposing that cooperative speakers are to add only the bare minimum of relevant information to the conversation in which they are participating. Quite to the contrary, being more informative than required is often understood as being more informative than is permitted, so that violation of Quantity must involve some conversational impropriety--presumably violation of a maxim other than Quantity, such as Relation or Manner, or at least of the Cooperative Principle.² On this assumption the Quantity maxims together enjoin interlocutors called on to provide information to be sufficiently informative such that, were they to be any more informative they would be in violation of some non-Quantity maxim or of the Cooperative Principle. On this understanding, that is, of being more informative than is required, the conjunction of Quantity 1 and Quantity 2 amounts to what might be called

- (2) VOLUBILITY: Make your contribution as informative as is compatible with the current purposes of the exchange.

Evidence that cooperative interlocutors follow some such norm as Volubility may be found in its apparent ability to aid calculations of many implicata. For instance a cooperative speaker who asserts

(3) Pierre lives in France

often implicates that he does not know where in France Pierre resides. For this implicatum to be explained we must also require that the making of a stronger claim would not be in violation of any other maxim, so that Pierre's living in Arles, say, would be relevant in the context of the conversation (Relation), and that in making the stronger claim the speaker would not be saying something for which he lacks sufficient evidence (Quality). Here is a textbook calculation of an implicatum of this sort:

- (4)
- (i) S has said p
 - (ii) There is an expression q, more informative than p (and thus q entails p), which might be desirable as a contribution to the current purposes of the exchange,
 - (iii) q is of roughly equal brevity to p; so S did not say p rather than q simply in order to be brief (i.e., to conform to the maxim of Manner)
 - (iv) Since if S knew that q holds but nevertheless uttered p he would be in breach of the injunction to make his contribution as informative as is required, S must mean me, the addressee, to infer that S knows that q is not the case, or at

least that he does not know that *q* is the case. (Levinson 1983: 135)

Consider the use made in (iv) of ‘the injunction that the speaker make his contribution as informative as is required’, that is, of Quantity 1. The author of this calculation takes it that *S* would violate Quantity 1 if she made the weaker claim when the evidence available to her justified a stronger claim. (Premise (ii) guarantees that making a stronger claim would not be in violation of Relation, and premise (iii) guarantees that doing so would not be in violation of Manner.) This is so only if at each stage of a cooperative conversation in which an interlocutor is called upon to provide information, that speaker is to make a stronger rather than a weaker claim so long as doing so violates neither the Cooperative Principle nor any conversational maxims.³ Yet while cooperative conversation seems to permit such generosity, it requires no such thing. While a speaker’s naming three rather than two places in response to the question, “What are some good vacation spots on the Mediterranean?” is in many cases conversationally acceptable, it is not plausible that in any such case, in spite of knowing of three spots had she instead provided only two she would have violated any conversational proprieties. Instead, conversations often allow their participants a range of contributions some of which are more informative than others, these more informative contributions being permissible but not mandatory. Consequently, one may be less informative than one can be without infringing the Cooperative Principle or any conversational maxim.⁴

Since both the literal reading of Quantity and its construal as Volubility are untenable, so-called quantity implicata (implicata whose calculation depends on adversion to the maxim of Quantity, special cases being scalar and clausal implicata) cannot be explained by appeal to

either construal of that maxim. We begin to see how to fill this explanatory lacuna by observing that whether the utterer of (1) generates the implicatum that she does not know where in France Pierre resides, depends in part upon how informative she was to have been in saying what she did. This can depend upon the aim or aims of the conversation to which she was contributing, what may be presumed as common ground between her and her interlocutor, and the speech acts (if any) to which she was responding. While both the Cooperative Principle and the Quantity maxims make reference to what a conversation requires, this notion has remained relatively undeveloped in recent pragmatics literature.⁵ What follows is an attempt to provide a new foundation for the explanation of quantity implicata that gives pride of place to the notion of what a conversation requires. The laying of this foundation will bring with it a refinement of our account of certain speech acts by explaining how they can constrain the progress of the conversations in which they occur. In developing the notion of what a conversation requires our first task shall be an account of some aims of conversing and of some parameters governing conversation.

II. Some Aims and Parameters of Conversation

Not all speech acts occur in the course of conversations, nor even do all temporally ordered series of speech acts constitute conversations. To engage in a conversation interlocutors must at least cooperate on behalf of some common goal even if many other of their aims and interests conflict. In spite of this, when interlocutors do enter a conversation they often do so with no previously established goal in mind and develop such goals on the fly.⁶ Because conversing interlocutors often have a common if inexplicit purpose, a formulation of

what a conversation requires should not depend on the upshots of explicit speech acts for a characterization of such norms. In addition, although what follows delineates some major aims of conversing, be those aims stated explicitly or not, yet the discussion is restricted to the ostensible aims towards which interlocutors work in selecting appropriate illocutions. Certain other aims of conversing, such as to embarrass someone by eliciting an admission from her, to exhibit to another one's superior knowledge, or to drown out an unpleasant background noise, are typically either ulterior strategies with which conversations take place, or are not aims on which interlocutors collaborate in choosing their illocutions, or both. Exhibiting one's superior knowledge might, for instance, be achieved by carrying on a conversation about local politics in which one speaker exhibits greater facility with the issues than the other. The ostensible aim in such a case might be to answer questions about the impending mayoral election while the ulterior motive of one speaker is to exhibit her superior knowledge. In contrast, some aims of conversing, such as drowning out an unpleasant noise, are not aims constraining the force and content of speakers' illocutions but rather impose constraints on the decibel level of their contributions.

Engagement in a collaborative enterprise typically brings with it norms for the participants, and conversation is no exception. Thomason (1990, p. 356) has complained that the Cooperative Principle's injunction to do what the conversation requires is no less vacuous than the injunction, directed to one dressing for a party, to dress appropriately. But just as one's sartorial concerns can be aided by knowledge of the kind of party in the offing, so too conversational norms can depend in part on the type of conversation under way. For instance, some conversations are action-oriented by virtue of aiming at the effecting, affecting, or

manifesting of plans. In the latter case expeditious communication of an extant plan is the primary goal, while in the former two it is the construction or revision of such a plan. Other conversations are bound up with the guidance of inquiry by virtue of aiming at the effecting, affecting, or manifesting of commitment to questions. Typically these questions are of a sufficiently challenging or momentous sort as to make an immediate answer difficult, requiring instead to be put “on the table” and settled as various answers are proffered. (This also may account for why it is often possible to argue over the appropriateness of such questions.)

In addition to the above two types, many conversations aim directly at the effecting, affecting, or manifesting of commitment to propositions. In the last category fall confessions, interviews, interrogations and cross examinations. In the first two fall debates and inquiries, and since our emphasis is on the conveyance of information our focus in considering conversations of this type will be here⁷. In an *inquiry* a group of speakers undertake to answer a question to which none of them has, or takes herself to have, an answer. (In an interrogation, by contrast, at least one speaker takes at least one of the others to be able to answer the question posed.) Speakers are to make assertions that are complete or, barring that, partial answers to the question on the table, and so long as no participant in the conversation demurs from those answers the interlocutors will make progress on their question. The level of informativeness required of inquirers flows from the content of the question guiding inquiry together with what progress has been made on that question thus far. If inquiry is guided by question Q, and thus far by offering and accepting assertions interlocutors have ruled out all but a few answers to Q, then all that remains is to determine which of the remaining answers is correct. Each interlocutor is to make assertions that will with the greatest efficiency, and in conjunction with

the contents of common ground, rule out all but one of the answers that remain. Once that is done the question will have been settled and this particular conversational task attained.

These norms contrast with what is incumbent on speakers when one of them is engaged in convincing another of some thesis.⁸ Whereas an inquirer is to state her position on the propositions comprised by the question on the table, it won't do for the arguer (the person attempting to convince the auditor of the thesis at issue) simply to assert her view of the point in contention. Rather the arguer should elicit agreement from the auditor on certain premises and show how the contended thesis follows from these. To be won over the auditor should give up no more ground than she must while maintaining honesty and consistency with what she has already committed herself to. Imagine that S is trying to convince H that intentional killing is at times morally justified.

(5) S. Some wars are just, don't you agree?

H. Yes, in the case of a tyrannical aggressor for example.

S. And killing enemy personnel is one of the exigencies of war, correct?

H. Yes, but the killing of enemy personnel is never justified as an end in itself.

In her first speech act S is asserting that some wars are just, and requesting that H commit herself on this issue. S is not pragmatically implying in addition that it is not the case that many wars are just, or that he doesn't know that many wars are. Rather, it is a debater's platitude that one should use the weakest premises possible in convincing one's opponent of the thesis in question. Consequently, the fact that a debater has made a weaker assertion than he might have

made without becoming irrelevant or longwinded does not entitle the hearer to infer that the speaker is not evidentially justified in making a stronger claim.

In conversations the aim of which is to express emotion, what may elsewhere seem like redundancy and inefficiency will be perfectly apt. Levinson 1992 cites the example of a group therapy session in which one speaker repeats his remark several times, thereby seeming to violate Manner's injunction to be brief. Notice, however, that Grice glosses this injunction as "avoid *unnecessary* prolixity" (italics mine), and if we see the appropriate level of prolixity as flowing from the nature of the conversation we need not find in this example an exception to the Gricean apparatus. An important aim of the group therapy session is the airing and thereby the acknowledgment (and perhaps also the expiation) of conative states, and efficiency of communication is apparently not the top priority in such conversations. (This same repetition in another context might generate the implicatum that the auditor is obtuse.)

When agents engage in a conversation, and therefore collaborate on behalf of a common aim, they are at least minimally committed to the achievement of that aim. Further, as their conversation progresses as a result of the successful performance of speech acts, in the normal course of events they will gain and lose their commitments to the contents of those acts. As a result, of central importance for our account of conversations and how they progress shall be the notion of commitment. In the general case, commitment brings with it a burden, and can in specific cases carry benefits as well. One entering a contract, for instance, commits herself to the performance of, or to refraining from, some action, often receiving something in return for so obliging herself. Interlocutors undertake commitments by such means as the performance of illocutions, committing themselves to the contents of indicative sentences by making or

accepting speech acts, such as assertions, having propositional content, and to the contents of imperatives and interrogatives by issuing directives and asking questions, respectively. (One can also undertake commitment to a proposition by posing or accepting a question that presupposes it, and one can implicate a question by making an assertion.)

Minimally, one committed to a proposition p is either right or wrong on the issue of p depending on the truth value of that proposition. As we shall see below, just what further consequences propositional commitment has for a person depends on the mode of that commitment, this modality determining whether the speech act is, for instance, assertion, conjecture, presumption or supposition. By contrast, one who undertakes a commitment distinctive of the posing of a question may be said to be right or wrong with regard to any proposition only insofar as that question has a presupposition. But the posing of a question also carries with it commitments of other kinds, particularly to the answering of that question with the means at one's disposal or as they become available, while respecting such further constraints as sincerity.

In the interests of clarity about the objects of commitment, the present study will follow Richard's (1990) synthesis of Russellian and sententialist conceptions of propositions according to which atomic propositions are ordered pairs $\langle s_j, r_k \rangle$ where s_j is a sentence-type and r_k a Russellian proposition (itself an ordered n -tuple consisting of $n-1$ individuals and a property (or relation)) capable of being expressed, relative to a context of utterance, by s_j . Thus for instance 'Socrates is short' expresses the (true) proposition

(6) $\langle \langle \text{Socrates, shortness} \rangle \langle \text{'Socrates is short'} \rangle \rangle$

and 'I am tall' uttered by Napoleon expresses the (false) proposition

(7) $\langle\langle\text{Napoleon, tallness}\rangle\langle\text{'I am tall'}\rangle\rangle$.

Where A and B are propositions, $\langle\text{or, A, B}\rangle$ is also a proposition true just in case either A or B is true, and $\langle\text{not, A}\rangle$ a proposition true just in case it is not the case that A is true. The present approach individuates propositions at least as finely as the sentences that express them are individuated, while still representing those propositions as contentful.⁹ However, this conception of propositions is logically independent of many aspects of the approach to conversation taken here, and as a result those favoring a Fregean account of propositions, or on the other hand a strictly Russellian conception thereof will find little difficulty in substituting their own view of propositions where appropriate.

One device we shall use for tracking the progress of a conversation is that of a *commitment store*, Σ_i , which contains all those semantic contents to which interlocutor i is committed. Σ_i is thus a set of propositions and sets thereof, such that for each proposition $p \in \Sigma_i$, i is committed to p, and such that for each set of propositions $Q \in \Sigma_i$, i committed to Q. (The former are either propositions accepted in the course of the conversation, or are commitments with which the interlocutor entered the conversation. Similarly, the latter are either questions accepted in the course of the conversation, or are questions with which the interlocutor entered the conversation.) Although belief is a form of commitment, the converse is not true. Consequently, although one can believe p without believing q even where p implies q, one is nevertheless in such a case committed to q. We shall capture this by stipulating that Σ_i

is closed under logical consequence. Where $p \in \Sigma_i$, speaker i is correct or not on the issue of p depending on the truth of p ; by contrast, where $Q \in \Sigma_i$ and $q \in Q$, it is not true that i is correct or not on the issue of q depending on the truth of q . Instead i is correct in her commitment to the content of a question only if for some $q \in Q$, q is true; and she is incorrect in that commitment otherwise.

Interlocutors usually take for granted a set of propositions that we may refer to as their common ground, and the concept of commitment will figure in our account of this notion.¹⁰ If it is common ground that A then a speaker may not presuppose A 's falsity in a subsequent speech act without, at the very least, explicitly challenging that proposition. According to the present treatment common ground will be construed as that set of propositions such that all parties to the conversation are committed to those propositions, and to the very thesis that they are so committed. More exactly, where $1, \dots, n$ are interlocutors, we may define $\Sigma_{1 \cap, \dots, \cap n}$ as $\Sigma_1 \cap, \dots, \cap \Sigma_n$. If $c \in \Sigma_{i \cap j}$, it does not follow that c is common ground for i and j , for neither may have any commitments with regard to the other's commitment to c . Rather, where s_1, \dots, s_n are a group of interlocutors, we shall say that

- (8) c is common ground among s_1, \dots, s_n (written $c \in \Sigma_{1 \dots n}$) iff
- (a) for all $s_i \in \{s_1, \dots, s_n\}$, $c \in \Sigma_i$, and for all $s_i \in \{s_1, \dots, s_n\}$, $(a) \in \Sigma_i$.¹¹

$\Sigma_{1 \dots n}$ will in general be a proper subset of $\Sigma_{1 \cap, \dots, \cap n}$. We note that although speakers' commitment stores are closed under logical consequence, $\Sigma_{1 \dots n}$ is not. Having explained some aims and some parameters of conversation, we are now in a position to discuss more fully what a conversation

requires.

III. What a Conversation Requires

What is required of interlocutors *qua* conversationalists is to be distinguished from what is required of them due to their other roles. A person may be justified in breaking a law in order to save a life, but that justification makes her no less of a lawbreaker. (Typically it will reduce her sentence.) Similarly, one speaker may, for instance, ignore another's remark out of politeness (perhaps because replying would embarrass someone present), for moral reasons (perhaps because replying would break a promise), or for prudential reasons (perhaps because of an emergency precluding all discussion), but if it was a remark that called for a reply on her part then even though she may be praised for acting as she does she is still failing in her role as conversationalist. An addressee might even ignore another's conversational contribution in the belief that other strictly conversational considerations are more pressing. Here there is no conflict between the addressee's role as conversationalist and her other roles, and yet although her performance may not be a complete failure she is not fulfilling her conversational obligations. Just as we are sometimes faced with moral dilemmas in which no matter what we do we behave immorally, so too we are sometimes faced with conversational dilemmas in which no matter what we do we fail in our role as conversationalists. (It is no surprise that we tend to resent interlocutors who put us in such dilemmatic situations.) Below I shall be concerned only with what is required of interlocutors in their role as conversationalists, and shall leave open the possibility that at some points in some conversations there is no available conversational move that is consistent with all relevant conversational norms.

In further developing our notion of what a conversation requires we also need not assume that conformity to conversational requirements must leave a speaker with at most one option. Where a conversation permits a choice we need say only that the conversation requires that at least one of the admissible options be taken, perhaps with a preference ordering among elements of this set of alternatives. (Contributions violating Quality, for instance, are normally thought to be more egregious than those violating Quantity or Manner. One can nevertheless violate Quality without opting out of the conversation taking place.¹²) So long as the set of admissible options does not include all possible speech acts the injunction to do what the conversation requires will still be substantive. Which of the admissible options is appropriate to take may then depend not just on the preference ordering but also on factors, such as the speaker's epistemic state, that are external to the conversational requirements.

In addition to being shaped by the aim of the conversation in which interlocutors are engaging, the set of admissible options at a given conversational moment will depend in part on what interlocutors may presume to be common ground. As mentioned, if it is common ground that A then a speaker may not presuppose A's falsity in a subsequent speech act without, at the very least, explicitly challenging that proposition. We may include common ground under a broader rubric that I shall, following Thomason 1990, refer to as conversational record, which comprises such further concepts as salience relations among objects, point of reference and standards of precision.¹³

Conversational aim and conversational record help to determine what illocutionary moves are legal, but they appear unable to give us a complete account. The reason is that individual speech acts often generate a space of appropriate responses without the contents of

those speech acts affecting the record or the aim of the conversation in which they occur.¹⁴

When a question is posed, for instance, although the occurrence of that speech act will normally be registered in common ground, its content only becomes part of the conversational record given a certain response on the part of the addressee. The posing of a question does, however, call for a response from the cooperative addressee (if only in the form of a rejection of the question's presupposition). The same may be said not just of speech acts participating in so-called adjacency pairs, such as question/answer, greeting/greeting, and offer/acceptance-or-rejection, but of many other illocutions as well when they are produced with the intent of moving a conversation forward. For an important case of this latter sort I shall focus on assertion. Next, because of the intimate connection between assertion and interrogation, I shall formulate certain of the conversational proprieties governing the latter.¹⁵

In *Speech Acts* John Searle characterizes assertion of *p* as, "an undertaking to the effect that *p* represents an actual state of affairs."¹⁶ Because undertakings are more naturally thought of as undertakings to action than as having propositional objects, it is not entirely clear what such an undertaking consists in. Minimally, and in light of Section II we may construe an undertaking to the effect that *p* represents an actual state of affairs as putting the assertor in a position such that she is correct on the issue of *p* if *p* obtains, and incorrect on the issue of *p* otherwise. Assertion, however, often does more than put the assertor at risk of being either correct or incorrect on the issue of the asserted proposition. Assertions made not just in a social but in a conversational setting purport to influence the commitments of addressees and thereby to increment the conversational common ground.¹⁷ Further, an addressee of an assertion is in such a case obliged to indicate her acceptance or rejection thereof once it is clear

what content is being put forth with assertoric force.¹⁸ (Acceptance is often indicated only implicitly, for instance by nonverbal cues or by the addressee's performing an illocution that itself presupposes the asserted content.) Further, one who proffers an assertion is committed to replying to an addressee's legitimate challenge to its content by providing a justification for that content, if only by adverting to some third party who may be presumed able to provide such a justification.¹⁹ If unable to reply to a challenge of this sort the assertor is obliged to retract his claim upon the addressee. (He might, of course, persist in believing the asserted content to be true.)

An assertor is obliged to respond to legitimate challenges. What she and her interlocutors gain in return for her shouldering of this burden is the prerogative to use what she has asserted as fodder for further inference by having it entered as a component of common ground so long as no legitimate challenge to what she has asserted has been raised and gone unmet. Thereafter, all interlocutors are obliged not to presuppose that content's falsity without first explicitly calling it into question. Collecting these points together we may say that where S and H are conforming to the cooperative principle, and if *S, addressing H, asserts that A*, then

- (9)
- a. H is obliged to indicate her acceptance or non-acceptance of A. (This may be indicated by non-verbal means, and may be preceded by requests for clarification of the content of S's words.)
 - b. S is committed to giving reasons for A if presented by H with a legitimate challenge,
 - c. If no legitimate challenge to A has been raised and gone unmet, then A is entered as common ground;

- d. If a legitimate challenge has been raised and gone unmet, then S is obliged to retract A.

S is not obliged to respond to an illegitimate challenge, but if such a challenge is raised then until H's acceptance is secured the asserted content will remain off of the common ground. Also, if case (b) arises then S's task is to convince H of A, adhering to the norms for debate. If S succeeds in securing H's acceptance of A, then that debate is complete and the disputed content is entered into common ground. If S does not succeed, then case (d) applies. Further, clauses (c) and (d) make no specific mention of H because other addressees may pose challenges as well. Finally, as we have already remarked it is a general norm flowing from the presence of A in conversational common ground that interlocutors are not to presuppose that content's falsity without first explicitly calling it into question.

We see that assertion creates a space of legal illocutions for both the assertor and the addressee. One may thus construe the present account as an attempt to shed light on the speech act of assertion by adverting to its functional role within larger discourse structures, where the crucial difference from more familiar functionalist accounts of mental states is that the characterization of the role of assertion makes appeal to what the assertor and her audience are committed and entitled to do in light of the assertor's and addressee's speech acts. It is thus that the present account may be thought of as a partial characterization of assertion in terms of its *normative-functional* role. I now turn to such a characterization for questions.

Just as the utterance of an indicative sentence is not to be confused with assertion thereof, so too utterance of an interrogative should not be conflated with the posing of a

question. We may express questions without posing them, as in

(10) John knows who is in the other room.

In reply to the question who is in the room Mary answered that Joe is.

Clarity is therefore served if we distinguish between interrogative force and interrogative content, just as we commonly distinguish between assertoric force and propositional content.²⁰ Following Hamblin 1958, 1973 and Bell 1975, I identify a question's content with a set of propositions each of which is a *complete answer* to that question. The meaning of "Who gave the book to John?" will thus be the set of propositions expressed by, 'Mary gave the book to John', 'John gave the book to John', 'Fred gave the book to John', etc. A *partial answer* is a proposition formed by disjoining two or more distinct elements of the set according to the rules for proposition formation laid down in the last section. Thus an utterance of "Well, either Mary or Fred did" would normally express a partial answer to the above question as a result of expressing a proposition of the form <or, A, B>. Observe that the set of propositions expressed by 'Mary gave the book to John', 'John gave the book to John', 'Fred gave the book to John' does not include as one of its elements the proposition expressed by, "No one". Rather, one who responds to the question with these words would normally be expressing rejection of the question's presupposition rather than answering it. Where M is a proposition constructed by disjoining all the elements of the question expressed by Q, we say that Q presupposes M. (There will thus be many propositions presupposed by Q.)

The semantic content of a question does not determine the significance of asking that

question, but does help to guide our account. This significance may be best characterized in terms of proprieties governing various kinds of response. When S, addressing H, raises question Q then if she is to be cooperative H ought either to give a complete answer to Q, or barring that a partial answer (the fuller the better), or to raise a question in reply in order to get information that may help in answering the proffered question (a special case of this is a request for clarification), or demur from the presupposition of Q if he has reason to doubt it. It might also happen that H has reason to think that S will find her answer to the proffered question contentious, and this expectation justifies S in embarking on a debate aimed at convincing S of an answer to that question.²¹ Other responses than those just listed, such as bequeathing his watch or making an offer are not admissible.²² Further, although it is not clear that one who proffers a question asserts any of that question's presuppositions, such a speaker does at least undertake or express assertoric commitment to those presuppositions.²³ She is consequently liable to have any of those commitments challenged, and if unable to defend them then not only will they not be entered into common ground, she will be obliged to retract the question that presupposed it.

An interlocutor who replies to a question with either a complete or a partial answer thereby accepts the proffered question, unlike one who demurs from a question's presupposition. Because one who proffers a question also accepts it, when an addressee accepts a question that interrogative content becomes part of common ground. Further, just as the presence of a proposition in conversational common ground constrains the space of legal illocutionary moves, so too the presence of an interrogative content in common ground requires interlocutors to answer, to the best of their ability, the question whose content it is. The

conversationally preferred illocution is a complete answer (either given alone or arrived at by means of some persuasion), but that may be proscribed by Quality. As a second best interlocutors provide the strongest partial answer that they can (again either given alone or arrived at by means of some persuasion), or raise a question of their own to gain information that may help in arriving at an answer. When interlocutors become committed to a complete answer to the question on the table, we say that the question is *settled* and as a result is removed from common ground. (All the question's presuppositions remain in common ground.) Collecting these points together we may say that where S and H are conforming to the cooperative principle, and if *S, addressing H, poses question Q, where Q presupposes proposition M*, then

- (11) a. S is committed to giving reasons for M if presented by H with a legitimate challenge²⁴,
 b. If no legitimate challenge to M is raised and goes unmet, then (i) Q is entered into common ground²⁵, and (ii) M is entered into common ground).
 c. If a legitimate challenge to M is raised and goes unmet, then S is obliged to retract Q.

As is the case with assertions, S is not obliged to respond to an illegitimate challenge to the presupposition of her question, but if such a challenge is raised then until H's acceptance is secured the proffered interrogative content as well as its presuppositions will remain off of the common ground. Case (b)(ii) may be further fleshed out in terms of a partial ordering of preferences for various kinds of response.²⁶ If that case applies then

- (12) b(ii)(a). H is obliged to give a complete answer to Q if he can do so without violating

any conversational maxim, or to embark on a debate justifying such an answer. If H cannot do one of these two things without violating some conversational maxim, then H is obliged either

b(ii)(b). to give, or justify by means of a debate, a partial answer to Q, the fuller the better, or

b(ii)(c). to request information that may help him to provide an answer. This interrogation must be followed either by H's conformity to b(ii)(a) or, by H's conformity to b(ii)(b), or by H's legitimate challenge to M, these three choices being listed in order of conversational preference.

These three kinds of response form a partial order since while b(ii)(a) is preferred to both b(ii)(b) and b(ii)(c), neither of these latter is preferred to the other. Also, case b(ii)(b) subsumes replies in which the addressee disavows knowledge of any answer to the proffered question (by saying, for instance, "I don't know"). Such answers may be seen as assertions of a proposition formed by disjoining all the members of the proffered question (this proposition being the presupposition of that question), and differ from such replies as "No comment," in that the former, but not the latter, not only commit the speaker to the presupposition of the question but also typically express a commitment to find an answer to the proffered question should later relevant information be forthcoming.

$\Sigma_{1...n}$ develops in light of proffered and accepted assertions and questions according to the rules we have offered here. Assume again that i and j are cooperative interlocutors. Then if i, addressing j, asserts A and that assertion is accepted by j, then $A \in \Sigma_{ij}$. Similarly, if i,

addressing j , poses question Q and j attempts to answer Q by providing or justifying a complete or partial answer, then where Q presupposes M , both $Q \in \Sigma_{ij}$ and $M \in \Sigma_{ij}$. We also say that if A is a partial answer to some $Q \in \Sigma_{ij}$, and A is both asserted and accepted, then Q is removed from Σ_{ij} and replaced with $\{x: x \in Q \ \& \ x \text{ is consistent with } A\}$. As with the case of accepted assertions, when an answer to a question is offered and accepted it is subsequently conversationally inappropriate for an interlocutor to presuppose the falsity of that accepted content without first explicitly calling it into question. Although we have discussed retractions of proffered illocutions whose content has not yet been entered into common ground, we shall not lay down rules for the retraction of items already in common ground. In spite of the importance of such rules, their formulation would introduce complexities obscuring the essential features of the approach offered here.

The foregoing is an outline of the normative-functional role of interrogation parallel with that given for assertion. Although it is beyond the scope of the present study to attempt to do so here, a normative-functional account of other illocutions such as presumption, conjecture, and supposition for the sake of argument could also be given. It may, however, be *prima facie* plausible that one factor distinguishing these three illocutions from assertion is how they commit their producer to defending what she has presumed (conjectured, supposed for the sake of argument). One challenging a presumption shoulders the onus of proof; one who makes a conjecture is under a weaker obligation to defend it if challenged than if she had made an assertion; one who enters a supposition for the sake of argument is not obliged to respond to challenges to the truth of the supposition at all. These aspects of what one who produces these illocutions is obliged to do also have implications for how these illocutions, when accepted,

influence conversational score. For instance an undischarged but accepted supposition can only be used as fodder for inferences under the scope of that supposition. Similarly, a proffered and accepted conjecture will contribute to common belief but not to common knowledge.²⁷

IV. Conversational Requirements and the Generation of Implicata

We have seen that what a conversation requires depends at any given conversational moment on the conversational aim, the conversational record, and the proffered speech act if there is one. These three components determine a space of admissible illocutions that is partially ordered in terms of preferability for conversational purposes. The cooperative speaker then selects among the admissible options depending upon the partial ordering and her idiosyncratic commitments. If the option she selects is dominated relative to the partial ordering by some other admissible illocution, then on the suppositions (i) that she is aware of the admissible options and their preference ordering, and (ii) that she is being cooperative to the best of her ability, it may be inferred that she was not in a position to choose a “higher” element in the ordering without infringing a conversational maxim.

The performance of an illocution that is admissible but dominated relative to the partial ordering by other admissible illocutions thus allows us to infer that the speaker was not in a position to perform any speech act dominating it. Such an inference does not, however, require us to suppose that speakers are to be as informative as possible without violating conversational norms. For within any set of conversationally undominated illocutions we may distinguish a further subset that contains those that are supererogatory. As we have seen in Section I, some answers to questions provide more information than is strictly speaking required without being

irrelevant or in violation of Manner. The conversation does not require such supererogatory answers even though we may be grateful to interlocutors who provide them. Yet precisely because supererogation is laudable but not required, interlocutors who perform undominated, non-supererogatory illocutions are in no violation of conversational requirements and thus do not convey quantity implicata.

We may now establish these points in further detail. The three notions of conversational aim, conversational record, and the proffered illocution are to be used in determining the set of legal illocutionary moves available at any conversational moment, together with a partial ordering on that set. Returning to S's assertion of

(3) Pierre lives in France,

and assuming that S is contributing to a single conversation, then whether in asserting what he does S implicates that he does not know where in France Pierre resides, depends on what the conversation in which he is participating requires him to do. Suppose for instance that S and H are inquiring into the question in which *city* Pierre lives, and no progress has been made on that question thus far. Then in spite of ruling out some answers S's assertion will not be adequately informative as a result of being only a partial answer to the question on the table. Given the conversational aim of answering the accepted question, in saying what he does S has thus violated Quantity. Assuming that S is attempting to conform to the cooperative principle, and that S is not being diffident as a first step towards convincing H of a complete or partial answer, we may infer that S was not in a position to satisfy Quantity without violating Quality. This

allows us to infer that S does not take himself to be evidentially in a position to provide more information than he does. More explicitly, our reasoning may proceed as follows:

(13)

- (i) S does whatever is conversationally required unless doing so violates a conversational maxim. {premise}
- (ii) S conforms to Quantity 1 unless doing so violates a conversational maxim. {(i), def. of Quantity 1}
- (iii) The semantic content, Q, expressed by 'In what city does Pierre live?' is an element of Σ_{sh} . {premise}
- (iv) S asserts p, which expresses a proposition that is a partial answer to Q not also an element of Q, and S performs no other speech act. {premise}
- (v) Being as informative as required obliges S to assert some sentence q expressing an element of Q, or to embark on a debate justifying such an assertion. {(iii), def. of 'Q $\in \Sigma_{sh}$ ', def. of Quantity 1}
- (vi) It is not the case that S embarks on a debate justifying a complete answer to Q. {premise}
- (vii) There exist sentences expressing elements of Q (and expressing nothing else), and of roughly equal brevity to p. {premise}
- (viii) S is not as informative as is required {(iv), (v), (vi), def. of complete answer}
- (ix) In being as informative as is required S would be in violation of some conversational maxim. {(ii), (viii)}
- (x) In being as informative as is required S would be in violation of some conversational maxim other than Quantity. {(ix), def. of Quantity}
- (xi) It is not the case that in being as informative as is required S would have been in violation of Manner. {(iv), (vii), def. of Manner}
- (xii) It is not the case that in being as informative as is required S would have been in violation of Relation. {(iv) (vii), def. of Relation}
- (xiii) In being as informative as is required S would have been in violation of Quality. {(x), (xi), (xii), def. of conversational maxims}
- (xiv) For all sentences q of roughly equal brevity to p, and expressing a proposition that is an element of Q (and expressing nothing else), it is not the case that S believes that q holds. {(xiii), def. of Quality}
- (xv) S believes, and expects H to believe that S believes, that it is within the competence of H to infer that the supposition that (xiv) is required in order to make S's illocution consistent with (i). {premise}
- (xvi) For all sentences q of roughly equal brevity to p, and expressing a proposition that is an element of Q (and expressing nothing else), S conversationally implicates that it is not the case that S believes that q holds. {(i), (xiv), (xv), def. of conversational implicature²⁸}

The above reasoning accounts for how S implicates that he does not take himself to be evidentially justified in providing a complete answer to Q. We note that while interlocutors do sometimes indicate with intonation or other cues that they are embarking on a debate justifying a stronger answer than they are giving, it may not become clear until later in the conversation that such a strategy is being pursued. Consequently, and because of the content of premise (vi) above, it may not be known to S's auditor H what, if anything, S implicates in asserting p until some time subsequent to that assertion.

Parallel reasoning to that displayed above would allow us to arrive at the conclusion that S is also implicating that S is not in a position to provide a partial answer to Q that is nevertheless more informative than p, and whose utterance would not be in violation of Manner or Relation. We could achieve this conclusion by strengthening premise (i) to handle second best, third best, etc., illocutions, as follows. To do so we could partition the set of legal illocutions into subsets, where illocutions l and m are part of the same subset just in case neither is preferable to the other for conversational purposes. (These subsets generate equivalence classes.) We now say that conversation requires the production of an illocution from a set not dominated by any other subset, and we replace (i) with

- (14) (i') S does what is conversationally required unless doing so violates a conversational maxim. If S does not do what is conversationally required, then S performs an illocution dominated by at most one subset of legal illocutions. More generally, if S cannot perform such an "n-ary" illocution without violating a conversational maxim, then S performs an illocution dominated by at most n subsets of legal illocutions...

In the case both of the calculation given and of the one just mooted we employ no premise that may be construed as an injunction to volubility, that is, as saying that so long as one does not violate a conversational maxim one should be as informative as one can be. Speakers are welcome, but never enjoined, to produce supererogatory illocutions so long as they do not become irrelevant or longwinded. Rather, on the present approach how informative one is supposed to be depends on the set of legal illocutions and on the partial ordering of subsets of that set. As we have seen, these two features will depend in part on the objective or objectives of the conversation to which the speaker is contributing. To see this more fully, suppose again that S and H are inquiring into the question in which city Pierre lives, with the conversation proceeding as follows:

(15) H. In what city does Pierre live?

S. Well, he lives in a city in France...

H. Right.

S. And he vowed, remember, that if he lived anywhere in France he'd want to be in a town that was once home to a pope and was celebrated by Petrarch, right?

H. Yes, I remember that.

S. Well, that can only be Avignon.

H. I see.

S's assertion, in his first contribution to this conversation, that Pierre lives in a city in France is weaker than another assertion that he might have made (such as that he lives in a city in the

south of France), where the making of that stronger assertion would not have been in violation of any conversational maxims. Nevertheless S does not implicate that he is not in an evidential position to make a stronger claim than he does, and we may account for this fact by observing that since S is attempting to convince H of a complete answer to the proffered question, S is not conversationally required to make a stronger claim than he actually makes.²⁹ (This fact will prevent the calculation given above from delivering a quantity implicatum by making false premise (vi).) Rather, what he is required to do is to use the most efficient means possible of winning S's consent to the contested claim that Pierre lives in Avignon, and in saying what he did he is in no violation of this requirement.

The set of legal illocutions and the partial ordering on subsets of that set will also contribute to the determination of the content of speakers' utterances. Carston 1988 and Bach 1994 have isolated the phenomenon of the pragmatic determination of what is said (Carston's term is 'explicature'; Bach's is 'implicature'), without offering a theoretical framework for treatment of this phenomenon that is continuous with that used for accounting for implicature. The present approach allows for an account of at least some cases of implicature by predicting that they will be explicable in terms of what the conversation in which they occur requires. In spite of the multiple bearers of 'George Bush', a conversation calling for an answer to the question *Which American presidents were Texans?* will raise the former president to salience by virtue of his occurring in some complete answers to this question. The conversation will thereby make determinate the proposition expressed by 'George Bush is one' if proffered in answer to this question. On the other hand a conversation calling for an answer to the question *Which American governors are Texans?* will raise the former president's son to salience and thereby yield a

different proposition expressed by ‘George Bush is one’ proffered in reply to this latter question.³⁰ While further elaboration of the application of the present framework to the mechanism of implicature cannot be attempted here, a successful such application will provide both theoretical unification and further confirmation of the approach offered in this essay.

Searle 1992 issued a challenge to students of conversation to provide an account of conversations parallel to that of speech acts, arguing as well that the prospects for such an account are dim. One of his reasons is that unlike speech acts conversations do not as such have a point or purpose. If this is meant as a claim that there is no point that all conversations have, then it may be granted without posing a threat to the utility of studying what a conversation requires. For it is consistent with this thesis that nevertheless every conversation has some point or other, often even many, and the weaker claim may be enough to facilitate an understanding of what a conversation requires for purposes of developing a theory of implicature not resting on a misconstrual of Quantity. Such an account may incorporate speech acts as constituents of conversations without supposing that every conversation must itself have properties that mirror those of speech acts. It may, indeed, provide a unification of speech act theory and Gricean pragmatics bolstering the former apparatus as well. For in light of such a unification it may turn out that notions crucial to speech act theory, such as direction of fit and illocutionary point, are refined in light of how utterances make conversational moves such as concessions, demurrers, challenges and retractions. Although such a refinement is beyond the scope of the present study, we may expect a union effecting it to widen the compass of all that it joins.

NOTES

1. Research for this paper was supported in part by a Sesquicentennial Associateship at the Shannon Center for Advanced Studies, University of Virginia, and by a Visiting Fellowship from the Center for Philosophy of Science, University of Pittsburgh. An earlier version of this paper was presented to the University of Virginia Cognitive Studies Group. I am grateful to that audience for their comments, as well as to Ellen Contini-Morava, Steve Cushman, Alan Gross, Michael Kubovy, Angeline Lillard, and Michael Pelczar for discussion of earlier drafts. Insightful comments on an earlier draft by the Editor of this journal and by an anonymous referee are also gratefully acknowledged.
2. See for instance Horn 1989, p. 195, who asks rhetorically, “..what would make a contribution more informative than is required except the inclusion of material not strictly relevant to the stage of the exchange in which it occurred?”
3. Other authors who postulate conversational maxims roughly equivalent to Volubility include Horn (1984, 1989), particularly in his Q-principle; Hamish 1976, particularly via his principle Quantity-Quality; Fogelin 1967, particularly in his Rule of Strength; and Hirschberg 1985, particularly in her rule Imp₁.
4. A more detailed argument for the same conclusion is provided in Green 1995. For application of this conclusion to issues in the semantics and pragmatics of attitude ascriptions see Green 1998.
5. One reason these notions have remained undeveloped may be that they appear vacuous. As Thomason 1990 (p. 356) points out, the injunction to do what the conversation requires is like the injunction, directed to one dressing for a party, to dress appropriately. (See, however, section II below for a treatment according to which the vacuity of the former injunction is apparent only.) Certain authors have nevertheless suggested developments of the notion of what a conversation requires, most notably Dascal 1979, 1992, Holdcroft 1987, and Berg 1991. Dascal 1992, in particular, in response to a challenge of Searle’s (Searle 1992) to formulate nontrivial principles according to which conversations are structured, suggests that , “...at each stage of conversation there is a more or less well defined conversational demand to which the ensuing utterance is expected to relate” (p. 47). The present work may be seen as an attempt to develop and refine Dascal’s insight, while restricting the study of such demands to those that are imposed on speakers in their role as conversationalists.
6. Clark (1996: 319) puts this point by saying that conversations are typically *purposive* but in general *unplanned*.
7. Lewis 1979, in spite of providing useful tools for the conceptualization of conversation has little to say about the point or points of conversing. Stalnaker in his illuminating pragmatic account of presupposition (1973, 1974) focuses on, “normal, straightforward serious conversational contexts where the overriding purpose of the conversation is to exchange information, or conduct a rational argument.” (1974: 201) The present work attempts to refine our account of how these purposes influence conversational proprieties without considering them in isolation from other purposes.
8. Green 1995 argues that contrary to what is often supposed the Gricean maxims and the Cooperative Principle need not be inoperative in all situations in which argument is taking place. See also Attardo 1997 for a complementary view. Under the rubric of *complex dialogue*, Walton and Krabbe 1995 usefully discuss ways in which dialogue types such as those mentioned here can form sequences and nest within one another.
9. See Richard 1990 for a response to the objection that such a conception of propositions makes them “too fine-grained”. I here depart from Richard’s account in two ways: First, I postulate molecular propositions as well as atomic, and, second, I place the “Russellian” part of the proposition in the first ordered pair of atomic propositions and the “sentential” part of the proposition in the second ordered pair, rather than, as Richard does, placing all material relevant to the NP in the first pair and all material relevant to the VP in the second pair.
10. In this respect the present work is influenced by Hamblin 1970, 1971. Others who have followed Hamblin in taking the notion of commitment as a central concept in understanding dialogue are Mackenzie 1985 and Walton and Krabbe 1995.
11. For further discussion of this reflexive conception of common ground see Barwise 1989.

12. Here is one respect in which the present approach departs from a familiar conception of conversations in terms of games. At least for a game with explicitly formulated rules, one who breaks a game's rule can no longer be said to be playing that game. However, one can violate a conversational norm while still engaging in that conversation.

13. I follow Thomason's suggestion that the conversational record should include only information that is public. See Lewis 1979 for a synoptic discussion of the potential uses of the notion of conversational record (his term is 'conversational score').

14. I thus follow the suggestion of Holdcroft 1987 in, in effect, distinguishing local conversational demands from demands created by higher order aims of the speakers.

15. In this I am in agreement with Levinson 1992, who counsels against studying individual speech acts in isolation from one another.

16. 1969: 66. See also Searle and Vanderveken 1985, in which it is said, "in utterances with the assertive point the speaker presents a proposition as representing an actual state of affairs in the world of utterance." (p. 37)

17. For development of this point see Manor 1981. It should be mentioned that we here follow Grice's (1967: 18) view that to assert is to make a claim. As a result, "Here's the missing shoe!" and "Hot weather we're having for this time of year," would not normally be taken to be assertions. Again, avowals of attitude or other states might be made with the use of indicative sentences without being assertions. Furthermore, I follow the distinction of Schober and Clark 1989 (also adumbrated in Kasher 1980) between addressees and overhearers, and construe the norms flowing from the proffering of illocutions as applying only to addressees. Schober and Clark show that, in part because addressees collaborate with speakers in reaching an understanding of what is said whereas overhearers do not, the level at which addressees process verbal information is significantly above that of overhearers. Finally, assertoric commitments come in degrees, as exemplified by the difference in commitment expressed by 'Jones will win the election, I suspect', and 'Jones will certainly win the election'. The present treatment will not attempt to register this dimension of degree of commitment, but for further discussion see Green and Hitchcock 1994.

18. I shall take it that interlocutors always hear one another and know the linguistic meaning of each other's words. Following Kaplan 1989, I shall represent linguistic meaning as *character*, which is defined as a function from contexts of utterance to contents. On these assumptions speakers always know the character of one another's words, but may not know the contents thereof due to unclarity about features of their context of utterance. As a result of these assumptions I shall also abstract from the fact that real conversations do not involve discrete speech acts performed first by one speaker, then by another. As Clark and Shaefer 1989 demonstrate, in typical conversations, particularly in face-to-face settings, each speaker performs her illocution as part of a collaborative process, watching for signs of understanding on the part of the auditor, and giving the auditor indications that he or she has succeeded in understanding when s/he has. Clark and Shaefer accordingly break up each speech act in a conversation into a *presentation* and an *acceptance phase*. The present approach abstracts away from this aspect of conversation without meaning to suggest any disagreement with these authors.

19. Not all challenges are legitimate. It is illegitimate, for instance, to challenge a speaker's perceptual reports unless one can provide good reason for thinking the perceptual circumstances were unusual. Likewise one must have a special reason to challenge a person's avowals of propositional attitude or conative state. For further discussion see Brandom 1983, 1994, and Kasher 1980.

20. See Bell 1975, Walton 1985, and Pendlebury 1986 for further defense of this approach.

21. In the terminology of Walton and Krabbe (1985), such a conversation would thus consist of a complex dialogue as a result of being a conversation containing a conversation as a proper part.

22. Some answers to questions may be conveyed indirectly by such responses as "Do chickens have lips?" Such replies do not constitute a different kind of answer from those considered already but rather are indirect ways of providing one of those kinds of answer.

23. I take it that although assertion is not closed under deductive consequence, one is committed to whatever follows from what one asserts. Thus, whereas one who asserts that A, and asserts that if A, then B, does not thereby assert B, she has nevertheless undertaken assertoric commitment to B. Further, while for many theoretical purposes it is acceptable to abstract from the different kinds of commitment to propositions, one's commitment to what one asserts does differ from one's commitment to that same content if, for instance, supposed for the sake of argument. Consequently we may distinguish assertoric commitment from other modes of commitment. See Green 1997 for further development of the distinction between mode and content of commitment.

24. It might be thought that one should only ask questions whose presuppositions are part of the conversational common ground. This is unduly restrictive, however, since interlocutors frequently accommodate one another by updating common ground to include the presuppositions of the questions posed. For further discussion see Thomason 1990.

25. Since we define common ground as a set of propositions and other semantic contents, no harm is done if M is entered into a common ground that already contains it: The common ground will be unchanged by such an "update".

26. A nonempty set of elements is partially ordered just in case its elements are ordered according to a relation \leq that is transitive ($x \leq y \ \& \ y \leq z \rightarrow x \leq z$), antisymmetric ($x \leq y \ \& \ y \leq x \rightarrow x = y$) and reflexive ($x \leq x$).

27. See Green ms. for further discussion.

28. This definition is given by Grice at 1989: 30-31.

29. S seems to implicate that H is not in an evidential position to *accept* a stronger claim than S actually makes, but the calculation of this implicatum, requiring the postulation of new conversational maxims, goes beyond the scope of the present study.

30. For further development of this point see Pelczar and Rainsbury (forthcoming).

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