On Pragmatic and Semantic Aspects of Meaning

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There is a general agreement these days that we have to explore at least two complementary aspects of meaning in trying to understand how we understand language. First of all, in understanding what a sentence means, we have to grasp a certain relation between the sentence and the external world. This is what I call the semantic, or truthconditional aspect of meaning. To know the truthconditions of the sentence is to know what sort of worlds the sentence corresponds to. Secondly, there is an aspect of meaning that arises from knowing what sort of conversational situations we would be entitled to use the sentence. This I call the pragmatic side of meaning. It is determined by the sentence in question together with the conversational maxims and conventions that we are expected to follow in communicating with each other.

Let us assume that the truthconditional aspect of the meaning of a natural language sentence is captured by mapping each syntactic derivation of the sentence onto a corresponding logical form. Logical forms are expressions of some model-theoretically interpreted auxiliary language, say, the language of intensional logic. As long as we don't get into an argument about the nature of rules that accomplish this mapping, there isn't anything controversial about this assumption. The logical form of the sentence together with the meaning postulates for the language in question determines what proposition the sentence expresses, that is, what class of worlds the sentence corresponds to.

What about the pragmatic aspect of meaning? A pragmatic theory should do at least the following. Given the syntactic form of a sentence and the proposition expressed by it, the theory should tell us in what sort of situations the sentence could be used and for what sort of purposes. It should reveal all the connections that exist between the form of an expression and its function in conversation. Obviously, we don't have any theory in sight which could accomplish all that. All of our attempts in this area will surely remain tentative and incomplete for a long time to come.

1. In principle the division between semantics and pragmatics is clear enough: one discipline deals with the relation between linguistic expressions and the external world; the other studies the use of those expressions. As a practical matter, however, one often doesn't know which theory should be called upon to explain some particular phenomenon. As a simple illustration of this kind of dilemma, consider the examples in (1) and (2).

(1) All unicorns eat grass.

(2) Some unicorns eat grass.

Suppose we agree with the judgement that the inference from (1) to (2) is valid in ordinary language. That is, when a speaker asserts (1), the audience is entitled to the conclusion that (2) holds. The question is: does this relationship hold by virtue of the propositions expressed by (1) and (2), or does it have to do with the conventions that govern the use of (1)? If the first alternative is the correct one, the logical form of (1) should be (3),
or something equivalent to it. If the second alternative is correct, then the standard translation of (1) and (4) will suffice.

\[(3) \forall x \ [\text{unicorn}(x) \to \text{eat-grass}(x)] \land \forall x \ \text{unicorn}(x)\]

\[(4) \forall x \ [\text{unicorn}(x) \to \text{eat-grass}(x)]\]

On the second alternative, one has to say that we are bound by the conventions of language use not to assert the proposition that (1) and (4) express unless we hold that there are unicorns, that is, accept the proposition in (5).

\[(5) \exists x \ \text{unicorn}(x)\]

Since (4) and (5) jointly entail that some unicorn eats grass, we have an explanation for the intuitive validity of the inference from (1) to (2).

How does one know which of the two alternative treatments is the right one? How does one know in general whether some seemingly valid inference is based exclusively on semantic considerations, exclusively on pragmatic considerations, or both? I guess the answer will have to be this: Find out which approach it is that ultimately leads to greater overall simplicity. In this case, it is probably best to take (4) as the logical form of (1) and let (5) be a presupposition for it, that is, a proposition that should be presumed by anyone who wishes to assert (1). Taking (3) as the logical form of (1) does not help to explain why (6) and (7) also commit the speaker to the view that there are such things as unicorns.

\[(6) \text{All unicorns don't eat grass.}\]

\[(7) \text{If all unicorns eat grass, I will.}\]

Although (5) is entailed by (3), it is not entailed by the negation of (3), which presumably would be the logical form of (6), and neither is it entailed by a conditional whose antecedent is (3), as the logical form of (7) would be. The assumption that (3) is the logical form of (1) does not make (5) a logical consequence of these more complex sentences, which also seem to commit the speaker to the truth of (5).

On the approach that I am advocating, we can simply observe that ordinary negative statements share the presuppositions of their affirmative counterparts, and conditionals in general share the presuppositions of their antecedents; hence, (6) and (7) presuppose (5) if (1) does. This generalization seems to hold independently of the case at hand, and we can hope to explain it within a pragmatic theory.

Another question that arises is this: Should this pragmatic aspect of the meaning of (1) be somehow represented alongside the logical form of the sentence? And furthermore, is it part of the meaning of all that it contributes this presupposition to (1), something that needs to be mentioned in the lexicon for English as a specific property of this word? In this case at least, one can plausibly argue that the answer should be no to both questions. It appears that one can construct a fairly reasonable explanation of how this presupposition might follow from the logical form of (1) and some very general conversational principles that don't have to be made up for this particular
case. One could reason as follows. Given (4) as the logical form of (1), it follows that, in a world where there are no unicorns, anything whatsoever can be truthfully asserted about "all unicorns". One might just as well have said "eat peanuts" instead of "eat grass". If anything whatsoever could be said about all unicorns, it is hard to find a reason for asserting any particular thing about them. Thus the addressee is in most cases entitled to the conclusion that, if the speaker who asserts (1) is obeying Grice’s "maxim of relevance" (Grice 1975), he probably is assuming that there are some unicorns. In Grice’s terms, this is a matter of generalized conversational implicature.

There is a counterargument to this that hinges on some putative facts about any. It has been claimed that one of the differences between all and any is that the latter does not bring with it any existential presuppositions. Since any and all both correspond to the universal quantifier, this difference would have to be attributed to a special convention that governs the use of all and exempts any. Hence the existential presupposition that goes with all cannot be explained away as a Gricean implicature. For example, unlike (1), (8) could certainly be asserted felicitously by a sceptic who doesn’t believe that there actually are unicorns.

(8) Any unicorn would eat grass. (But of course there aren’t any.)

True enough, but it seems to me that this is so because of the subjunctive, not because of any. What (8) says is this: "if things weren’t the way they are, or probably are, then...". Now, there are many ways in which things could be different from what they are, and one of these might be the existence of unicorns. If that is the key to the counterfactual world that the speaker is alluding to, then of course he doesn’t believe that there actually are unicorns. But the matter hinges entirely on the subjunctive, which signals the presence of an implicit if-clause, not on whether the quantifier in (8) is all or any. With a sentence like (9) we are back in the same situation as before.

(9) Any unicorn can fly.

In most situations it would be pointless to ascribe particular abilities to unicorns unless there were unicorns. It seems to me that the Gricean explanation I offered for (1) makes just the right prediction for (9) as well. The alleged difference between any and all doesn’t exist.

What about cases like (10) and (11)?

(10) Bill hasn’t found any unicorns.

(11) Bill hasn’t found all the unicorns.

There is a striking difference here, but it is just a matter of different strength with respect to negation. The fact that any takes a wide scope with respect to negation here while all takes a narrow scope is a matter of English syntax. It does not prevent us from regarding them semantically as the same universal quantifier. Let us say that the logical forms of (10) and (11) are (12) and (13), respectively. Note that (13) entails that there are unicorns while (12) doesn’t.
(12) $\forall x [\text{unicorn}(x) \rightarrow \neg \exists \text{find}(b, x)]$

(13) $\neg \forall x [\text{unicorn}(x) \rightarrow \exists \text{find}(b, x)]$

There is one type of counterargument that I still have to deal with. If the logical form of (10) is what is given in (12), then, by the same argument I gave earlier for (1), (10) should be a pointless comment to make unless the speaker presumes that there are unicorns. But if that is the case, how can we explain the fact that (14) does not look like a necessarily irrelevant remark?

(14) Bill hasn't found any unicorns. So there probably aren't any.

Actually, (10) itself would do just as well. It could be uttered felicitously by a sceptic who doesn't believe in unicorns and is trying to convince someone else of the correctness of his views.

So, it remains to be shown that there are conversational situations where (10) can be used to make a relevant comment inspite of the fact that it is vacuously true for anyone who doesn't believe in unicorns. Here is one such situation. Suppose we are in agreement that there is a very high probability that the following is true: "if there are unicorns, then Bill has found one". This has the logical form of (15a), which, of course, is equivalent to (15b).

(15) (a) $\forall x \text{unicorn}(x) \rightarrow \forall x [\text{unicorn}(x) \land \exists \text{find}(b, x)]$

(b) $\forall x \sim \text{unicorn}(x) \rightarrow \neg \forall x [\text{unicorn}(x) \rightarrow \neg \exists \text{find}(b, x)]$

It is easy to see that, with respect to a conversational situation where (15b) is presumed to be probably true, (10) is a relevant piece of information. Its logical form, (12) negates the consequent of (15b). Hence, adding (10) to our mutual background assumptions leads to the conclusion that there probably aren't any unicorns, something that we did not presume before. Of course, (10) would also be a relevant remark in any situation where the opposite has just been erroneously asserted.

In cases of the above sort, (10) clearly does not require any presumption on the part of the speaker that unicorns exist. However, it seems to me that where (10) does not derive its relevance from the conversational context or the previous discourse, it requires this presumption just as much as (1). I don't see any merit in the position that any and all are intrinsically different with respect to their presuppositional properties, as has often been claimed.

What I have tried to show is this. It is clear that the logical form that is usually attributed to universally quantified statements does not represent all aspects of their meaning. However, it does not necessarily follow that we in addition need another representation that spells out the missing pragmatic aspect. It seems more likely that the existential presupposition that accompanies all and any in some but not all conversational situations should be predictable given the proposition that is being expressed and a general conversational maxim of relevance. I realize that this is not a very satisfactory conclusion, since we don't know how to spell out this maxim of relevance. But as far as I can see, the choice is between being somewhat vague and being just plain wrong.
2. Let us consider another similar case. Subjunctive conditionals are said to be counterfactual. Many linguists have suggested that, in a counterfactual conditional, both clauses, or at least the antecedent, must be presumed to be false by the speaker. Thus, part of the meaning of a conditional like (16) is that it should be uttered only on the assumption that Max is not a sadist.

(16) If Max were a sadist, he and Susan would get along just fine.

However, it is obvious that this requirement is too strong. (16) could certainly be uttered felicitously as a speculative hypothesis by a person who so far has no information at all about Max. Consider also the example in (17), which comes from Thomason 1973.

(17) If the patient had eaten a poisonous mushroom, he would be exhibiting the very symptoms he is exhibiting now.

(17) could be a guess about the cause of the symptoms, made in the absence of any information about what the patient had actually done. The antecedent of a subjunctive conditional need not be presumed false. The use of the subjunctive is appropriate already on the weaker assumption that it is improbable that the antecedent should turn out to be true.

There is an apparent problem with this position. It is undeniable that there are counterfactual conditionals that we really couldn't say honestly without presuming that the antecedent is actually false. Contrast (16) with (18), and (17) with (19).

(18) If Max were a sadist, he and Susan would get along much better than they do.

(19) If the patient had eaten a poisonous mushroom, he wouldn't be exhibiting the very symptoms he is exhibiting now.

How do we explain this fact? Do we have to say that there are two kinds of subjunctive conditionals — which are very hard to distinguish —: those that are really counterfactual and those that could be mere hypothetical with respect to the truth of the antecedent? Of course not. It is easy to see what makes (18) and (19) different from (16) and (17). Consider their consequent clauses, which are given in in (20) and (21) in the indicative.

(20) He (= Max) and Susan get along much better than they (= Max and Susan) do.

(21) The patient is not exhibiting the very symptoms he is exhibiting now.

(20) and (21) are obviously contradictory. There are many theories about the logical form of subjunctive conditionals, but on any of these theories, if the antecedent clauses of (18) and (19) should turn out to be true in the actual world, then the conditional itself would actually be false.

Given this fact, it is not surprising that we feel entitled to conclude from (18) and (19) that the antecedent clause must be presumed false. How could the speaker assume otherwise and still follow Grice's "maxim of quality", which
says, among other things, that we should speak truthfully? Whenever the con-
sequent of a subjunctive conditional is in conflict with what is known or pre-
sumed to be the case, the antecedent must be presumed by the speaker to be
contrary to the facts as well. But this does not mean that the subjunctive
conditional as such presupposes the falsity of either one of its components.
It does mean that, for a given subjunctive conditional, there are certain con-
texts where the utterance of that conditional warrants the inference that the
antecedent is false. The significance of these observations is that we don’t
have to postulate two kinds of subjunctive conditionals to account for this
phenomenon. It would be a mistake to think up representations or rules for
this pragmatic aspect of the meaning of subjunctive conditionals. It is a
matter of generalized conversational implicature, predictable from the logical
form of such conditionals and a general conversational maxima.

3. I will now go on to cases of a different sort where there is a prag-
matic aspect of meaning that apparently does not follow by any general con-
versational principle from the proposition that is being expressed. The prime
examples are sentences with little words such as too, still, even, already, yet,
etc., and various matters of word order and intonation patterns. These are
rhetorical devices whose presence or absence doesn’t seem to have any bearing
on what proposition the sentence expresses. Their significance is that they
relate the sentence to a particular kind of conversational context. They im-
licate that such and such an assumption has already been accepted by the
parties in question. Consider the example in (22).

(22) My car starts badly too.

There are various ways of pronouncing this sentence. By putting the
emphasis on my, car, or starts one can implicate any of the propositions ex-
pressed in (23).

(23) (a) Someone else’s – you know whose – car starts badly.

(b) Something else of mine – you know what – starts badly.

(c) My car does something else – you know what – badly.

Here it looks that too focuses on the most prominent constituent in the surface
structure. The presupposition that it introduces depends on what is being em-
phasized. Nevertheless, all of the various pronunciations of (22) apparently
express the same proposition: my car starts badly. The word too has no place
in the logical form of (22). 

If too is semantically empty, we have to make up a pragmatic convention
that tells us when it is appropriate to use it. On the basis of the above exam-
pies it first appears that this convention would have to be a fairly complicated
rule that makes reference to both the logical form of the sentence and to its
intonation pattern. On closer look, however, one begins to wonder whether there
is any general way to make a precise prediction about what is being presupposed.
Consider examples such as (24) and (25).

(24) The roof leaks and my car starts badly too.
(25) They have a sale on cucumbers and all the beer is gone too.

Taken out of context these may seem a little strange but in the right environment they make perfect sense. For example, (24) might be an answer to a question about things in my house that are in the need of repair. (25) could be a list of reasons why we ought to make a trip to a store, and there is a countless number of other interpretations. Perhaps we cannot and need not say more about the meaning of too than that it implicates something like "here comes another thing of the same sort". This leaves it entirely open what the two things are supposed to have in common. But if that is correct, how can we explain the fact that one can use (22) with a certain intonation pattern to implicate any of the specific propositions expressed in (23)? I guess we must say that, although the word too by itself is vague, the intonation pattern of the sentence may give important clues about the kind of similarity relation the speaker has in mind. There probably are conventionalized ways of giving such clues. What the examples in (24) and (25) show is that the sentence does not necessarily have to contain any such indications. Consequently, too by itself does not introduce any specific presupposition that one could construct by a rule "given the syntactic derivation of the sentence and its logical form."

4. I will now move on to cases where there are more specific connections between the logical form of the sentence and the presuppositions introduced by certain lexical items. Consider the words deprive and spare. As Deirdre Wilson (1973) points out, (26) and (27) seem identical as far as their truthconditions go. (Examples (26), (27), (30), and (31) are from Wilson.)

(26) I deprived Bill of seaweed for breakfast.
(27) I spared Bill of seaweed for breakfast.

The difference is that (26) implicates that seaweed for breakfast was desirable, (27) implicates that it was undesirable. There is no way to make these inferences follow from the logical form of these sentences without great complications. This becomes clear when you consider the facts about (26) and (28).

(28) If I had deprived Bill of seaweed for breakfast, he wouldn't be as tell as he is.

By our earlier argument about subjunctive conditionals, we are entitled to infer from (28) that (26) is false: the speaker did not withhold seaweed from Bill. However, (26) and (28) both implicate that giving seaweed for breakfast was a good thing. The same difficulty arises with (27) and (29).

(29) I almost spared Bill of seaweed for breakfast.

(27) and (29) should yield the same inference about the desirability of seaweed and the opposite inference about whether it was withheld.

It seems that the best way to account for these facts is the following. Let deprive and spare correspond to the same predicate in logical form, they both mean "withhold". Thus (26) and (27) have the same logical form, they express the same proposition. The choice of deprive as a surface expression for that predicate requires a presumption on part of the speaker that the thing withheld
is desirable; *spare* requires the opposite presumption. Truthconditions of compound and complex sentences formed with (26) or (27) depend only on the proposition that these express, not on the presuppositions that accompany them.

This is essentially the same proposal that Wilson first considers and then rejects—for insufficient reasons, I believe. Wilson notices that there is an apparent difficulty with sentences such as (30).

(30) I've deprived my children of sweets, because sweets are bad for them.

She reasons as follows. If the first clause of (30) really presupposes that giving sweets is a good thing, then (30) as a whole ought to be contradictory, since the *because*-clause requires a presumption on part of the speaker that giving sweets is a bad thing. It does not appear that (30) requires the speaker to hold contradictory assumptions, therefore, the presuppositional analysis of *deprive* must be wrong. The same problem arises in a case such as (31).

(31) Bill both spared me and deprived me of a visit to a theatre.

Wilson's mistake is in assuming that desirability and undesirability are necessarily absolute notions. The problem vanishes if one accepts the view that a thing may be good in one respect and bad in another. What *deprive* implicates is that there is some set of criteria by which the thing withheld is good. This does not exclude the possibility that there might be some other set of criteria with respect to which that would be a bad thing, as in (30) and (31). With this very reasonable modification, the above analysis seems to work.

5. My final example of the interaction of pragmatic and semantic aspects of meaning concerns a class of verbs that I have called "implicative verbs". The verbs *manage* and *fail* are typical representatives of this class. Consider the example in (32).

(32) John managed to learn Russian.

From (32) we can infer two things. First of all, it implicates that there was some difficulty involved: it was hard for John to learn Russian or learning Russian is hard in general. To overcome that it must have taken some directed effort on his part: John tried to learn Russian. Secondly, it follows from (32) that John did learn Russian. These are given in (33).

(33) (a) John tried to learn Russian.

(b) John learned Russian.

The corresponding sentence with *fail* also gives a similar pair of intuitively valid inferences, as shown by (34).

(34) John failed to learn Russian.

First of all, it follows from (34) that either John tried to learn Russian or
that someone expected him to learn Russian in the natural course of events. Secondly, (34) says that he didn't. These are given in (35).

(35) (a) John tried to learn Russian. / Someone expected that John would learn Russian.

(b) John did not learn Russian.

There does not seem to be any way to make all the right inferences follow from the logical forms of (32) and (34). We can see this by considering the treatment that Michael Bennett gives to these verbs in his extension of a Montague grammar for English.12

The main features of Bennett's analysis are the following. Both manage and fail are syntactically of the same type. They combine with intransitive verb phrases to form new intransitive verb phrases. Semantically they are treated somewhat differently. For fail, Bennett gives the translation rule in (36).

(36) fail to $\rightarrow$ $\lambda P \alpha \neg P [x]$

In essence, (36) says that fail is a negation operator that applies to intransitive verb phrases. Consequently, (34) and (35b) come to be equivalent. On this analysis, neither one of the two alternatives in (35a) logically follows from (34).

For manage, Bennett gives the meaning postulate in (37).

(37) $\square [\#\text{\#manage-to}(P)(x) \leftrightarrow [\#\text{\#try-to}(P)(x) \land P(x)]]$

This has the consequence that (32) is equivalent to the conjunction of (33a) and (33b), which first looks like a desirable result. But consider what happens when we insert the adverb almost to (32) and (34).

(38) John almost failed to learn Russian.

From (38) it clearly follows that John learned Russian, just as predicted by the translation rule for fail and the following meaning postulate, which Bennett gives for almost.13

(39) $\square [\#\text{\#almost}(P)(x) \rightarrow P(x)]$

The combined effect of (36) and (39) is that the two implicit negations in (38) cancel each other, thus (33b) is a logical consequence of (38), just as it should be. In the case of manage we are not as lucky. Consider (40).

(40) John almost managed to learn Russian.

With (37) as a meaning postulate for manage, it is not a logical consequence of (40) that John didn't learn Russian. Our intuition tells us otherwise.

The reason that Bennett's system is more successful with fail than it is with manage is that it completely ignores that aspect of the meaning of fail which makes it different from simple negation. What remains unaccounted for is the fact that both (34) and (38) implicate that John either tried or was
expected to learn Russian. The difficulties with manage arise precisely because
the meaning postulate in (37) attempts to give some content to this word by mak-
ing a semantic difference between (32) and (33b). But as we can see already from
(40), more complex sentences with manage thereby come to be associated with the
wrong truthconditions.

How can we do better? I think we have to give separate accounts for the sem-
antic and pragmatic aspects of manage and fail. In the case of fail, let the
truthconditions for (34) and (35b) be identical, just as Bennett's translation
rule stipulates. In the case of manage it seems best to let (32) and (33b) be
semantically equivalent. This could be accomplished either by a meaning postul-
ate or by giving the vacuous translation rule in (41).

\[(41) \quad \text{manage to } \Rightarrow \lambda P \lambda x P(x)\]

In this way we guarantee that (35b) is a logical consequence of (40). In short,
manage has no semantic content, and fail is simple negation.

To account for the pragmatic aspects of their meaning we have to be able
to derive the result that, by asserting (32) or (40), one conventionally im-
plicates that (33a) is being presumed and that one or the other of the two
alternatives in (35a) is similarly associated with (34) and (38). In the framework
of Montague grammar, we could accomplish this in a number of ways. For
example, we could have a syntactic transformation, such as (42), which gener-
ates for each intransitive verb phrase of the form manage to IV a presupposed
counterpart try to IV.

\[(42) \quad \text{manage to IV } \Rightarrow \text{ try to IV}\]

In deriving a sentence like (32) or (40), we would have to carry out two
parallel derivations, one of which gives us the English sentence and, by way of
translation rules, its logical form as well. The other derivation would termi-
nate with (33a) which expresses the presupposition. Words such as almost that
appears in (38) and (40) would affect only the logical form of the sentence,
not its presuppositions. For fail we would have to give two alternative rules.
In general, a sentence would have one analysis tree that relates it to its
logical form and a set of associated analysis trees that express the non-truth-
conditional aspects of its meaning.

Another alternative, and probably a much better way of achieving the same result
has been suggested to me by Stanley Peters. Instead of carrying out parallel
syntactic derivations, we would let the translation rules do the work. That is,
Montague's syntax would remain as it is but the translation rules would be altered
in such a way that they assign to each English phrase not one but two
expressions of intensional logic. One of them would represent the semantic con-
tent of the phrase, the other the pragmatic aspect of its meaning. This idea
will be spelled out in detail in a forthcoming joint paper by Karttunen and
Peters (1975).

I will mention only one additional, desirable result that could be obtained
by treating manage and fail in the suggested manner. There is a curious re-
striction on what locative and time adverbials may cooccur in a sentence with
an implicative predicate. Consider the examples in (43) and (44).
(43) (a) On Wednesday, John tried to leave by Thursday.

(b) In the hammock, John decided to sleep in the bed.

(44) (a) *On Wednesday, John managed to leave by Thursday.

(b) *In the hammock, John managed to sleep in the bed.

Syntactically speaking, the examples in (44) have two clauses which in principle could have conflicting adverbial modifiers, as shown by the corresponding sentences in (43). However, in fact we are only allowed to have adverbials which can coexist in the same simple sentence. The examples in (44) are anomalous for the same reason as those in (45).

(45) (a) *On Wednesday, John left by Thursday.

(b) *In the hammock, John slept in the bed.

This is just what one would expect, given that manage and fail do not correspond to any predicate in logical form.

6. I will conclude with some general comments about what I have tried to show in this paper. We have discussed a diverse collection of lexical items and constructions. What all of these have in common is that, by their presence in a sentence, they conventionally or conversationally implicate that certain presuppositions are being made in addition to the proposition that is actually expressed. In the case of all, any, and the subjunctive conditional, it seems that this pragmatic aspect of their meaning is predictable from the logical form of the sentence, given some general albeit informal conversational principles. In the case of too, we clearly need a specific convention governing the use of this lexical item plus a number of additional principles dealing with stress and word order which may give additional information about what is being implicated. In the case of deprive, spare, manage, and fail, there are intricate connections between pragmatic and semantic aspects of meaning. My guess is that we need distinct representations for both of them, and we must show explicitly how they interact to determine the meaning of more complex phrases.

Since there does not seem to be any straight-forward answer to the question of how sentences acquire their pragmatic presuppositions, there is clearly reason to be sceptical about whether the concept is a coherent one. Some types of presupposition appear to be cases of conversational implicature, but most of them should perhaps be treated as cases of conventional implicature. Another problem illustrated by the examples above is that we have no sure way of deciding whether some particular inference that we feel entitled to draw from a given sentence is based on its logical form, or in part, or entirely on the pragmatic aspects of its meaning. In cases of this sort, new advances in semantics presuppose new advances in pragmatics, and vice versa.
Footnotes

1 This neutral terminology conceals a point of considerable tension between different schools of thought. Many linguists (e.g. Lakoff 1972, 1973, 1974) conceive of logical forms as underlying syntactic representations that are related to surface structure by syntactic rules. For them, "logical form" is a weighty notion. It is usually understood that these representations are composed of universal semantic primitives. On the other hand, for many logicians (e.g. Montague 1970a, 1970b, 1973), the translation of a natural language sentence into a formal language is just a convenient but non-essential intermediate step in stating its truthconditions. For them, logical forms have no theoretical import in syntax or in semantics.

2 In Aristotelian logic, the inference from universal affirmative (A) to particular affirmative (I) was regarded as valid. It is one of the relationships symbolized in the traditional "square of oppositions". On this point modern quantification theory diverges from classical logic.

3 This pragmatic concept of sentence presupposition is one of the many notions for which this term has been and is being used. See Karttunen 1973, 1974 for a more complete discussion of this elusive word. As far as I can see, the notion of pragmatic presupposition adopted here coincides with Grice's (1974) "conventional implicature" (distinguished from "conversational implicature"). This will be discussed in a forthcoming paper by Karttunen and Peters (1975).

4 This is the only maxim that Grice mentions under the category of "relation", which in turn is one of the four manifestations of his general "cooperative principle".

5 McCawley (1972, p. 529) argues that, in ordinary English, sentences with quantifiers other than any carry existential presuppositions. For him, they are pragmatic presuppositions. Kasner (1973) and Hauser (1973) make it a semantic difference by combining restricted quantification with Van Fraassen's supervaluations. In their systems, any corresponds to unrestricted quantification, all to restricted quantification.

6 "It" in (12) and (13) is a past tense operator ("it has been the case that...").

7 The same goes for other quantifiers. I see no reason to assume that any is different from some, a, few, many, every, etc. with respect to existential presuppositions.

8 For example, see Lakoff 1972, Karttunen 1971b. Lewis (1973, p. 3) agrees that there is "some sort of presupposition" that the antecedent of a counterfactual
conditional is false but this may be a matter of conversational implicature, without any effect on truthconditions.

9 Stalnaker 1973 makes the same claim with respect to even.

10 This class contains, among others, single verbs such as 

happen, bother,

avoid, succeed, forget (to), and longer expressions such as see fit, take the

time, have the misfortune, etc. See Karttunen 1971a, 1972 for further exam-

ples. It is questionable whether any of these "two-way implicatives" should

be represented in logical form.

11 Note that manage lends itself easily to sarcasm, as in "I see you've

managed to get that fishhook stuck in your finger again". Of course the speaker

isn't necessarily thinking that this is what the addressee was trying to

achieve, he just chooses to behave as if he were.

12 Actually, Bennett doesn't discuss the verb manage. In the following, I have

substituted manage to for his succeed to. All that Bennett says about the

latter applies to the former as well. Changing one for the other enhances the

grammaticality of the examples in question but it has no bearing on the dis-

cussion.

13 Perhaps not so clearly. Ted Morris has brought to my attention the following

type of case. Suppose there is a man who is a perennial failure. He invariably

fails in everything he tries to do. He signs up for an intensive Russian course

but dies a day before the semester begins. Had he lived, he would certainly

have failed again. Under these circumstances, would it be appropriate to say

"He almost failed to learn Russian"? If this were so, (33b) could not be a

logical consequence of (38).

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