ABSTRACT

        The eight papers in this issue are addressed to
issues in pragmatics, semantics, syntax, discourse analysis,
morphology, and particularly to issues touching on two or more of
these areas at once. The final paper touches on phonology as well.
The papers are: "The Myth of Semantic Presupposition," by Steven Boer
and William Lycan; "A Reconsideration of Conditional Perfection," by
Marion R. Johnson; "Impositive Speech Acts," by Patricia A. Lee;
"Questions and Requests," and "Canadian 'Eh'," by Marion R. Johnson;
"Discourse Phenomena and Linguistic Theory," by Robert Kantor; "A
Re-Analysis of NEG-Raising in English," by Jay Pollack, and "Toward a
Definition of the Ideophone in Bantu," by Marion R. Johnson. (CLK)

PAPERS IN NONPHONOLOGY

Edited by Arnold M. Zwicky

Papers By
S. E. Boër, M. R. Johnson,
R. N. Kantor, P. A. Lee, W. G. Lycan,
and J. M. Pollack

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Papers in Nonphonology

The eight papers in this issue are addressed to issues in pragmatics, semantics, syntax, discourse analysis, and morphology—especially to issues touching on two or more of these areas at once; the final paper touches on phonology as well. The section by Lee is a revision of parts of her Ph.D. dissertation (March 1974). The contributions by Kantor and Pollack are revisions of their M.A. theses (originally accepted in 1975 and 1974, respectively).

A.M.Z.

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The Myth of Semantic Presupposition

Steven E. Boër and William G. Lycan
OSU Department of Philosophy

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The Myth of Semantic Presupposition

Steven E. Boër
William G. Lycan

The notion of "presupposition" has captured the fancy of many
linguists, and appeals to "presuppositions" are widely regarded as
carrying explanatory force in linguistic theory. Our aim in this study
is to criticize, from a standpoint congenial (though by no means
specific) to Generative Semantics and the Performative Analysis, the
popular thesis that there are "semantic" presuppositions, i.e., that
certain sorts of sentences have peculiar quasi-logical implications
which are distinct from ordinary entailments and yet closely akin to
them, in that the falsity of the alleged implicata results in appre-
ciable semantic consequences anent the sentences in question. A
methodological corollary of this thesis is that linguists who regard
grammar for a natural language as operating on a kind of "natural logic"
must complicate their semantic theories by the addition of more or less
complex formal apparatus to account for the distinctively semantic
oddities which are alleged to result when "presuppositions" fail.[1] We
shall argue (i) that the thesis is false, (ii) that consequently the
methodological corollary is without support,[2] and (iii) that alleged
cases of semantic presupposition do not even form a natural kind, in
that where discernible "implications" do obtain, they turn out to be
relations of distinct and largely unrelated sorts (thus, we shall urge
that such cases not be subsumed under a single theoretical term). We
shall accordingly offer piecemeal alternative explanations of the
intuitions in question, and go on to provide what we believe to be an
illuminating diagnosis of the fallacies on which the notion of semantic
presupposition rests.

1. Introduction: "Presupposition"

Most linguistic semanticists (and many philosophers of language)
seem to agree that the notion of "presupposition" is both rich in
intuitive content (and thus available as an important source of data
for syntax and semantics) and crucial for our understanding and theori-
zing about the meanings of utterances (and thus theoretically important
in syntax and semantics). A reader of the literature comes away with
the impression that we have a vast stockpile of relatively hard data
concerning the presuppositions of sentences, but that we have yet to
get quite as clear about what "presupposing" is as purist metatheoreti-
cians would like; nevertheless, the intuitive notion that we have will
do well enough to go on with, and we may continue to appeal to data
concerning presupposition in framing syntactic and semantic arguments
on diverse topics.

Here are some examples of pairs of sentences the like of which
have been here and there adduced under the rubric of "presupposition"
(as distinct from entailment):

  (1) a. Sam realizes that Irv is a Martian.
        b. Irv is a Martian.

  (2) a. Fred regretted leaving home.
        b. Fred left home.

  (3) a. Bring me the avocado in the brown paper bag.
        b. There is an avocado in a brown paper bag.

  (4) a. Few girls are coming.
        b. Some girls are coming.

  (5) a. If Irv were a Martian, I'd be running away from here.
        b. Irv is not a Martian.

  (6) a. Have you stopped beating your wife?
        b. You have beaten your wife.

  (7) a. I hope I can disprove Gödel's Theorem.
        b. It is possible to disprove Gödel's Theorem.

  (8) a. I promise to bring back your toilet-seat.
        b. I intend to bring back your toilet-seat.

  (9) a. Fred, who was fat, could not run.
        b. Fred was fat.

  (10) a. Camille is pretending to be sick.
        b. Camille is not sick.

  (11) a. John managed to get out of the phone booth.
        b. John tried to get out of the phone booth.

  (12) a. She was poor but she was honest.
        b. Being poor tends to preclude being honest.

  (13) a. If you touch me again, I'll scream.
        b. If you don't touch me again, I won't scream.

  (14) a. Melvin is a bachelor.
        b. Melvin is an adult.

It may perhaps be clear that the first member of each of these pairs
somehow "suggests" or "implies" its fellow. What is not at all clear
(and would be naive to assume) is that there is a single distinctive
and important relation which is instantiated by all these pairs. In
fact, as we shall see, the differences between the pairs are more
interesting than the similarities.

To complicate the matter further, the literature contains a richly
varied panoply of nonequivalent definitions or introductions of the term
presuppose and its cognates, and it is clear that not one but many
distinct theoretical notions are in play as well. There are many more
such notions than have been pointed out to date, though they may be
grouped fairly easily into a few larger categories. And it is clear
(though we shall not be able to document the first and third of these
points here) that (i) the differences between these various notions
have tacitly been traded on, sometimes with substantive (but spurious)
results; that (ii) when the proper distinctions have been made, most of
the resulting notions will be seen to be relatively clear and manageable,
though some (including the core concept of "semantic" presupposition)
will be found to be vacuous and/or theoretically useless; and that

(iii) when the differences have been attended to, but not before,
significant progress may be made on the relevant theoretical issues,
such as the question of transitivity and the much-touted "projection
problem".[3]

Some recent theorists have at last begun dissecting the monolith in
crude but helpful ways. It is by now more or less standard to distinguish
semantic from pragmatic presuppositions (Stalnaker 1972; Keenan 1971;
Karttunen 1973; Thomason 1973; Atlas 1975; and others). That is, it is
pointed out that there are at least two such notions that are perhaps
not quite the same. But even this rough difference is rarely taken
seriously in the literature--thus Karttunen (1973), having pointed out
the distinction, writes:

> For the time being, let us simply assume that we understand
> what is meant by a presupposition in the case of simple
> sentences...and turn our attention to more complex cases.
> ...we may even forget about the distinction between
> semantic and pragmatic presuppositions. What is said about
> one kind of presupposition will apply to the other as well
> (I hope). (p. 171)

These two remarks will/startle a reader who has taken a careful look
at our list of sentence pairs or has taken note of the assorted defini-
tions of presupposition that have been offered in the literature.[4]
Let us list a few of these definitions:

(15) a. S_1 presupposes$_1$ S_2 = $_{df}$ S_1 entails S_2 and S_1's
denial entails S_2. (Horn 1969; Morgan 1969)

b. S_1 presupposes$_2$ S_2 = $_{df}$ If S_1 "makes literal
sense," then S_2 is true. (Keenan 1971)

c. S_1 presupposes$_3$ S_2 = $_{df}$ If S_1 is true, then S_2
is true; and if S_1 is false, then S_2 is true
(i.e. if S_2 is not true, then S_1 is neither true
nor false). (Alternatively: S_1 necessitates
S_2 and S_1's denial necessitates S_2.) (Strawson
1950; Keenan 1971; Lakoff 1972; Karttunen 1971b)).

d. S_1 presupposes$_4$ S_2 = $_{df}$ A speaker utters S_1

felicitously only if { S_2 is true.
that speaker believes S_2.
someone present believes S_2.
it is at least pretended that
S_2 is true.
etc.

(Heringer 1972),

And a close companion,

(16) S_1 "invites the inference of" S_2 = $_{df}$ Given certain
background beliefs that we have, we would have some
warrant for assuming that if someone J utters S_1,
he will act as if he is willing to be regarded as

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having committed himself by uttering S_1 to the
truth of S_2. (Geis and Zwicky 1971)[5]

The semantic/pragmatic distinction cuts across this representative
set of definitions in a rough but noticeable way. Let us say, albeit
clumsily, that a notion of "presupposition" is <u>semantic</u> iff the impli-
cations in question are a function of semantic status, semantic proper-
ties, propositional content or logical form, while a notion of "presup-
position" is <u>pragmatic</u> iff the implications in question arise only in
virtue of contextual considerations, the roles of the relevant sentences
in standard speech acts, Gricean conversational matters, simple matters
of background knowledge on the part of particular speakers, etc. By
this crude criterion, definitions (15a-c) delineate semantic notions,
while (15d), (16) and others of their ilk yield pragmatic notions;
entailment, significance, truth-value, and necessitation are semantic
attributes which sentences have or can be treated as having in isolation,
while felicitiousness and background beliefs are the sorts of things that
pertain to particular speakers in particular circumstances.

We have argued elsewhere (Boër and Lycan 1974) against the linguistic
relevance of "invited inference" à la (16). And, as we shall try to
make clear, the Austinian notion specified by (15d) is somewhat beyond
the scope of this paper. Thus, we shall concentrate on "semantic" pre-
supposition, and debunk it in the ways sketched above, providing for a
number of typical cases alternative accounts of the relevant phenomena.

2. Our Program

The first thing to notice is the dubiousness of (15a) and (15b), as
compared to (15c). Let us begin with (15b). Its main defect is that it
is impossibly vague. (Is <u>literal</u> meant as opposed to <u>metaphorical</u>??).
In addition, (15b) does not seem to square at all well with examples
of the sort listed as (1)-(14). To begin, each first member of those
pairs "makes literal sense," period (in whatever sense we can intuitively
attach to that term), whether or not its associated second member is
true. Second, in the sense of (15b),

(17) Tommy fell off his tricycle.

presupposes$_2$

(18) There is at least one language.

since (17) could not very well be true unless there were some language
for it to be true in; and this is not an "implication" of any relevant
sort. (15b) presumably is a misstatement of (15c), on the assumption
that "making literal sense" is in some way intimately connected with
having a truth-value. Let us move on to (15a).

2.1. Two Fallacies

(15a) has an extraordinary feature.[6] If S_1 entails S_2 and S_1's
denial entails S_2, then their disjunction entails S_2. But their dis-
junction is a tautology, viz. an instance of the Law of Noncontradiction.

Since a tautology cannot entail a nontautologous sentence, S_2 must
be a tautology as well. Thus, no sentence presupposes$_1$ anything but
tautologies. Moreover, since every tautology is entailed by every
sentence (including any S_1 in it's denial), every sentence presupposes$_1$
all tautologies. Again, these results do not square with the data
sentences in (1)-(14).

It is easy enough to see what has gone wrong. Entailment is essen-
tially a concept of standard bivalent logic, though it can easily be
defined in more exotic formal systems. Presumably what exponents of
(15a) have been getting at is again the idea that, when S_1 "presupposes"
S_2 and S_2 fails, S_1 is neither true nor false; but (15a) fails to
capture this idea, since entailment supports contraposition (if S_1
presupposes$_1$ S_2 and S_2 is false, then S_1 is false and S_1's denial is
false, which--assuming the validity of double negation--is a contra-
diction; thus, presuppositions$_1$ cannot fail.).

A notion of "presupposition" that turns on the idea of truth-
valuelessness requires a nonclassical semantics; so what the "presup-
position" enthusiast really needs is a model-theoretic notion of strict
implication that does not support contraposition, and this is the notion
of necessitation (cf., e.g. van Fraassen 1968).

A sentence S_1 necessitates a sentence S_2, roughly, just in case
there is no model relative to which S_1 is true and S_2 is untrue. In a
bivalent system, obviously, the notion of necessitation coincides with
that of entailment, since in such a system to be untrue is to be false;
if S_1 necessitates S_2 and in some model S_2 is false, then in that model
S_1 is untrue and hence false as well. In a nonbivalent system, however,
this last inference fails. A model can falsify S_2 without falsifying S_1,
since in that model S_1 may be neuter (here, truth-valueless) rather than
false. What the proponent of semantic presupposition presumably has in
mind, then, is that for S_1 to "presuppose" S_2 is for both S_1 and its
denial to necessitate S_2; it being understood that the underlying logic
does not respect bivalence; thus, the falsity of S_2 requires the truth
valuelessness of S_1. And this is just the Strawsonian notion of "pre-
supposition" captured by (15c) above. Since both (15a) and (15b) seem
when pressed to melt away into (15c), and since (15c) has in fact itself
been widely promulgated in some of the loci classici of presupposition,
we shall take (15c) as codifying the core concept of "semantic pre-
supposition", and reserve the latter term as designating this notion,
viz. that of presupposition$_3$.

For the record, notice two formal points: First, (15c) still entails
that every tautology is semantically presupposed by every sentence
(since every tautology is necessitated by every sentence), though happily
it lacks the more embarrassing feature of (15a). We propose to pass
over this fact as being a "don't-care"; it is no more interesting that
tautologies are semantically presupposed by every sentence than it is
that they are entailed by every sentence. Second, semantic presupposi-
tion (presupposition$_3$) is transitive--the proof is trivial.[7] Informally:
Suppose S_1 presupposes S_2 and S_2 presupposes S_3. Now if S_3 is false
and hence not true, then S_2 is truth-valueless and hence not true; and
if S_2 is not true, then S_1 is truth-valueless. Thus, S_1 presupposes S_3.

With the distinction between entailment and necessitation in mind,
we may now display the flaw in a widely accepted argument of Linsky's

(1967) against Strawson's celebrated criticism of Russell's Theory of Descriptions. As is well known, Russell (1905) contended that

(19). The King of France is wise.

entails

(20) There is one and only one King of France.

Strawson (correctly) draws from this claim the consequence that if (20) is false then (19) is false, and argues against this consequence, concluding that the falsity of (20) results in the truth-valuelessness of (19), i.e. that (19) semantically presupposes (and therefore does not entail) (20).

Linsky maintains that this alleged contrast is spurious--far from refuting Russell's claim that (19) entails (20), he says, Strawson has succeeded in proving that (19) does entail (20)!;

> , Let us assume that [(19)] presupposes [(20)]. What this means is that from the premise that [(19)] has a truth-value, it follows that [(20)] is true. But if [(19)] is true, it follows that [(19)] has a truth value. Therefore, if [(19)] is true, it follows that [(20)] is true. But [(19)] is true, if, and only if, the King of France is wise, and [(20)] is true if, and only if, one, and only one, person is King of France. Therefore the statement that the King of France is wise entails the statement that one, and only one, person is King of France. (p. 94).

This argument is multiply defective. First, it should be noted that Linsky cannot happily be interpreted as meaning "follows deductively" by follows (though earlier passages suggest that this is what he does intend); for the metalinguistic claim that (20) is true does not, strictly speaking, follow deductively from the metalinguistic claim that (19) is true--if only for the trivial reason that (20) (or (19)) might have meant something entirely different from what it in fact does mean. When we say that the truth of (20) "follows from" the truth of (19), we mean rather that the metalinguistic conclusion that (20) is true is deducible from the metalinguistic claim that (19) is true conjoined with some contingent premises borrowed from our theory of our own language (specifically, the premise that (19) and (20) have the meanings that they do). Let us say that the claim that (20) is true follows theoretically from the claim that (19) is true, understanding the relevant theory (call it L) to be whatever theory gives the correct account of the two sentences' meaning- and entailment-relations.

With this usage in mind, we may concede that Linsky has succeeded in showing that the truth of (20) follows theoretically from that of (19). And, since the two instances of Convention T cited by Linsky are themselves deducible from the theory L, we may further admit that

(21) If the King of France is wise, then there is one and only one King of France.

is a theorem of <u>L</u>, and thus that (20) itself follows theoretically from (19) itself. But these results do not suffice to show that (19) entails (20). For the theory <u>L</u> in virtue of which (20) follows theoretically from (19) is a brutely contingent theory; and to say that (20) follows from the conjunction of (19) with an additional contingent premise is (obviously) not to say that (19) itself entails (20).

Possibly Linsky might back up, and argue that for (19) to entail (20) just is for <u>L</u>, the correct theory of our language, to yield the conclusion that if (19) is true, then (20) is true. If this is right, then, since Linsky has shown that <u>L</u> does yield this conclusion, (19) does entail (20) after all. But to take this line would be to overlook the indispensable fact that Strawson is working within a three-valued logic. The fact that the truth of (19) requires the truth of (20) in virtue of <u>L</u> does not guarantee that the falsity of (20) so requires the falsity of (19); what Linsky has succeeded in showing is only that (19) necessitates (20). One could obtain the stronger claim that (19) entails (20) only by adding the further premise that (19) is either true or false; but that premise is just what is at issue. Thus, Linsky has failed to demonstrate the incoherence of the distinction between entailment and semantic presupposition.

It is easy enough to state the facts of the situation in a way that is both perfectly coherent and free from any of the foregoing confusions. Russell and Strawson agreed that (19) necessitates (20), i.e. that the truth of (20) follows theoretically from the truth of (19). However, Russell believed that the falsity of (19) follows theoretically from the falsity of (20), while Strawson contends that what the falsity of (20) theoretically requires is rather the truth-valuelessness of (19). Invoking an obvious notation:

RUSSELL		STRAWSON
$T(19) \Rightarrow_L T(20)$ --agree--		$T(19) \Rightarrow_L T(20)$
$F(20) \Rightarrow_L \sim T(19)$ --agree--		$F(20) \Rightarrow_L \sim T(19)$
$F(20) \Rightarrow_L F(19)$ --disagree--		$F(20) \Rightarrow_L \sim T(19)\ \&\sim F(19)$

Now we may define necessitation, entailment and presupposition in correlative terms:

S_1 <u>necessitates</u> S_2 iff $T(S_1) \underset{L}{\Rightarrow} T(S_2)$.

S_1 <u>entails</u> S_2 iff S_1 necessitates S_2 and $F(S_2) \underset{L}{\Rightarrow} F(S_1)$.

S_1 <u>semantically presupposes</u> S_2 iff S_1 necessitates S_2 and

$F(S_2) \underset{L}{\Rightarrow} \sim T(S_1)\ \&\sim F(S_1)$.

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Thus, entailment and presupposition are mutually exclusive species of necessitation. And this terminology, in addition to its coherence and its safety from Linsky's objection, makes good sense of the dispute between Russell and Strawson, since it is perfectly coherent on this usage to say that S_1 presupposes but does not entail S_2; and as Strawson suggests, entailment and presupposition are mutually incompatible.

2.2. Analytical Tools

These formal preliminaries have succeeded in making our notion of semantic presupposition clear, and in demonstrating its coherence. But it remains to be seen whether that notion is in addition both nonempty and useful in linguistic semantics or any other branch of linguistic theory. And indeed the central thesis of this essay is that the notion is in fact empty, and hence uninteresting. In Sections 3 and 5 we shall embark on a series of central case studies. In each study we shall, first show directly that the case in question does not fit the definition of semantic presupposition or anything usefully like it, and then go on to offer a reasonably plausible account of what is instead going on, though we have not the space here to go into each case in as much detail as we would like.

In section 4 we shall offer some explanations of why it has seemed so plausible to construe these cases as instances of semantic presupposition; our explanations, we believe, afford considerable insight into the relation between semantics and pragmatics.

For the most part we shall concede that such pairs as (1)-(14) above exemplify some very loose and informal generic relation of "suggestion" or "implication", but we intend our case studies to show (as our second most important thesis) that the cases surveyed are cases of a number of entirely different kinds of "suggestion" or "implication", and that, although each of these kinds of "suggestion" is linguistically interesting and important in its own right, they have nothing interesting or important in common. If we are right, then, (i) there are no semantic presuppositions, though there are other, looser sorts of implicative relations; and (ii) there is no general class of phenomena worthy of being subsumed under any common theoretical term such as <u>presupposition</u> at all, though there are far narrower relations of "suggestion" or whatever that are individually well worth investigation and explication. We shall, however, retain the term <u>suggest</u> to designate whatever it is (however boring) about all or most of the pairs (1)-(14) that has made theorists suppose there to be an interesting general notion which they all exemplify.

In Section 3 each alleged case of "presupposition" will be explained away in terms of homelier and more manageable linguistic relations, and we shall succeed in preserving bivalence throughout. In aid of that program, we must spend a little time getting out a few of these humbler relations.

2.2.1. Entailment

We shall argue in a few of our cases that the alleged "presuppositions" are simply classical (semantic) entailments which, for one reason or another, have eluded recognition as such. In the primary sense, classical entailment is a model-theoretic relation which holds between a

set of logical forms (formulas of our bivalent canonical idiom) on the one hand and a particular logical form on the other. We may define this relation more precisely than we have done above, as follows:

If CL is our bivalent canonical language, V_{CL} is the set of admissible valuations of CL, and F_{CL} is the set of formulas of CL, then: for any $\Gamma \subseteq F_{CL}$ and $A \varepsilon F_{CL}$,

Γ <u>entails</u> A iff, for every $v \varepsilon V_{CL}$, v simultaneously satisfies Γ only if v satisfies A.

Entailment between actual sentences of a natural language is defined in terms of the logical forms of those sentences.

If S_1 and S_2 are sentences of a natural language L, $\{A,B\} \varepsilon F_{CL}$, A is the logical form of S_1, and B is the logical form of S_2, then: S_1 <u>entails</u> S_2 iff $\{A\}$ entails B.

People sometimes distinguish between what an utterer of the sentence S_1 "asserted" and what he "implied". In making this distinction, they may have either of two goals in mind. On the one hand, they may be contrasting what S_1 or its utterer implies with what S_1 entails. To account for this case, we define below three common species of "implication" which may usefully be contrasted with direct entailment. On the other hand, proponents of the assertion/implication contrast may be drawing a distinction within the class of entailments of S_1. This latter distinction is somewhat harder to explain. It appears to be a pragmatic matter of relative emphasis. That is, the utterer of S_1 is held to have implied rather than asserted S_2 on the ground that S_2, although entailed by S_1, does not express what seems to have been uppermost in the speaker's mind when he uttered S_1. Consider the following:

(22) a. Peering through the keyhole, I saw my wife <u>in</u> <u>bed with my best friend</u>!
 b. I saw my wife in bed with my best friend.
 c. I peered through the keyhole.

There is some inclination to say that the utterer of (22a) "asserts" (22b) but only "implies" (22c). His remark about the keyhole is only incidental; his primary concern (witness the intonation contour) is with what he saw. This marginal sort of "implication" has no semantic content over and above that supplied by classical entailment: it merely superadds to entailment a variety of purely pragmatic considerations about the speaker's probable system of values, i.e. about the relative importance to the speaker of one entailment versus another. Even so, this pragmatic ingredient has been known to occasion some bothersome confusions about presupposition, which we shall briefly discuss in succeeding sections. Since "implication" of this variety plays only a superficial role in our overall account of alleged presuppositions, we shall not embark on the thankless task of trying to characterize it precisely.

2.2.2. Theoretical Implication.

Returning for a moment to entailment, we note the following trivial corollary of our definitions: given any two sentences S_1 and S_2 which are capable of entering into entailment relations, we can always find a third sentence S_3 such that $\ulcorner S_1 \& S_3 \urcorner$ entails S_2. For the most part, S_3 will be uninteresting. But sometimes S_3 is a sentence which speakers of the language tacitly or explicitly regard as true, for S_3 may formulate some ingredient in a theory which they hold. When this happens, people will tend to infer S_2 directly from S_1 and to treat S_1 as if it entailed S_2, whereas in fact no such entailment exists (cf. our discussion of Linsky and the theory L, above). The obvious explanation of this tendency is that the background theory which supports their inference is so well-entrenched in their consciousness that they make use of it without explicitly recognizing that they are drawing on extralogical premises; probably the best example of this is the theory L itself, which codifies our knowledge of our own language. To describe this widespread phenomenon, we introduce the notion of <u>theoretical implication</u>, defined as follows.

> If S_1 and S_2 are sentences of a natural language L and P is a nonempty set of speakers of L, then:
> S_1 <u>theoretically implies</u> S_2 for P at time t iff there is a sentence S_3 of L such that S_3 expresses all or part of some theory held by the members of P at t, and $\ulcorner S_1 \& S_3 \urcorner$ entails S_2.

In practice, we shall often omit the qualification "for P at t" when the values of "P" and "t" are contextually obvious. Theoretical implication may be illustrated by the following example.

> (23) a. John jumped off the roof.
>   b. John fell.

Many contemporary speakers of English would immediately infer (23b) from (23a), and would say that (23a) "implied" or even "entailed" (23b). But this implicative relation cannot be entailment, since, so far as logic is concerned, it is entirely possible that John remained suspended in space after his jump. The reason that people tend to leap from (23a) to (23b) is just that they concurrently hold background theories about the behavior of unsupported objects near the earth's surface--theories which, when sententially formulated and conjoined with (23a), yield a conjunction which does entail (23b). (23a) does not itself entail (23b); rather (23a) theoretically implies (23b) for a large class of speakers of English at the present time (and many past times as well).

2.2.3. "Act-implication"

A third sort of "implication" concerns the relation between a sentence and the statement of one or more of the conditions under which that sentence can be felicitously uttered. Felicity conditions are pragmatic constraints on the successful and nondefective performance of speech acts (promising, ordering, questioning, etc.). Whether or not a given sentence can be felicitously uttered in a given context depends, of course, on what speech act the speaker is trying to perform with that sentence on that occasion. Accordingly, we define the

following notion of act-implication:

> If S_1 and S_2 are sentences of a natural language L and $\mathcal{C}$ is any speech act, then:
>> S_1 <u>act-implies</u> S_2 relative to $\mathcal{C}$ iff S_1 can, under normal circumstances, be used to perform $\mathcal{C}$, and S_2 formulates a pragmatic constraint on successful and nondefective performances of $\mathcal{C}$ (i.e. S_1 could not be felicitously uttered in the attempted performance of $\mathcal{C}$ unless S_2 were true).

In the case of sentences which--like explicit performatives--are normally restricted to the performance of a single sort of speech act, and in contexts where it is obvious what speech act is at issue, we may omit the qualification "relative to $\mathcal{C}$" and speak merely of S_1 act-implying S_2. Consider, for example, the following sentences:

> (24) a. I (hereby) promise to leave.
>   b. The utterer of (24a) intends to leave.

(24a) act-implies (24b), since (24a) is a conventional device for promising and (24b) formulates a nondefectiveness condition on promises (viz. sincerity). Our tendency to infer (24b) from (24a) owes chiefly to our inductive assumption that speakers are generally aware of the pragmatic constraints on speech acts and normally try to meet them. When we hear (24a) in speech, we simply take it for granted that the conventionally associated speech act has been successfully and non-defectively performed unless something in the context clearly demands otherwise.

It has sometimes casually been assumed that the notions of "act-implication" and "semantic presupposition" simply coincide. We shall show in case study 3.6 of Section 3, and in Section 4, that they do not.

2.2.4. Conversational Implicature

A fourth, and somewhat more complicated, species of "implication" is what H. P. Grice (1961 and 1974) has called conversational implicature. Grice offers some general pragmatic rules or "conversational maxims" which greatly facilitate communication and which we all tend to obey. Some of these maxims are:

> (25) a. Make your contribution [to a conversation] as
>   informative as is required (for the current
>   purposes of the exchange). [The Maxim of
>   Strength]
>   b. Do not make your contribution more informative
>   than is required.
>   c. Do not say what you believe to be false.
>   d. Do not say that for which you lack adequate
>   evidence. [The Maxim of Evidence]
>   e. Be relevant. [The Maxim of Relevance]
>   f. Avoid ambiguity.
>   g. Be brief (avoid unnecessary prolixity).

These rules are regarded by Grice as corollaries of a more general instruction which he called the "Cooperative Principle", viz.

(26) Make your conversational contribution such as is required, at that stage at which it occurs, by the accepted purpose or direction of the talk-exchange in which you are engaged.

(26) and its subordinate maxims are taken, plausibly, to be conventions which serve as valuable auxiliaries to the prior conventions which govern syntax and meaning. Their main function is to expedite the giving and/or receiving of information, in more or less obvious ways.

Using the maxims, we can construct detailed explanations of a person's inferring the truth of a sentence S_2 from someone's assertive utterance of a sentence, S_1 even though S_1 does not entail S_2. Grice in fact outlines the general form for such explanations:

He has said that p; there is no reason to suppose that he is not observing the maxims, or at least...[the Cooperative Principle]; he could not be doing this unless he thought that q; he knows (and knows that I know that he knows), that I can see that the supposition that he thinks that q is required; he has done nothing to stop me thinking that q; therefore he intends me to think, or is at least willing to allow me to think, that q; and so he has implicated that q.

An explanation of this form, although it assumes that the explainer knows the normal (literal) sentence-meaning of the sentence which replaces "p", does not ascribe the explainer's inference of the sentence replacing "q" to any connection between the latter sentence and the meaning or semantic properties of the former. The explainer merely engages in some straightforward, informal commonsensical reasoning based on his knowledge of (26) and its corollaries (25a-g). Derivatively, we may define the following relation between sentences, which we call conversational implication:

Let S_1 and S_2 be sentences of a natural language L; then: S_1 conversationally implies S_2 iff any normal speaker of L who utters S_1 in a normal tone in a normal context conversationally implicates that S_2 is true (i.e. iff S_1 and S_2 could replace "p" and "q" respectively in a correct application of the Gricean explanation-schema to the context of S_1's utterance).

Using the notions explained in this Section, we shall proceed to our series of case studies. There is, however, one more important prior point to be made.

2.3. Responsibility

Semantic presupposition is primarily a relation between sentences (better, between their logical forms); in fact, the distinction between "semantic" presupposition and "pragmatic" presupposition is sometimes

(cf. Stalnaker 1972, 1973) taken to rest on the claim that the latter
relation relates speakers, rather than sentences or their logical
forms, to sentences. On the other hand, it is generally held that
a speaker (pragmatically) presupposes at least the semantic presup-
positions of the sentence he or she utters; so the question of what
it is for a speaker to presuppose something can be raised in either
case.

It is said, for example, that a person who utters (12a) above
presupposes that being poor tends to preclude being honest, this belief
being indicated by the presence in (12a) of the word but. What is this
relation of "speaker's presupposition"? The natural suggestion that
comes to mind is that a speaker presupposes a sentence S just in case
his or her utterance on that occasion is somehow defective, inappro-
priate or flawed unless he or she believes S. But this will not do.
For a speaker may token (12a) in a perfectly appropriate and nondefec-
tive manner without himself or herself accepting (12b)--e.g. if he or
she knows that the hearer accepts (12b). Perhaps we should say instead
that a speaker presupposes S just in case the utterance on that occasion
is inappropriate, etc., unless the hearer accepts S; but this suggestion
faces obvious counterexamples as well. Nor is it required that S in
fact be true. It will not do even to require that at least one party
to the conversation accept S, nor that the speaker is at least pretending
to accept S, for speaker and hearer may have some reason for talking
"as if" S were true even though neither actually believes this.

About all we can say at this point is that a speaker presupposes
(or "presumes") S iff the utterance on that occasion is inappropriate,
etc., unless the speaker is speaking as if S is true, or unless the
speaker is "representing himself/herself as" believing S, or the like.
But we cannot stop here, for these scare-quoted phrases are no clearer
than presupposes and presumes themselves. They are invoked as technical
terms; so to say that the felicitous utterer of (12a) "represents
himself/herself as" believing (12b) is just to relabel the problem, not
to explain anything. The problem remains: Paradoxically, it seems that
the entirely unflawed utterance of (12a) requires, presumes, etc., the
belief that (12b) is true, but this "belief" is not necessarily the
belief of anyone!

This is a quandary that we shall not here attempt to resolve:
When it becomes necessary to remind ourselves that we cannot talk
simply of requiring that the speaker believe an alleged presuppositum,
we shall ring in the slogan "or whoever" to recall the puzzling non-
specificness of the actual requirement in question.

3. Case Studies

3.1. Nonrestrictive Relative Clauses

Let us begin with an alleged "presupposition" that turns out
rather obviously to be just an entailment. It has been claimed (by
Keenan 1971 and others) that nonrestrictive relative clauses give rise
to semantic presuppositions; it would be said, e.g. that (27a)
semantically presupposes (27b):

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(27) a. Dick, who is an expert on Austin, loves the
         Bonzo Dog Band.
      b. Dick is an expert on Austin.

It is hard for us to think of (27a) as truth-valueless when (27b)
is false. For, in light of the considerable evidence that sentences
like (27a) are derived from underlying conjunctions (Thompson 1971),
it seems clear that the truth-conditions of such sentences are those of
conjunctions. Thus (27a) has the same truth-conditions as

(28) Dick is an expert on Austin and Dick loves the Bonzo
      Dog Band.

as does

(29) Dick, who loves the Bonzo Dog Band, is an expert on
      Austin.

Necessarily, therefore, (27a) is false if (27b) is false; (27a) entails
(27b).

There is an interesting consideration which may have blinded
theorists to this fact and which, as we shall see, causes significant
confusion among "presupposition" enthusiasts. The important point to
notice (cf. Section 2.2.21 above) is that a sentence S_1's merely
entailing a sentence S_2 in no way guarantees that S_1 asserts S_2, or that
one who uttered S_1 would thereby assert S_2, or that S_2 gives any part
of the content of "what S_1 says" in an intuitive sense. (27a) clearly
does not "assert" (27b). Relativization evidently is, perhaps among
other things, a way of de-emphasizing certain parts of the total semantic
content of a sentence, to such a degree that we want to deny that those
parts are asserted by the sentence or by the speaker who utters it;
those parts are, if you like, merely taken for granted (it is tempting
to say "presupposed" here, in a quite nontechnical sense). But all this
is perfectly consistent with their being simply entailed by the original
sentences. What is not asserted may still be entailed in virtue of
logical form. For example, Peano's axioms do not assert the theorems
of elementary arithmetic; but they certainly entail them. And

(30) Snow is white.

does not assert

(31) Either snow is white or pigs have wings.

or

(32) If Lincoln is dead, then Lincoln is dead.

but it entails both.

There is a tendency to confuse the linguistic act of denying what
someone else has asserted with the quite different act of uttering the
denial of the sentence which that person used in making his assertion.
Thus, upon hearing someone utter (27a), one who wished to deny what
the utterer had asserted might say

(33) Dick doesn't love the Bonzo Dog Band.

or, even, much less efficiently,

(34) Dick, who is an expert on Austin, does not love the
Bonzo Dog Band.

This fact might lead someone (see again Keenan 1971) to suggest that
(34) is the denial of (27a) and to add that, since (34) plainly necessi-
tates (27b) just as (27a) does, we have a clear case of semantic presup-
position. But this would be fallacious. (34) is not the denial of (27a).
The denial of (27a)--if it can be formed in surface-structure at all--
is formed by negating the entire sentence, not by negating just that
part which one would intuitively judge to have been "asserted" by an
utterer of (27a). And that external negation is true if (27b) is false.
There is, however, a troublesome datum which needs explaining.
When we attempt to deny (27a) by forming the sentence

(35) It's false that Dick, who is an expert on Austin,
loves the Bonzo Dog Band.

or

(36) It is not the case that Dick, who is an expert on
Austin loves the Bonzo Dog Band.

we encounter an apparent dialect difference. Speakers of Dialect A,
as we may call it, hear no difference between (34) and (35) or (36).
In Dialect A, (34), (35), and (36) are all treated as being straight-
forwardly equivalent to (37):

(37) Dick is an expert on Austin, and Dick doesn't love
the Bonzo Dog Band.

--and hence as necessitating (27b). Speakers of Dialect B, on the other
hand, treat (36) as syntactically ambiguous: they allow that (36) cannot
only be read along the lines of (37) but can also be read as equivalent
to the noncommittal (38):

(38) It is not the case that Dick both is an expert on
Austin and loves the Bonzo Dog Band.

Speakers of Dialect B, however, freely grant that (37) is far and away
the more natural reading of (36): they almost always read (34) as (37),
and they are strongly inclined in most instances to read (35) and (36)
similarly, i.e. to accord these sentences readings on which they
necessitate (27b).
The difference between our two dialects, as well as their points
of agreement, can be explained without recourse to semantic presup-
positions. The crucial difference seems to lie in their respective
treatments of relativization. Specifically, Dialect A places a
restriction on the formation of nonrestrictive relative clauses which
is absent in Dialect B.
There is considerable evidence that, in English generally, rela-
tivization is blocked within the scope of certain sentence-forming
operators, i.e. that a sentence of the superficial form

(39) $\underline{O}(x, \text{ who is } F, \text{ is } G)$

cannot, for certain choices of $\underline{O}$, be derived from the underlying structure

(40) $\underline{O}(x \text{ is } G \ \& \ x \text{ is } F)$

but only from an underlying structure like

(41) $\underline{O}(x \text{ is } G) \ \& \ (x \text{ is } F)$

in which the conjunct to be relativized is not already within the scope of the operator $\underline{O}$. The role of the commas in the surface-form (39) is to signal that the relative clause, though superficially occurring within $\underline{O}$'s complement, is not within the scope of $\underline{O}$ at the level of underlying semantic structure. For example, let $\underline{O}$ be an epistemic operator, as in

(42) John is convinced that Mary, who died last year, is
        alive and well in Argentina.

It is implausible to think that (42) derives from

(43) John is convinced that (Mary is alive and well in
        Argentina & Mary died last year)

but highly plausible to think of (42) as stemming from

(44) (John is convinced that Mary is alive and well in
        Argentine) & (Mary died last year).

It might be thought that our hearing (42) as derived from (44) rather than from (43) is just habitual disambiguation on the basis of our charitable reluctance to ascribe explicitly contradictory beliefs to John. But even if we provide (42) with an environment that not only tolerates but encourages a contradictory reading of the complement of John is convinced that, such as

(45) That stupid John has lots of contradictory beliefs;
        for example, he is convinced that Mary, who died
        last year, is alive and well in Argentina.

we STILL cannot hear the relative clause as expressing part of what John believes--it remains in our mouths, an extraneous side comment. Similarly, let $\underline{O}$ be an alethic modal operator, as in

(46) It might have been the case that John, who is
        honest, was a politician.

We hear no reading of (46) on which it entails (47):

(47) It might have been the case that John was both
        honest and a politician.

In (46) as well, the modal operator fails to penetrate the commas.

Dialect A includes negation among the sentence-forming operators which block relativization in this way. Dialect B does not. Consequently, Dialect A treats (36) as unambiguously derived from (37), an internal negation. In Dialect A, (27a) has no external negation in surface-structure, although of course the semantic content of (27a)— which is recorded in the underlying conjunction (28)--can easily be externally negated in surface structure. The results are not encouraging for the advocate of semantic presupposition. Although (27a) necessitates (27b) in virtue of entailing it, it is simply false that the denial of (27a) necessitates (27b). The fact that (36) necessitates (27b) in Dialect A is quite irrelevant, since, as we have seen, (36) is not (logically) the external negation of (27a) in that dialect. The presupposition claim cannot even be formulated in terms of surface structure. And it is untenable when formulated in terms of logical structure, for the external negation of (28), which shares (27)'s logical form, plainly does not necessitate (27b). The peculiarities of Dialect A concern only a bit of syntax.

Dialect B, in contrast, allows that (36) may be derived from either (37) or (38). Why, then, do speakers of B tend to assume that any actual utterance of (36) is most likely derived from (37)? The answer, we believe, lies in Gricean considerations of conversational implicature, not in the semantic realm at all. The crucial point is this: to utter the denial (i.e. the external negation) of a conjunction, or something logically equivalent to this denial, is to implicate that, although one has reason to believe that the conjuncts are not (or cannot be) true together, one's evidence is insufficient to indicate which conjunct in particular is false (cf. Grice 1961:130-2). The existence of this implicature is a simple corollary of the assumption of obedience to the Conversational Maxims. To begin with, one must have adequate evidence for one's denial of the conjunction. There are only two forms this evidence could take: specific evidence for the falsity of one conjunct in particular, or nonspecific evidence which tends to rule out joint satisfaction of both conjuncts without specifying where the fault lies. The latter sort of evidence may be fairly rare in practice, but possession of the former sort is inconsistent with obedience to the Maxims. For if the speaker knew or had reason to suspect which conjunct is false, he would have data which entail, but are not entailed by, the denial which he uttered. His utterance would therefore violate Grice's Maxim of Strength, to the effect that one ought not to say significantly less than one's evidence warrants. Thus, for better or worse, the hearer concludes that the speaker possesses only nonspecific evidence vis-à-vis the conjunction in question.

In the face of this conversational implicature, it is easy to see why a speaker of Dialect B would prefer (37) to (38) as a reading of an actual utterance of (36). Read as (38), an utterance of (36) would be appropriate only in relatively rare evidential situations; but read as (37), an utterance of (36) would fit what seems to be the statistical majority of speech-situations, in which specific evidence is available. More importantly, the reading corresponding to (37) is secured by the pragmatic effect of relativization in (36), viz. de-emphasis: if (36) is read as (38), it is difficult to explain why

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the utterer would de-emphasize part of what he is concerned to deny.

In Dialect B, special stage-setting is required to make (38) a "live option" as a reading of (36). If the speaker goes on to tell an appropriate story about his reasons, then (37) and (38) will be felt to be equally plausible readings of (36), as in

> (48). It is not the case that Dick, who is an expert on Austin, loves the Bonzo Dog Band; for recent psychological studies have shown that only high-brows understand Austin, and only lowbrows like the Bonzo Dog Band.

So strong is the pragmatic presumption in favor of the reading (37) that it is extraordinarily difficult to elevate (38) beyond mere parity to the status of "more likely" reading of (36). The only fairly natural way of "compelling" a speaker of Dialect B to hear (36) as (38) is to invoke tacitly metalinguistic internal quotation. Thus, only an utterance of something like,

> (49) It is simply false that "Dick, who is an expert on Austin, loves the Bonzo Dog Band."

--where the quoted material is uttered in a derisive tone of voice--will create a presumption in favor of the reading (38).

Nothing in our account of Dialect B requires an appeal to semantic presupposition. To think that presupposition is present at all is to overlook the fact that, in Dialect B, (36) necessitates (27b) only on one of its two syntactic readings; but that reading, viz. (37), is not the reading on which (36) is the denial of (27a). The mistake is a natural one, however, owing to the powerful pragmatic presumption in favor of (37).

Notice that nothing in our total account of nonrestrictive relative clauses requires any particular disambiguation of any surface sentence. In any test for semantic presupposition, we simply distinguish external from internal negation, regardless of which construction is in fact expressed by any of the negative sentences in question. In each case, it is seen that the external negation fails to necessitate the alleged presupposition, while the internal negation entails it--either way, semantic presupposition is ruled out.

The data of both Dialects A and B suggest the following hypothesis:

> Principle H: When a sentence containing an emphatic (i.e. emphasizing or de-emphasizing) construction in surface structure is externally negated, no change of emphasis results.

That is, whatever semantic ingredient has been syntactically emphasized/de-emphasized in the original sentence will remain emphasized/de-emphasized in that sentence's denial. It is easy to provide an independent rationale for Principle H as well. Emphatic constructions, which are surface constructions that indicate disparities of focus within logical forms, do not reflect semantic differences, i.e.

differences of logical form or semantic structure; they are produced
by optional transformations which operate in the presence of certain
sorts of conative factors--whichever passing desires, purposes or
motives comprise the speaker's reason for producing his or her utterance
and impose on it a direction of interest. If the sole function of some
emphatic construction is to call attention to or direct attention away
from a semantic item of a particular kind (underlying subject, object,
predicate, relation, entire clause, or what have you), then one would
not expect that item's broader semantic environment to matter to the
operation of the emphatic construction, unless that environment is one
so distortive as to yield a surface structure the relevant part of
which is no longer "in the speaker's own mouth." Thus, take

> (50) Raffles stole the <u>cheese</u>.

where the stress is functioning purely as an emphatic device.[8] Although
the speaker's emphasis is not preserved under direct quotation, as in

> (51) Bunny shouted, "Raffles stole the <u>cheese</u>."

in which (50) appears only as a mentioned, reported utterance-token,
it plainly is preserved in

> (52). Raffles didn't steal the <u>cheese</u>.

Likewise, the emphasis of (53) is preserved in (54)

> (53) Raffles <u>stole</u> the cheese.
> (54) It's false that Raffles <u>stole</u> the cheese.

and that of (55) is preserved in (56) and in (57).

> (55) Raffles--mind you, Raffles--<u>stole</u> the cheese.
> (56) Raffles--mind you, Raffles--didn't <u>steal</u> the cheese.
> (57) It's not true that Raffles--mind you, Raffles--
>   stole the cheese.

There is also a conversational rationale for Principle H: If a
sentence S is pragmatically most appropriate to utter in circumstances
C, then one who utters exactly the same sentence, only prefixed by a
negator, is presumed willing to let the pragmatic emphasis of S stand,
i.e. he is thought of as saying, in effect, that S, thought of as
uttered in C, is false. For if the utterer wished to take issue with
the pragmatic emphasis carried by S in C, it seems etiquette (and
possibly the Maxim of Relevance) dictate that he should do so explicitly,
by appropriately rewording his remark rather than by parroting an
external denial of the original sentence; in conversation it is assumed
that the parties share focus of interest unless an intention to
shift focus is overtly acknowledged.

3.2. Cleft Constructions

Cleft sentences behave in a way parallel to those containing non-restrictive relative clauses, and similar presupposition claims have been made in connection with them. Thus Keenan (1971) tells us that (58a) presupposes (58b):

(58) a. It was John who caught the thief.
b. Someone caught the thief.

But surely (58a) straightforwardly entails (58b); if no one at all caught the thief, then it is certainly false that it was John who did.

The temptation to call this a case of semantic presupposition again stems in part from an undue regard for the fact that an utterer of (58a) would not normally be said to have "asserted" (58b). And Keenan's text makes it clear that he takes the denial of (58a) to be

(59) It wasn't John who caught the thief.

In our speech, at any rate, (59) is an internal negation, paraphraseable by

(60) $(\exists x)[\text{Caught}(x, \text{the thief}) \ \& \ \sim(\text{John} = x)].$

on which paraphrase it entails (58a) just as (58a) does. (Thus, we construe _it_ in (58a) and (59) as reflecting a bound variable, which seems to us to be the most natural way of taking it.) As before, (59) is what one might utter if one wanted to deny what an utterer of (58a) had asserted; but (59) is not the denial of (58a). The denial of (58a) is

(61) It is not the case that it was John who caught the thief.

which is paraphraseable by

(62) $\sim(\exists x)[\text{Caught}(x, \text{the thief}) \ \& \ (\text{John} = x)].$

Thus (61) is entailed by the falsity of (58b).[9]

Admittedly, however, even (61) seems to suggest (58b) to some speakers, i.e. they would tend to infer (58b) upon hearing (61) uttered in an ordinary context. This fact is explicable in terms of purely contextual considerations. The tendency to infer (58b) upon hearing (61) is not very strong anyway: it is felt most acutely when (61) is tokened in a context where there is already a presumption that the thief has been captured; and it is felt scarcely or not at all when (61) is tokened in contexts where this presumption is absent or replaced by the presumption that the thief is still at lrage. For example, if it is generally believed that the thief has been captured, and someone has uttered (58a), someone else might express disagreement (however ponderously) by uttering (61). In so benign a context, (61) seems to express agreement with the statement that the thief has been captured. On the other hand, if it is generally believed that the thief is still at large, and yet someone has uttered (58a), someone else might express disagreement by saying

(63)   {You're wrong.
       It's false that it was John who caught the thief.
       No one has as yet.'

   There is, however, something conversationally wrong with uttering
(61) without qualification or explanation, in the latter context. For
if the speaker (or whoever) believes that the thief is still at large,
then the utterance of (61) violates the Maxim of Strength, since (61)
is much weaker than

   (64)   The thief has not been caught.

And, as in the case of nonrestrictive relative clauses, if the speaker
believes (64), his or her emphasis in (61) of the role of the putative
agent (guaranteed by Principle H) is inexplicable, since (64) entails
of anyone x that it is false that x caught the thief.
   We infer, then, that the speaker (or whoever) does not believe
(64). But this alone does not suffice to show that (58b), whose denial
(64) is, is presumed. So we have yet to complete our explanation of why
(61) seems to suggest (58b).
   It does seem that (61) residually suggests (58b) only to speakers
who tacitly imagine (61) to be uttered in favorable surroundings. After
all, (58a) is just a transformational variant of

   (65)   John caught the thief:

The pragmatic difference between (58a) and (65) seems to be this: In
containing a clefted subject, (58a) emphasizes the role of the agent,
whereas (65), without special stress, seems to put the roles of agent
and action on a par; thus (58a) focuses on John's activity and answers
the question, Who caught the thief?. At this point Principle H comes
into play: Since (61) is the external negation of (58a), (61) likewise
stresses the role of the agent. (61) could be verified by either of
two possible situations: that in which (64) is true, and that in which
someone other than John caught the thief (i.e. in which (60) is true).
We have seen that the utterer of (61) is not presuming (64), but we
were troubled by the possibility that he or she may have nonspecific
grounds and thus may not be presuming (60) either. Now if the speaker
did have nonspecific grounds, i.e. if the speaker is agnostic concerning
the choice of (64) or (60), there would prima facie be no reason to
emphasize the semantic element that characterizes (60) in particular
and is conspicuously absent in (64). Thus, our hypothesis that the
speaker's grounds are nonspecific leaves us with a strikingly unexplained
fact. So, other contextual factors being equal, we opt for the
remaining possibility, viz. that the speaker is presuming (60) as
evidence for (61); and (60) trivially entails (58b). Of course, other
contextual factors may not be equal, and so we should expect our
argument against the hypothesis of agnosticism (and hence, on our
account, the presumption of (58b)) to be easily defeasible. And so
it is, with only the merest disclaimer or contextual factor which
obviates the need for it:

(66) It's false, that it was John who caught the thief.
I don't know whether or not the thief has been
caught at all, but in any case John is too
stupid and cowardly to have caught her.

So far we have found no use for semantic presuppositions; nor is
it likely that further revelations about the exact syntax of (58a),
(59) and (61) will provide any place for this notion. If (59) and
(61) are syntactically univocal--i.e. if (59) is syntactically an
internal negation and (61) is syntactically an external negation--
then the presupposition claim vanishes before a battery of pure entail-
ments such as attach to (60) and (62); and (61)'s residual suggestion
of (58b) is explained pragmatically. If, on the other hand, either or
both of (59) and (61) are syntactically ambiguous as between internal
and external negations, our pragmatic considerations would explain why
people tend to hear the former reading in preference to the latter.

3.3. Factive Verbs

One of the most widely discussed classes of sentences allegedly
generating presuppositions in the class of "factive" constructions
studied by Kiparsky and Kiparsky (1970). As is well known, factive
predicates supposedly involve a presupposition of the truth of their
sentential complements. The following are some of the Kiparsky's
examples:

(67) a. It is $\left\{ \begin{array}{l} \text{significant} \\ \text{odd} \\ \text{tragic} \\ \text{exciting} \end{array} \right\}$ that S.

 b. John $\left\{ \begin{array}{l} \text{regrets} \\ \text{is aware} \\ \text{comprehends} \\ \text{grasps} \end{array} \right\}$ that S.

Factive constructions like those in (67) supposedly can be negated
without affecting the presupposition of the truth of S; if this is
right, it conclusively supports the claim that such sentences have
no truth-values unless S is true.

Here too we want to argue that the sentences in (67) entail their
sentential complements, and that their denials fail to necessitate (and
hence fail to presuppose) those complements. Let us begin by drawing
attention to two bits of negative evidence.

First, strong epistemic verbs like know and realize--which the
Kiparskys concede to be "semantically but not syntactically factive"--
have a long historical association with the concept of truth. Episte-
mologists of the last two millenia have insisted that such concepts
as "knowledge" and "realization" analytically involve the truth of
what is known or realized. In a more contemporary idiom, their
observation amounts to the claim that

(68) X knows that S.

and

(69.) X realizes that S.

entail the embedded sentence S. Confronted with an utterance of

(70) I know that $1 + 1 = 3$.

epistemologists (and most ordinary speakers) unhesitatingly would
say "No you don't" or "That's false". If some ordinary speaker does
not quite know what to say about such utterances, it is because he
lacks a coherent theory of knowledge, or simply because such utter-
ances are statistically unfamiliar, not because he speaks a different
dialect of English. Notice, incidentally, that the sentence

(71) You do not know that $1 + 1 = 3$.

simply cannot be heard as alleging someone's ignorance of a presupposed
fact--at least not by anyone who can count.
    Second, if we admit--as it seems we must--that sentential operators
involving know, realize, and similar epistemic verbs have truth-
conditions which (along with our underlying logic) require the truth of
the sentential complement, then a variety of other factive verbs will
also fall into line with our thesis. Consider, for example, the verb
forget. De Rijk (1974) has convincingly argued for the following
semantic representation of forget:

(72)
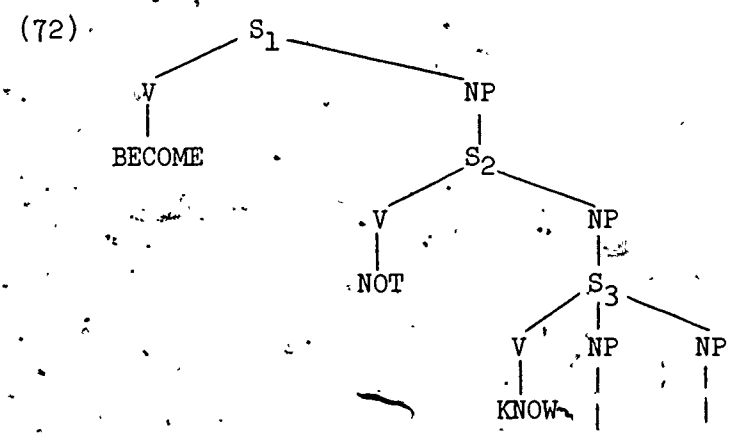
On this representation, however, a sentence of the form

(73) John forgot that S.

entails the embedded sentence S. For something can become so only
if it was not formerly so. Hence it can become the case that John
failed to know S only if John formerly knew S. And if John knew S,
then S must be true. Given a sufficient stock of primitive epistemic
operators which behave semantically like know and realize, it should
not be too difficult to provide semantic representations for grasp,
comprehend, and the like which result in the sentential complement

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being simply entailed rather than presupposed. Such a project may
have promise even for nonepistemic, evaluative factives like regret,
deplore, applaud, etc.

It may be objected that the negations of the sentences in (67)
do not behave appropriately, in that they appear to commit the utterer
to the truth of the complement S just as much as do the originals.
If this is so, then the commitment cannot be explained in terms of
truth-conditionally generated entailments; since it is logically
impossible that a sentence and its negation should both entail a
contingent sentence S. So presuppositions must be invoked to account
for the denials of the sentences in (67). And if we invoke presup-
positions to account for these details, we thereby commit ourselves
to using the concomitant formal machinery to handle the originals.[10]

It is contended that we cannot give a proper account of the
negations of factive constructions without appealing to presuppositions.
This, we shall show, is false. The behavior of these negations can be
adequately explained without abandoning the view that the falsity of
S makes every sentence in (67) false and their denials straightforwardly
true. We shall first establish this conclusion for the verb know and
then show how the same reasoning secures a similar result for other
factives.

Consider the following sentences:

(74) a. Irv knows that Sam is a Martian.
      b. Irv doesn't know that Sam is a Martian.
      c. Sam is a Martian.

Morgan (1969), Karttunen (1973) and others have claimed that sentences
like (74a) and (74b) both necessitate (74c). But we have already seen
reason to believe that (74a) simply entails (74c). Consequently, if
(74c) is false, then (74a) is false and its denial, (74b) is true. So
(74b) cannot necessitate (74c). And yet (to give these authors their
due) there is something wrong, in at least some contexts in which (74c)
is false, with uttering (74b)--even though the truth of (74b) is
guaranteed by the falsity of (74c). (It should not be thought that a
sentence's being merely true suffices for that sentence's being
appropriate or felicitous to utter, even in "normal" circumstances.)
(74b), uttered with rising stress on doesn't, and particularly if
immediately followed by because Sam isn't one, is unexceptionable; but
without such stage-setting, (74b) would perhaps be misleading.[11] Why
is this?

The explanation, we believe, involves both conversational and
theoretical factors, and is somewhat subtle; but, once spelled out,
it seems to us intuitively quite clear and compelling, and it makes
no use of occult semantical notions. To begin with, let us note that
(74a) is intuitively paraphrasable by

(75) Sam is a Martian and Irv believes on the basis of
       adequate evidence that Sam is a Martian.

At least, both of the following conditions must obtain in order for
(74a) to be true:

(76) a. Sam is a Martian.
b. Irv believes on the basis of adequate evidence
that Sam is a Martian.

The falsity of either (76a) or (76b) suffices for the falsity of (74a),
and hence for the truth of (74b).

Now suppose that someone tokens (74b) without any accompanying
qualification or special stage-setting. Grice's Maxim of Evidence
assures us that if (as we assume) the speaker is cooperative, then
he has adequate evidence for the truth of (74b), (74b) being intuitively
the denial of a conjunction of necessary conditions. What form might
the speaker's evidence take? There are only three possibilities:
(i) The speaker may have adequate evidence for the falsity of (76a).
(ii) The speaker may have adequate evidence for the falsity of (76b).
(iii) The speaker may have insufficient specific evidence concerning
(76a) or (76b) taken alone, but yet have evidence that they are at least
not both true.

Let us consider possibility (i). Notice first that there is an
asymmetry in our attitude toward the twofold conditions for (74a). Let
us say that (76a) expresses the general condition for the truth of
(74a), and (76b) the specific condition for the truth of (74a). The
specific condition is person-relative in a way that the general condition
is not: it concerns the subject, Irv, and not the status of what he
believes. (As it happens, the embedded sentence (76a) also mentions
a person, but this feature of (74b) is expendable and irrelevant.)

Now Grice's Maxim of Relevance dictates that one ought not to
talk about things which are irrelevant to the point one is trying to
make. But (74b) mentions a particular person, viz. Irv; so there is
a conversational presumption that the truth of (74b) has something
importantly to do with Irv's properties in particular. But at the same
time, the Maxims forbid saying substantially less than one is in a
position to say. So if the speaker were entitled to deny (76a), the
general condition, he should do so explicitly: the speaker should not
utter something which, like (74b), is entailed by but does not entail
what he is in a position to assert. Moreover (here is the asymmetry)
the falsity of the general condition (76a) has much more disastrous
consequences than would the falsity of the specific condition (76b).
If Irv does not justifiably believe that Sam is a Martian, then it
follows merely that Irv does not know that Sam is a Martian; not
that anyone else fails to know this. But if Sam is not a Martian,
then nobody can be said to know that Sam is a Martian, i.e.

(77) X knows that Sam is a Martian.

will be false for all values of X. Since so much more than the mere
falsity of (74a) hinges on the falsity of the general condition (76a),
and since (74b) is presumed to tell us something which is nontrivial
and specifically about Irv—not something which, on the assumption of
the falsity of (76a), would be true of anyone in the world—a hearer
is conversationally entitled to the conclusion that the speaker is not
assuming that (76a) is false. Therefore, the speaker's evidence for
(74b) cannot be the failure of (76a).

Passing over possibility (ii) for a moment, let us consider possibility (iii), the possibility that the speaker's evidence for (74b) is wholly nonspecific. What we want to say here is that such a situation is strikingly rare, and consequently that possibility (iii) is quite improbable. There are, of course, many common situations in which we have adequate evidence for something which can be expressed in the form of a denial of a conjunction. For example, we might be fully justified in accepting

(78) It's not the case that Jesse both shot the marshal through the heart and talked with him later about the problem of crime in the streets.

without having any idea which of the relevant conjuncts was false, since we hold a well-established biological theory which entails both (79) and (80).

(79) If Jesse shot the marshal through the heart, then the marshal is dead.

(80) No dead person talks with anyone about anything.

But (79) and (80) jointly entail

(81) If Jesse shot the marshal through the heart, then Jesse did not talk with the marshal later about the problem of crime in the streets.

And (81) trivially entails (78). Similarly, we might have adequate evidence for

(82) It's not the case that both Batman and Superman are in the phone booth now.

without having any idea who is or isn't in fact in the phone booth, since our commonsensical theory of ordinary objects entails (83) from which we trivially infer (84).

(83) Only one person can fit into a phone booth at a time.

(84) If Batman is in the phone booth now, then Superman isn't; and if Superman is in the phone booth now, then Batman isn't.

In short, we can come to know the denial of a conjunction, without having adequate evidence against either conjunct in particular, by virtue of having a well-established theory which entails a conditional (or, derivatively, a disjunction) which in turn trivially entails the denial of the conjunction.

Is something like the foregoing operative in the case of (74b)? Let us render (74b) in conditional form, obtaining

(85) If Sam is a Martian, then Irv does not believe on the basis of adequate evidence that Sam is a Martian.

or, equivalently,

> (86) If Irv believes on the basis of adequate evidence
>   that Sam is a Martian, then Sam is not a Martian.

Clearly, if (74b) is true then so are (85) and (86), provided that
their conditional frames are taken to be strictly truth-functional.
But since the purely truth-functional conditional has only rare and
specialized uses in English, we would never express (74b) in either of
these ways. For, in ordinary speech, both (85) and (86) are interpreted
as implying stronger, at least minimally nomological connections between
their respective antecedents and consequents. However, the relevant
statements, (76a) and (76b) or its denial, are not closely related at
all: they have utterly different foci. (76a), we have already observed,
is about Sam and his race or nationality, whereas (76b) is about Irv
and his epistemic position, implying nothing whatever about Sam's
properties. We have no theory, scientific, philosophical, or common-
sensical, which connects these two disparate matters. Consequently,
waiving any specific evidence we may have concerning the truth-values
of (76a) or (76b) taken individually, we have no evidence for (85) or
(86) either; thus we cannot be said to have arrived at (74b) by inferring
it from a background set of entrenched beliefs via (85) or (86).
(Contrast the case of (78)-(81). Plainly, the stronger the nomological
connection expressed by a given conditional; the greater will be the
likelihood that the truth of the negated conjunction equivalent to that
conditional will be known to us on the basis of nonspecific evidence
rather than on the basis of our knowledge of the falsity of one of the
conjuncts, and vice versa. To see this, consider the limiting case of
a strictly nomological connection--an instance of a law of sentential
logic:

> (87) It's not the case that the Continuum Hypothesis
>   is both true and false.

We would always know (87) trivially and a priori whether or not anyone
ever ascertained the truth-value of the Continuum Hypothesis. Since
(85) and (86) lie at the other end of the spectrum of nomologicality,
having for ordinary people no nomological status at all, it is entirely
unlikely that anyone would have nonspecific evidence for (74b).)
    Similar remarks apply to the disjunctive equivalent of (74b), viz.

> (88) Either Sam is not a Martian or Irv does not believe
>   on the basis of adequate evidence that Sam is a
>   Martian.

As before, there is no statement of any general background theory of
ours that entails (88) in the way in which (83) entails (82); we would
in any normal case come to know (88)--and hence (74b)--only by virtue
of antecedently knowing the truth-values of at least one of the two
conditions (76a) and (76b), not the other way around.
    The foregoing reasoning rules out possibility (iii). The only
remaining option is (ii), the possibility that the speaker who asserts

(74b) has adequate evidence for the falsity of (76b). In terms of
the Gricean Maxims, this means that we are prone to regard (74b) as
something of an understatement, since (76b) is logically stronger than
(74b). But this conclusion is inevitable, since the only alternatives
are to regard (74b) as disastrously trivial or else backed by an
exceedingly rare and peculiar sort of evidence. (Notice that we are
not contradicting our earlier claim, made in Section 3.1, that in
ordinary situations the denial of a conjunction conversationally implies
agnosticism on the utterer's part; the principle is correct but
defeasible. In the present context it is simply overridden by the
asymmetry between (76a) and (76b) on the one hand, and the probabilistic
presumption against nonspecific evidence on the other.)

Let us recapitulate our findings. Upon hearing an utterance of
(74b), unaccompanied by special stage-setting, a hearer who follows the
line of least resistance will arrive at the following twofold conclusion:

(89) a. The utterer of (74b) believes that Irv does not
justifiably believe Sam to be a Martian.
b. The utterer of (74b) does not believe that Sam
is not a Martian.

(89) is certainly sufficient to explain why we tend to hear (74b) as an
internal negation; i.e. as a denial of (76b) alone. But it is not yet
obvious why some speakers also hear (74b) as actively asserting (76a).
For (89b) does not entail

(90) The utterer of (74b) believes that Sam is a Martian.

However unlikely, it is surely possible that the utterer of (74b) is
agnostic on the question of Sam's origins. To secure the inference of
(90) from (89b) we need (91):

(91) The utterer of (74b) has an opinion as to whether
Sam is a Martian.

We submit that it is primarily in contexts where the utterer is
presumed to have an opinion as to the truth-value of the complement
that a negated knowledge-statement will be heard as actively suggesting
that complement (in addition to denying the relevant specific condition).
Such contexts will be numerous, for there are many matters concerning
which the lack of any opinion is highly unlikely. Where there is
readily available evidence for or against a proposition—as there is
for, say, the proposition that aspirin cures headaches—then it seems
very unlikely that an intelligent adult who has led a normal life
could have failed to form an opinion on the matter, or that he would be
unwilling, if pressed, to commit himself. In addition to considerations
of subject matter, there are many other contextual factors which might
lead us to the conclusion that the utterer of negative knowledge-
statement has an opinion about the truth-value of the complement. For
example, the speaker may be an acknowledged expert on matters mentioned
or described in the complement, i.e. one who, as a matter of his
profession, would be expected to have an opinion (the utterer of (74b)

might be a well-known exobiologist). Or again, (74b) might be
uttered with a revelatory stress·contour, e.g. in tones of surprise
(at John's ignorance of a fact) or derision (at John's stupidity in
overlooking the obvious).

Moreover, if there is no contextual presumption of this kind, it
is hard to hear the utterer of a negative knowledge-statement as
actively implying the truth of its complement, unless it happens that
we already believe that the complement is true. If, for example, we
antecedently believe that Sam is a Martian, then even though we
impute no opinion on the matter to the utterer of (74b), we will still
hear (74b) as tending to express agreement with our belief. For we
have seen that the utterer of (74b) is most likely not disagreeing with
(76a) but is at least allowing it to stand, perhaps "granting it for
the sake of argument." And failure to take the opportunity to dispute
a belief whose truth-value is crucially relevant to the truth-value of
what one says is commonly regarded as a sign of tacit consent (although
there is no real necessity in so regarding it). On the other hand,
if the audience regards the complement as false (but imputes no
opinion to the speaker) they will find the utterance of (74b) unin-
teresting and will no doubt point out to the utterer that he was wrong
in not disputing (76a), in consequence of which he said something
trivial. But they will not hear (74b) as suggesting the truth of (76a)
any more than we would normally hear (71) as suggesting that 1 + 1 = 3.
Of course it is possible that the audience not only fails to impute to
the speaker any opinion on the complement, but also fails to have any
opinion of its own on the matter. In such a case the audience would
not hear any suggestion of the complement's truth. Thus, if someone
were to say

(92) John doesn't know that Goldbach's Conjecture is false.

--the truth-value of Goldbach's Conjecture being a matter on which we
(and most other people) lack any opinion--we would not hear (92) as
alleging the falsity of the Conjecture but would instead understand it
as pointing out the fact that John, whatever he may or may not think
of Goldbach's Conjecture, certainly doesn't know that it's false.
The most natural response to (92) under these circumstances would be
"Neither do we", or "Right, the Conjecture is up for grabs".

We conclude that our ability to generate (89) solely from pragmatic
and statistical considerations adequately accounts for some people's
tendency to hear (74b) as claiming that Sam lacks justified belief
in proposition which is true (or at least allowed to stand unchallenged).
Clearly, our argument can be generalized to cover all sentences of the
form

(93). X doesn't know that S.

yielding a pragmatic explanation of why these sentences are sometimes
taken to "imply" or suggest the truth of S while asserting that X lacks
justified belief that S.[12]

Before applying all this to the factives listed in (67), let us
review the salient points of our strategy for ease of future reference.

Given a sentence S which is intuitively paraphrasable as a conjunction of statements S_1 and S_2 such that S_1 expresses the "general" condition for S's truth and S_2 expresses the "specific" condition for S's truth (in the senses exemplified above), a combination of theoretical and conversational considerations leads to the conclusion that one who utters the denial of S intends his audience to understand that he believes S_2 to be false and does not believe S_1 to be false. Further contextual considerations lead (in many if not most cases) to the further conclusion that the utterer believes S_1 to be true, or is at least willing to set S_1's truth be taken for granted for argumentative purposes. This combination of conversational, theoretical, and contextual factors lends support to interpreting the utterance of the denial of S as if it were the utterance of S_1 and the negation of S_2. For convenience, let us coin the term factive implication for this complex pragmatic relation between an utterance of the denial of S and the indicated conclusion about S_1 and S_2. Schematically, we could then say that, where S, S_1, and S_2 are as above, $\sim S$ "factively implies" S_1 & $\sim S_2$.

Using this purely pragmatic notion, we can easily account for the behavior of the various factive constructions in (67). Consider the following examples:

(94) a. John is aware that Mary is pregnant.
b. It is significant that Mary is pregnant.
c. John is not aware that Mary is pregnant.
d. It is not significant that Mary is not pregnant.

Let us begin by asking ourselves about the intuitive truth-conditions for (94a) and (94b), in that order.

The predicate aware appears to admit of a strong reading, on which it amounts to knows, and also a weaker reading, on which it is equivalent to something like correctly assumes. Since our discussion of know takes care of the former, we shall confine our attention to the latter understanding, on which (94a) is paraphrasable by

(95) Mary is pregnant, and John $\left\{\begin{array}{l}\text{assumes}\\\text{believes}\\\text{takes it}\end{array}\right\}$ that

Mary is pregnant.

Thus paraphrased, (94a) entails both (96a) and (96b):

(96) a. Mary is pregnant.
b. John $\left\{\begin{array}{l}\text{assumes}\\\text{believes}\\\text{takes it}\end{array}\right\}$ that Mary is pregnant.

and (94a) is thus straightforwardly false if either (96a) or (96b) is false.

The sentence (94b) is somewhat more complicated, owing to the presence of a suppressed parameter. Intuitively, to be significant is to be significant to or for some person or group of persons. Moreover, being significant for a person X is a property which attaches

to an envisaged state-of-affairs just in case some consequences which
X finds significant would ensue or depending on whether or not the
envisaged state-of-affairs obtained. It seems, then, that (94b) can
be paraphrased by

> (97) Mary is pregnant, and some consequence which X
> finds significant would ensue or not depending
> on whether or not Mary is pregnant,

Thus (94b) would entail both (96a) and (98):

> (98) Some consequence which X finds significant would
> ensue or not depending on whether or not Mary
> is pregnant.

The problem is that (94c) and (94d), the respective denials of (94a)
and (94b), ought not to entail or otherwise necessitate (96a). Yet
(94c) and (94d) do seem to "imply" (96a) in some weaker sense; people
sometimes tend to hear utterances of (94c-d) as conveying the
information recorded in (99a-b) respectively:

> (99) a. Mary is pregnant, and it's false that John
> $\left\{\begin{array}{l}\text{assumes}\\ \text{believes}\\ \text{takes it}\end{array}\right\}$ that Mary is pregnant.
>
> b. Mary is pregnant, and nothing of significance to
> X hinges on whether Mary is pregnant.

The explanation of this fact is simple. In the sense lately
defined, (96a) is the general condition for the truth of both (94a)
and (94b); (96b) is the specific condition for the truth of (94a); and
(98) is the specific condition for the truth of (94b). Therefore, by
exactly the same reasoning as was employed in the case of know, we
obtain the conclusion that (94c) factively implies (99a), and (94d)
factively implies (99b). The considerable amount of effort spent on
know thus has an immediate payoff for the analysis of factives in
general. We shall soon see that the payoff extends beyond factives
to other constructions which have been thought to involve presuppositions.

Finally, it ought to be pointed out that there is a simple and
straightforward way of showing conclusively that none of the sorts of
constructions we have considered so far in fact gives rise to semantic
presuppositions. According to the definition of semantic presupposition,
a sentence S_1 semantically presupposes a sentence S_2 only if the denial
of S_1 necessitates S_2. Let us list again the denials of the principal
sentences we have considered so far:

> (100) a. It's false that Dick, who is an expert on Austin,
> loves the Bonzo Dog Band.
> b. It's false that it was John who caught the thief.
> c. John is not aware that Mary is pregnant.
> d. Irv doesn't know that Sam is a Martian.
> e. It isn't significant that Mary is pregnant.

The important thing to notice is that the various "implications" that these denials bear are all cancellable (Grice 1961:128), as in

(101)   a.   It's false that Dick, who is an expert on Austin, loves the Bonzo Dog Band, because Dick knows nothing about Austin. [Dialect B only].

b.   It's false that it was John who caught the thief, because no one caught her.

c.   John is not aware that Mary is pregnant, because she isn't.

d.   Irv doesn't know that Sam is a Martian, because Sam isn't one.

e.   It isn't significant that Mary is pregnant, because she isn't.

Now necessitation, a strictly model-theoretic notion, does not admit of cancellation. Therefore, the "implications" of (100a-e), cancelled by (101a-e) respectively, are not necessitated by (100a-e). By definition, then, no semantic presuppositions are involved in these cases. And their very cancellability in context should be enough to tip us off that the notions we are dealing with are context-bound, pragmatic.

3.4. Implicative Verbs

Karttunen (1971b) alleges that, in addition to factive verbs, there are also presupposition-carrying "implicative verbs". Implicative verbs are a subclass of verbs taking infinitive complements, and their distinguishing feature, we are told, is that assertive sentences with implicative main verbs "imply" an augmented version of their complement sentences. Karttunen claims that this "implication" cannot be identified with ordinary entailment, but can only be understood via an appeal to presuppositions. He gives the following partial list of implicative verbs:

(102)   manage, remember, bother, get, dare, care, venture, condescend, happen, see fit, be careful, have the $\left\{ \begin{matrix} \text{misfortune} \\ \text{sense} \end{matrix} \right\}$, take the $\left\{ \begin{matrix} \text{time} \\ \text{opportunity} \\ \text{trouble.} \end{matrix} \right\}$

take it upon oneself.

Of these verbs, manage seems to be the paradigm, for it receives the most attention. Consider the following sentences:

(103)   a.   John managed to solve the problem.

b.   John didn't manage to solve the problem.

c.   John solved the problem.

d.   John didn't solve the problem.

We are told that (103a) implies (103c), and that (103b) implies (103d). But (103b) appears to be the negation of (103a), and (103d)

that of (103c); so if these "implications" were entailments, (103a) and (103c) would be logically equivalent. Karttunen claims that in fact they are not logically equivalent, giving as his reason that manage to solve and solve differ in meaning.

Of course (103a) and (103c) do intuitively "differ in meaning", but this is not enough to show that they are not logically equivalent. Consider, for example, the following sentences:

>   (104)   a. Meno is a pederast.
>   b. Either Meno is a pederast, or Meno is not a
>   pederast but has a dog that is both alive
>   and not alive.

(104a) and (104b) can be shown to be logically equivalent by simple propositional calculation, in spite of the fact that they unquestionably differ in meaning. And in light of our discussion of nonrestrictive relative clauses, the same might well be said for the following pair:

>   (105)   a. John, who smokes cigars, loves wine.
>   b. John, who loves wine, smokes cigars.

What we need is some more accurate account of the difference in meaning between (103a) and (103c) which has some clear relevance to the question of their truth-conditions and displays their nonequivalence.

Karttunen goes on to fill this lacuna with an appeal to semantic presupposition. (103a), we are informed, presupposes something like

>   (106)   John tried (i.e. expended effort) to solve the problem.

Thus (106) is necessitated by both (103a) and (103b). But (103c) does not even suggest (106)--let alone presuppose it. So (103a) and (103c) cannot be logically equivalent, since on these assumptions it is logically possible that (103c) should be true but (103a) be truth-valueless owing to the falsity of (106). Similarly, (103b) cannot be logically equivalent to (103d); for the truth of (103d) is consistent with the falsity of (106), hence with the truth-valuelessness of (103b).

It appears, then, that implicative verbs behave in a more complex way than do factives. Implicative verbs, like factives, supposedly generate semantic presuppositions; but, unlike factives, they presuppose not the truth of the sentences underlying their verbal complements, but in each case the truth of some third, quite different sentence. In addition, they introduce a novel kind of "implication" such that an assertive sentence with an implicative main verb "implies" (but does not presuppose!) its complement, and such that the negation of the former implies (but does not presuppose) the negation of the latter. "Implication" of this new sort, then, is a mysterious and heretofore unknown tertium quid, inferentially reliable, but not so strict as necessitation.

Before assessing all these claims in connection with (103), let us pause to look more closely at the list, (102).

It is far from clear that the items in (102) are happily grouped

together. Some of the verbs in question are, in our speech at least, not "implicative" at all. Consider the following exchange:

(107) Bully: "Which of you dares to fight me?"
John: "I dare to fight you!"
Bully (eyeing John's bulging biceps):
"Ordinarily, I'd clobber you here and now, but I hear my mother calling and have to go home."

In reporting this exchange, we might appropriately say something like

(108) John dared to fight the bully, but the fight never took place, because the bully chickened out.

But the acceptability of (108) belies the claim that (109) necessitates (110).

(109) John dared to fight the bully.
(110) John fought the bully.

Similarly, the following two sentences are, in our speech, virtual synonyms:

(111) a. John took it upon himself to make the announcement.
b. John unilaterally decided to make the announcement.

In this sense it is possible that a man should take it upon himself to do something which he is subsequently prevented from doing. That is, the following sentence seems perfectly acceptable:

(112) John took it upon himself to make the announcement, but dropped dead of a heart attack just as he was opening his mouth to speak.

Both (109) and (111a) impute states of mind which, in the normal course of events, are accompanied or immediately followed by the indicated actions. But the presumption of fulfillment, if indeed there is one, seems merely inductive. As a final example, we could cite the verb care. In negative constructions like (113) it is difficult to hear any implication of (114) since it is so easy to invent counterexamples like (115).

(113) John didn't care to discuss the matter.
(114) John didn't discuss the matter.
(115) John didn't care to discuss the matter, but Mary forced him to talk about it.

Of course there may be dialects of English in which these verbs are uniformly "implicative" in Karttunen's sense. In erecting a general strategy for handling genuinely implicative verbs, however, it is

best to concentrate on unequivocal examples. So let us look at
Karttunen's strongest case, the verb _manage_. If the alleged behavior
of _manage_ can be explained without recourse to presupposition, then
the same form of explanation, relativized to dialect, ought to account
for the weaker members of (102) as well.

A preliminary thing to note about _manage_ is that, strictly
speaking, the sentence (103a) does not necessitate (106).

> (103) a. John managed to solve the problem.
> (106) John tried to solve the problem.

For a person can manage to do something without trying--inadvertently
or accidentally. Thus neither (116) nor (117) necessitates or even
allows that the person in question was attempting to perform the
indicated action.[13]

> (116) While trying to prove Fermat's Last Theorem, Saul
>   inadvertently managed to prove Goldbach's
>   Conjecture.
> (117) We had been trying for months to knock all the
>   beer cans off the log, but Bottomley managed to
>   do it by accident while trying to shoot down a
>   rust-speckled grosbeak.

In fact, it is surprisingly difficult to say what is (putatively)
necessitated by (103a). Minimally, _manage_ seems to involve a broad
presumption to the effect that some sort of impediment exists, if not
for the agent then at least for some other contextually involved person
or persons. In other words, to say that John managed to do such-and-
such is to represent the action of doing such-and-such as something
which "wasn't entirely easy"--without actually saying, but leaving it
to the context to determine, wherein the trouble lies. Since this
point is crucial to what follows, we shall belabor it a moment longer.
If someone were to utter

> (118) John managed to breathe.

he would not, appearances to the contrary, be committed to saying that
John found it hard to breathe. The implied impediment is not intrinsi-
cally person-specific, although obvious pragmatic factors can lead
us to hear it as such. This becomes clear when we consider other
contexts in which (118) would be perfectly appropriate. Suppose that
John, having been raised in the Andes, has extraordinary breathing
powers. Suppose further that (118) is uttered by someone who is aware
of this fact and is describing a mountain-climbing episode in which
everyone but John was fainting, unable to breathe. There is
still the presumption that, under the circumstances, breathing wasn't
easy; but now we hear it as attaching not to John but to his companions.
With a little more patience, we could easily point the presumption in
such a way that it cannot be heard as attaching to anyone in particular,
but only to a mysterious "someone". Thus suppose that (118) is uttered
in a context in which everyone knows of John's great lung capacity and

that the utterance occurs as the climax of the speaker's description
of John's single-handed ascent of Everest. The presumption of
impediment clearly does not attach to John, and the context supplies
no other specific person or persons to whom it could apply. The most
we can say is that "someone" would find it difficult to breathe under
those circumstances. In short, what remains constant amid all these
shifts of "focus" is the nonspecific presumption of contextual
impediment; the variable factor of felt application to a specific person
appears to be something which arises extralinguistically, from the
hearer's beliefs about the context of utterance. The significance of
this point will manifest itself shortly.

Everything we have said so far suggests that (103a) genuinely
necessitates something like the deliberately noncommittal sentence

(119) Solving the problem wasn't entirely easy.

But does (103a) semantically presuppose (119)? If it does, then
(103b)--the denial of (103a)--must also necessitate (119). Whatever
implicative connection exists between (103b) and (119), however, seems
cancellable in context, hence cannot be viewed as genuine necessita-
tion. For (120) is acceptable:

(120) John didn't manage to solve the problem--it was
so easy that a trained monkey could solve it
blindfolded!

Admittedly, the felt need for stress in (120) suggests that the
implication which it cancels is strongly felt in the first place. So
we must explain how (103b) can strongly suggest (119) without
necessitating it.

Before addressing this problem, let us pause and take quick stock
of our other intuitions about the data. Parallel to the feeling that
(103a) necessitates (119), we find an equally strong feeling that
(103a) also necessitates (103c). Moreover, it seems to us that the
joint truth of (119) and (103c) is sufficient for the truth of (103a).
In our speech, that is, (103a) may be closely paraphrased by a
combination of these two sentences, as in (121).

(121) John solved the problem, which wasn't an entirely
easy thing to do.

(103a) and (121) would appear to have equivalent truth-conditions.[14]
(121) obviously entails both (119) and (103c), since it derives
syntactically from their conjunction. So, at least where (103a) is
concerned, there is no immediate obstacle to viewing (103c) and (119)
as simply being two of its ordinary entailments. It is when we turn
to (103b), the denial of (103a), that we encounter an apparent
obstacle, viz. explaining (103b)'s felt relations to (119) and (103d).

The problem is a familiar one: (103a) behaves like a conjunction,
so (103b), its apparent denial, ought to behave like a negated
conjunction, i.e. (103b) should not entail either (119) or (103d).
Yet an utterance of (103b) suggests to the audience that both (119) and

(103d) are taken to be true. Given our earlier treatment of factives, the solution to this problem is evident. (119) and (103c) are respectively the general and specific conditions for the truth of (103a), for (103c) directly concerns John, while (119) was shown to lack specificity regarding any particular person. If (103c) is false, then (103a) is false; but if (119) is false then not only (103a) but any sentence of that form--i.e. any result of replacing <u>John</u> by another singular term--will also be false. Therefore, by exactly the same reasoning as was applied to factives, it follows that (103b), the denial of (103a), factively implies the conjunction of (119) with (103d).

We note in passing that our solution provides for an interpretation that captures the germ of truth in Karttunen's remark that (103b) "implies" (103d) and that this mysterious implication (supposedly neither an entailment or a presupposition) is supported by (103b)'s allegedly presupposing (106). Since we have seen that (106) ought to be replaced by (119), we could reformulate Karttunen's claim by saying that (103b) implies (103d) in virtue of its connection with (119). In the terminology we have adopted, this claim can be interpreted as simply encapsulating the process of reasoning which was used earlier to explain why negated factives are heard as negations of specific necessary conditions. The speaker's evidence for (103b) cannot, on pain of gross triviality, bear on the falsity of the general condition (119); and since possession of the requisite sort of neutral, non-specific evidence is highly improbable, we conclude that the speaker's evidence bears on the falsity of (103c), hence on the truth of (103d). Roughly: since (119) has a conversationally privileged position, the negation slides past it and is heard as attaching to (103c), yielding an assertion of (103d). It is in this sense that (103b) implies (103d) "in virtue of" its connection with (119).

So far we have shown that all of the felt implications of (103a) and (103b) can be straightforwardly explained in terms of entailments and factive implications, and hence that there is no residual datum requiring the acceptance of nonstandard semantic apparatus. Since this is all that we were strictly concerned to show, we could stop here. But it would obviously be desirable to have at least a rough account of why people's intuitions regarding implicative verbs like <u>manage</u>, exemplified in Karttunen's claims, are in such a sorry state. Consider the sentence

> (122) John didn't <u>manage</u> to solve the problem, but he solved it.

Given our results so far, (122) is not a contradiction. (It is at best only what might be called a "factive contradiction", i.e. a sentence which factively implies something (here, that John didn't solve the problem) which is incompatible with what is asserted (here, that John did solve the problem). Such sentences, resulting from the explicit cancellation of a factive implication, are entirely acceptable when put into context.) Similar observations hold of Karttunen's other "implicative" verbs as well; contrary to what is implied by his text, e.g. (123) and (124), however contrived they may be, are

surely not contradictions either.

> (123) John didn't <u>remember</u> to lock his door; having
> forgotten to, he locked it inadvertently by
> getting his eyebrow caught on the bolt.
>
> (124) John didn't <u>see fit</u> to remain silent; Marsha
> sat on him and stuffed a large gag into his
> mouth.

Just possibly Karttunen wants to insist that he simply cannot
accept (122), (123), or (124) under any circumstances, no matter how
contexts are filled in. Perhaps in Karttunen's speech, (103b) does
necessitate (103d), and (122) etc. are simply contradictions, despite
appearances. But this can be so only if (103b) is something other
than the actual denial of (103a) for Karttunen or a speaker of his
persuasion. Without becoming entangled in controversial syntactic
hypotheses, we can give at least a partial account of this phenomenon
in terms of our paraphrase (121).

'If (103a) is paraphrased by (121), then the natural paraphrase
for (103b) is

> (125) It is not the case that John solved the problem,
> which wasn't an entirely easy thing to do.

What is suggestive about (125) has already been noted in our discussion
of nonrestrictive relative clauses, viz. in Dialect A of English, (125)
is unambiguously an internal negation deriving from

> (126) ~ (John solved the problem) & (Solving the problem
> wasn't easy).

whereas in Dialect B (125) is syntactically ambiguous as between (126)
and (127).

> (127) ~ (John solved the problem & solving the problem
> wasn't easy).

If (103a) and (121) share equivalent underlying structures, then
presumably so do (103b) and (125). But in Dialect A (125) derives
from a structure which entails both (103d) and (119). Consequently,
in Dialect A (103b) would genuinely entail (103d) and (119) rather
than merely factively implying them, and (122) would be a logical
contradiction. In Dialect B, however, (103b) would share the ambiguity
of (125), having one reading equivalent to (126) and a distinct reading
equivalent to (127). In Dialect B, the ambiguity tends to be resolved
in favor of the logically stronger reading on familiar grounds of
conversational implicature; and (122) is felt to be "almost a contra-
diction" on the ground that (103b), though ambiguous, is of a form
whose instances are much more commonly construed as internal negations.

Thus, at least some of the confusion about <u>manage</u> can be laid to
the fact that Dialects A and B differ in their syntactic treatment of

the intuitive paraphrases of (103a) and (103b). Karttunen, we might say, speaks on behalf of Dialect A, whereas we have spoken on behalf of Dialect B. But it is important to point out that this possible difference between dialects does not jeopardize our earlier results, which were obtained by treating (103b) as the denial (i.e. the external rather than internal negation) of (103a). For if (103b) is unambiguously an internal negation, whose underlying structure is equivalent to (126), then there are no puzzling data to be accounted for at all: (103b) would simply entail (103d) and (119). There could be no question of semantic presupposition in this instance, since (103b), although it necessitates (indeed, entails) the sentence (103d), is not the denial of (103a). (103b)'s behavior would be totally irrelevant. It is only by allowing (103b) a reading equivalent to (127) that one can generate any "felt problem" for whose solution an appeal to semantic presuppositions and quasi-logical "implications" might even conceivably be relevant, viz. the "felt problem" of how (103b) could in some sense imply both (103d) and (119) without actually entailing them. And, as we have seen, this problem is solved completely by recognition of the relevant factive implications. Our final conclusion, then, can be accounted for in purely pragmatic terms and without the invocation of an unprecedented and ill-behaved implicative relation.

3.5. -Counterfactives

Factive verbs have negative twins, viz. "counterfactive" verbs like pretend, imagine, make believe, etc. Not surprisingly, it has been contended that sentences of the form

(128)   X is pretending that S.

semantically presuppose the falsity of the sentential complement S (Lakoff 1972, Langendoen and Savin 1971). It has also been suggested (by Lakoff) that stress can effect a reversal of presupposition, i.e. that (129) normally necessitates the falsity of S, but that (130) necessitates the truth of S.

(129)   X is not pretending that S.
(130)   X is not pretending that S.

All of these claims seem to us to be clearly false. Consider the following expanded instances of (128)-(130):

(131)   a. Susie is pretending that she is an orphan--
             little does she know that her vacationing
             parents were killed last week!
        b. Mary is not pretending that she loves John!--
             Whatever gave you that idea? She's just
             being coquettish, but everybody knows she
             really loves him.
        c. Mary is not pretending that there is a spider
             on her hand, she's hallucinating, poor thing.

(131a-c) show that the alleged necessitations are all cancellable in context, hence that they are not instances of necessitation at all.

The correct account of the "implication" carried by sentences of the form (128) is not semantic but pragmatic. In this case it seems to depend heavily on the particular sentences we substitute for S in (128). Some instances of (128), such as the one in (131a), produce easily cancellable implications; others are harder to handle. Let us take a particularly strong case, adduced by Lakoff (1972):

> (132) Irv is pretending that he is in pain.

It is difficult not to hear (132) as necessitating

> (133) Irv is not in pain.

And accordingly the sentence

> (134) Irv is pretending that he is in pain, and he is
>   in pain.

sounds very odd, perhaps even "contradictory" in some sense.

On reflection, it seems that the reason speakers boggle at sentences like (134) lies in the fact that virtually all of us hold certain commonsensical theories about human psychology which are logically at odds with (134). One aspect of our shared theory is that all forms of fantasizing that something is the case psychologically preclude simultaneous belief, on the part of the subject, that the fantasized state-of-affairs really obtains. (Some theorists might claim that this principle is a "conceptual truth", or even that it expresses an entailment of (128), not merely something which follows from the conjunction of (128) with a contingent theory; it makes no essential difference to what follows whether we say that (128) theoretically implies

> (135) X does not believe that S.

or whether instead we say that (128) analytically implies (135). At any rate, it appears that one of these two alternatives must be the correct one.) A second, and more clearly contingent, principle of our commonsense psychology is that pains are ineluctably conscious phenomena, that pain-states are "self-intimating". These two principles, of belief-exclusion and self-intimation, serve to rule out acceptance of (134) in the following way. (134) entails (132), and (132) theoretically implies (136) by the principle of belief-exclusion.

> (136) Irv doesn't believe he's in pain.

But (134) also entails (137), and (137), by the principle of self-intimation, theoretically implies (138).

> (137) Irv is in pain.
> (138) Irv believes that he is in pain.

(136) and (138), however, are mutually contradictory. Thus (134) is rejected as a theoretical contradiction, i.e. something which cannot be true if our homely psychological theories are correct. Notice that (132) theoretically implies (133) in virtue of the same principles. For suppose that (132) were true and (133) were false, i.e. that (132) and (137) were both true. We just saw, however, that (132) theoretically implies (136), and (137) theoretically implies (138). But (136) and (138) are jointly absurd: therefore (133) must-- given the truth of our theory--be true when (132) is, i.e. (132) theoretically implies (133).

What about the denial of (132)? The sentence

    (139) Irv is not pretending that he's in pain.

theoretically implies neither (133) nor (137). (If it implied either, we should have the absurd result, by contraposition, that (133) theoretically implies (132), or that (137) theoretically implies (132)!) This observation is not surprising, since although (132) strongly suggests (133), (139)--in our speech at least--carries no strong presumption in favor of either (133) or (137). Only when (139) is given special stress, as in

    (140) Irv is not _pretending_ that he is in pain.

is there a strongly felt bias in favor of (137). But the source of the bias is easy to locate. The heavy stress in (140) conveys the strong impression that the utterer thinks there is something in the very nature of pretending which makes (132) false, i.e. some powerful psychological reason why pretense is ruled out. And in terms of our commonsense psychology, the obvious reason is that Irv is in pain, which would theoertically eliminate the possibility of pretense (or perhaps the reason might be that Irv believes himself to be in pain, which is still enough to rule out pretense and which would ordinarily be enough to make us say that Irv is in pain, since it is theoretically unlikely that he would have this belief without actually being in pain). Other alternatives, such as that Irv is rehearsing for a play in which he has the role of a person suffering from great pain, tend to be discounted because we have no very strong theoretical reasons for supposing that these alternatives are really "intrinsically" incompatible with pretense (e.g. Irv might be a "method" actor of some sort).

The cancellability of the felt implications of counterfactives like _pretend_ proves that these implications cannot be genuine semantic presuppositions. And the ease with which they can be accounted for in terms of background beliefs suggests that the presupposition enthusiast has fallen prey to an occupational hazard of armchair semanticists, viz. conflating a matter of utterance-meaning with the utterer's accompanying beliefs.

3.6. Orders and Questions

All the alleged cases of semantic presupposition that we have considered so far have concerned declarative sentences, since semantic

presupposition is typically defined in terms of necessary conditions
for a sentence's having a truth-value, and only declaratives admit
of truth-valuation. Yet some theorists have felt that interrogatives
and imperatives stand to certain declaratives in relations which
are at least importantly analogous to semantic presupposition as
ordinarily understood. Consider, for example, the following pairs
of sentences:

(141) a. Why is the Moon made of green cheese?
       b. The Moon is made of green cheese.
(142) a. Shut the door!
       b. The door is not already shut.

It has been claimed that sentences like (141a) and (142a) in some
sense "presuppose" sentences like (141b) and (142b) respectively
(Kiparsky and Kiparsky 1970, Fillmore 1971).
        If we are to assess these claims about (141) and (142), we must
have at least a rough definition of the ingredient notion of "pre-
supposition". The following seems to be approximately what the
presupposition theorist has in mind. Interrogatives and imperatives,
though not truth-valued, have semantic characteristics which are
analogous to the possession of truth-values. Thus interrogatives
like (141a)--i.e. WH-questions--typically admit of correct or incorrect
answers; and imperatives typically admit of being obeyed or disobeyed.
So we might speak of interrogatives as being "answer-valued" and
imperatives as being "obedience-valued". Such a procedure would make
possible the following definition:

(143) An interrogative/imperative S_1 semantically
       presupposes a declarative S_2 iff S_1 is answer-/
       obedience-valued only if S_2 is true.

Consequently, the falsity of (141b) entails that (141a) cannot be
answered either correctly or incorrectly; and any situation in which
(142b) is false is a situation in which (142a) cannot be either obeyed
or disobeyed. So construed, the presupposition claim regarding (141)
and (142) sounds fairly plausible; let us now see whether it is true.
        Genuinely semantic presuppositions, we have repeatedly stressed,
are noncancellable. So our first move will be to show that the
presuppositions allegedly involved in (141) and (142) can be cancelled.
Having thus established that the relations are not semantic in
character, we shall offer an account of them in purely pragmatic terms.
        Consider first (141a). Logically speaking, the crucial feature
of (141a) is that, like all "Why"-questions, it is a complex question
on a par with the notorious

(144) Have you stopped beating your wife?

There is a similar temptation to say that (144) "cannot be answered"
when a certain condition fails, viz. when the addressee fails ever
to have beaten his wife. But this is simply wrong. A complex question
like (144) can straightforwardly be answered in the negative by

either (145a) or (145b):

> (145) a. No, I haven't stopped--I'm still doing it.
>   b. No, I haven't stopped--for I never started!

(145a) is the answer appropriate for a wife-beater, and (145b) for one who does not beat his wife. The only problem with a simple "No" answer on the part of a non-wife-beater is that, though absolutely correct, it leaves open the question of the speaker's reason for giving it. Now (141a) might receive either of two answers, viz. (146a) or (146b):

> (146) a. The Moon is made of green cheese because...
>   b. $\begin{cases} \text{It isn't.} \\ \text{The Moon is not made of green cheese.} \end{cases}$

Since (141b) is false, no answer like (146a) will count as a "correct" answer. For (146a) offers an explanation, but an explanation with a false conclusion must be either logically defective or contain a false premise. Yet it would be rash to conclude from this fact that (141a) does not admit of any correct answer. For (146b), we submit, is the correct answer to (141a). Of course, (146b) does not have the superficial form of an explanation, exemplified by (146a); but this is to be expected. Just as one can reply to an accusation by repudiating it, so too one can answer a complex question like (141a) by simply repudiating the question itself. Arguments to the contrary seem to rest on an equivocal use of answer. For it seems we have both a superficial and a semantic notion of "answer": we can think of an answer to a question as being a declarative sentence standing to the question in the appropriate surface-grammatical relation (as (146a) stands to (141a)), or we can think of an answer as being a sentence which (regardless of its superficial shape) is semantically appropriate to the question, in that what it asserts specifies one member of the relevant exclusive and exhaustive set of possible states of affairs, even though the state of affairs so specified is not itself queried by the speaker as part of his or her speech act. (That possible state of affairs in which the moon is made of green cheese because S_1, that in which the moon is made of green cheese because S_2, ..., and that in which the moon is not made of green cheese are all the alternative possibilities that there are. We assume here that the normal function of a question is to solicit a preference for one member of some partition on logical space.) To say just this is only to offer a slogan, of course; extended discussion of semantical issues would be required in order to make this notion of semantic appropriateness precise and to give it convincing motivation, as well as careful examination of the illocutionary structure underlying Why-questions and its relation to their semantic content. But, once the two notions of "answer" are distinguished, it is fairly plain that something like the latter notion is the only relevant one. (146b) is an answer to (141a) because it accomplishes the desired specification of one of the relevant states of affairs; it is a correct answer because it is true. And it should be noted that any ordinary speaker would accept (146b) as a perfectly appropriate and felicitous answer to (141a).

(It may be true that (141a) itself is infelicitous in some way when (141b) is false; certainly a speaker who uttered (141a) knowing that (141b) is false would be guilty of raising a pointless question. But these facts (we shall argue more fully in Section 4 below) are irrelevant to (141a)'s semantic status in such a situation.) Since the falsity of (141b) does not preclude the possibility of answering (141a), (141a) does not semantically presuppose (141b) in the sense demanded by (143).

Turning to (142a), we immediately notice that it admits of two nonequivalent paraphrases, viz. (147a) and (147b):

(147) a. Cause the door to shut!
    b. Cause the door to become shut!

(147a) has nothing to do with whether or not the door is already shut; if the door happens to be shut already, one could obey (147a) by opening the door and then shutting it. Suppose, for example, that John is the sound-effects man at a radio station. Among his equipment is a portable door for making slamming noises. He keeps this door shut at all times when it is not in use, for, when open, it tends to get in his way and might slam shut at the wrong moment owing to a draft in the studio. At the appropriate point in the script, the director holds up a card on which (142a) is written; John obeys this direction by quietly opening his portable door and then noisily slamming it shut. Clearly, it is the paraphrase (147b) which seems to have some essential connection with the truth of (142b). So let us confine our attention to (147b).

Why cannot (147b) be obeyed--or, for that matter, "disobeyed"-- if the door is already shut? The reason seems clear enough: as a matter of logic, nothing can become the case unless, for some immediately prior stretch of time, it was not the case. But if the door is already shut, then it is too late to rectify matters.[15] So (142a) is like

(148) Stop World War II!

in coming too late to be obeyed. But are matters really so transparent? We think not. To see why, let us indulge in a bit of science fiction. Suppose that John possesses a time-machine. At time t, John is given the order (142a). John already knew that the door was closed, so he time-travels back to a moment prior to t, opens the door, and time-travels forward to the moment immediately following t, whereupon he proceeds to shut the door. What John was asked to do at t was to cause the door to become shut (if not right away, then at least in the near future). But, as a result of his time-trip, the door has been open for a stretch of time up to and including t, so it is no longer impossible that the door should "become" shut.

One's immediate reaction to such a story is to say that John "caused" the process of becoming only because he could alter the past but that altering the past is impossible. But what sense of _impossible_ is involved here? No doubt the laws of nature, as currently understood, rule out time-travel. But physical impossibility does not

entail logical impossibility. To our knowledge, time-travel has never been shown to be a (logically) self-contradictory notion. Yet if it is granted that it is at least logically possible to alter the past, thus creating a new future, then it seems one must also grant that it is at least logically possible that (142a)--paraphrased by (147b)-- could be obeyed even though (142b) is false at the time that (142a) is uttered. And this bare possibility is enough to show that (142a) does not semantically presuppose (142b). On the contrary, it would be more accurate to say that the falsity of (142b) at the time (142a) is uttered makes it physically impossible to obey (142a)--a fact which, whatever its intrinsic interest, has no bearing on semantics.

The point of asking a "Why"-question is to get an explanation. If one antecedently believes that there is no fact to be explained, then one can rationally expect only two kinds of responses: an unsound argument from a deluded hearer, or a flat repudiation of the question from an enlightened hearer. Under these circumstances, asking (141a) when one takes (141b) to be false would be an exercise in futility. Similarly, the point of ordering or requesting someone to do something is (normally) to get that person to do the thing in question. If one antecedently believes that the action is in any sense impossible for the agent, then--unless one has some rather bizarre purpose in mind-- there is no reason to waste effort in issuing an order or request. Using a notion defined much earlier, we could summarize all of this by saying that (141a) and (142a) act-imply (141b) and (142b) respectively, i.e. the latter are "felicity conditions on" the speech acts normally associated with the former.

There is an unfortunate tendency on the part of some theorists to assume, tacitly or explicitly, that sentences which express felicity conditions on a given speech act must/have some intrinsic semantic connection with the sentences typically used to perform that act. And writers on speech acts (e.g. Searle 1969) have reinforced this tendency by using the word presupposition as a catch-all designation both for certain relations between sentences and for various pragmatic relations between a speaker, a sentence, and an attempted speech act. The underlying confusion is one between sentence-meaning and speaker-meaning. It is probably true that a speaker who utters a sentence S in the attempted performance of a speech act A "gives us to understand" that certain felicity conditions for A are satisfied. But it does not follow that the sentences which formulate those conditions thereby in any sense convey part of the meaning of the sentence S. Thus, for example, the sentence

(149) John will be killed.

might be used to make a promise, to give assurance, to make a prediction, to give a warning, and so on. Each of the following sentences expresses a felicity condition for one of these uses of (149):

(150) a. The speaker intends to kill John or to have
          him killed. (Promise)
      b. The speaker thinks that the hearer doesn't
          want to see John killed. (Warning)

    c. The speaker has good reason to believe that
        John will be killed. (Prediction) .

Each of (150a-c) is something which we might infer from an utterance
of (149) in a certain context, i.e. each is something we might infer
from the fact that that man (about whom we believe such-and-such) uttered
(149) in those surroundings (about which we have certain other beliefs).
But none of (150a-c) is something we would infer from the sentence (149)
in isolation. This becomes evident when we consider that felicity condi-
tions for different speech acts may be incompatible. For in addition
to (150a-c) we have

    (151) The speaker thinks the hearer does want to see
        John killed. (Promise)

If any of (150) or (151) is a consequence of (149) taken in isolation,
then there is no reason why they should not all be consequences of
(149)--for they are surely all on a par as falicity conditions for various
uses of (149). But then we should have the absurd result that both
(150b) and (151) are consequences of (149). (Surely there is nothing in
the literal meaning of the sentence (149) which in any way supports the
conclusion that anyone who uttered (149) would have contradictory beliefs.)
In practice, of course, no one would draw such a silly conclusion, pre-
cisely because one would think of (149) as uttered in a context where only
one speech act was at issue. But this is just to concede our print: (149)
act-implies one or another of (150a-c) or (151) relative to a given
assumption about what the actual or hypothetical utterer is trying to
accomplish; and act-implication is a concept of pragmatics, not of semantics.

3.7. Existential Presuppositions

    Even if it is admitted that all the foregoing sorts of presup-
positions have been discredited, it might still be thought that there is
one kind of presupposition which is beyond reproach, viz. the "existential"
presupposition allegedly carried by sentences containing singular terms
(names, demonstrative pronouns, and definite descriptions). Surely it
will be said, any declarative sentence containing an "empty" (i.e. non-
denoting) singular term in an ostensibly referential position is truth-
valueless, cannot be used to make a statement, etc. Here we seem to have
a genuine semantic presupposition: the existence of referents for the
appropriate terms appears to be a necessary condition for a declarative
sentence to have a truth value. (And erference failures in nondeclarative
sentences will have corresponding consequences anent their semantic
analogues of truth-value.)
    Let us begin our examination of this claim by turning to the most
venerable (and hackneyed) example in the literature:

    (152) The present King of France is bald.

As is well known, (152) necessitates

    (153) There is a present King of France.

and it has widely been held that (152) presupposes (rather than entails) (153), on the grounds that

> (154) The present King of France is not bald.

also seems to necessitate (153). But the situation here is similar to those involving nonrestrictive relative clauses and cleft constructions (cases 3.1 and 3.2 above), in that we need to distinguish external from internal negation in order to determine whether (154) both is the denial of (152) and does indeed necessitate (153), both of which conditions must be met if the "presupposition" theorist is to make good his claim.

If (154) is the denial of (152), then (154) is equivalent to

> (155) It's not the case that the present King of France is bald.

But (155) obviously fails to necessitate (153), since (156) is consistent:

> (156) It's not the case that the present King of France is bald, because there isn't any present King of France.

And therefore (154) does not necessitate (153) either. (Very likely (154) is not equivalent to (155), but rather to the internal negation of (152); but in that case it does not express (152)'s denial. As in cases 3.1 and 3.2, we need take no stand on which logical form or forms (154) does in fact express.) (152) therefore does not semantically presuppose (153); and since (as is agreed on all sides) it does necessitate (153), it presumably entails it. Of course, this conclusion commits us to saying that (152) is false when (153) is false, as Russell originally contended.

We shall deal in Section 4 below with a well-known objection raised by Strawson (1950) against Russell's claim; we shall argue that the objection is revealingly defective. In the meantime, we ought to take account of a little-remarked fact, recently pointed out by Atlas (1975): that, to most speakers, even the explicitly external negation (155) suggests (153).

The correct explanation, we believe, is of a relatively familiar sort. As in some of our previous cases of negation, (155) can be verified by (at least) two distinct and exhaustive sorts of situation: there being a present King of France who is non-bald, and there simply being no (unique) present King of France. The utterer of (155) might have either of these possible situations as his or her grounds. (It is of course possible for the speaker to have nonspecific evidence for just the ultra-cautious

> (157) Either there is no present King of France or there is one who is non-bald.

But, as in the case of negated knowledge-sentences, it is unusual to expect such a situation, i.e. one in which our set of well-supported

background theories entails (157) or the equivalent.

> (158) If there is no present King of France who is
> non-bald, there is no present King of France.

but does not entail the truth of either of (157)'s disjuncts. So the possibility of the speaker's having such nonspecific evidence is statistically less likely than either of the other two options.) Thus, probably either the speaker accepts (159) or the speaker accepts (160).

> (159) There is a present King of France who is non-bald.
> (160) There is no present King of France.

A familiar asymmetry distinguishes these two alternatives. In either case, the speaker's utterance of (155) must be regarded as an understatement, since on either hypothesis the speaker would be in a position to be more specific about his or her grounds. But the degree of understatement differs widely; for (159) and (160) are respectively the denials of

> (161) If anything is a present King of France, then
> that thing is bald.

and (153), which can be seen to be something very like respectively specific and general conditions for the truth of (152).

(161) and (153) are not literally specific and general conditions, as we have defined the latter terms, since neither mentions any particular individual. Being general statements (containing only logical operators and predicates), they are, if they can be said to be "about" anything, about classes or properties. Let us paraphrase (159) and (160)--their denials--very crudely in terms of properties:

> (162) The property of being a present King of France
> and the property of being non-bald share an
> instance.
> (163) The property of being a present King of France
> is unexemplified.

And (155):

> (164) It's not the case that the property of being a
> present King of France and the property of being
> bald share an instance.

Now Grice's Maxim of Relevance alerts us that an utterer of (155)/ (164) wants to tell us something about the relation between the property of being a present King of France and the property of being bald-- otherwise mention of both would introduce irrelevance. Suppose the utterer has (159)/(162) as his or her evidence for (164). The conjunction of (162) with the background assumption that the property of being a present King of France has at most one instance entails (164). On this hypothesis the speaker is guilty of slight understatement,

being in a position to utter the stronger (159)/(162) itself. But
suppose that the speaker's evidence is rather (160)/(163): As before,
the speaker is guilty of understatement. But this understatement is
far more dramatic: for if (160)/(163) is true, then it's not the
case that the property of being a present King of France shares an
instance with any other property, let alone that of being bald. Thus,
on the hypothesis that (160)/(163) is the speaker's evidence for
(155)/(164), the speaker's allusion to the property of being bald in
particular becomes inexplicable, and violates the Maxim of Relevance.
As usual, we as hearers take the path of least resistance and infer
that the speaker's evidence is (159)/(162) rather than (160)/(163).
And (159) entails the existence of a King--hence the suggestion carried
by (155).

     If there is any weak spot in the foregoing account, it is in
our parenthetical and rather quick repudiation of the possibility that
the utterer of (155) may have nonspecific evidence, i.e. that he or
she may remain agnostic on the question of the existence of a present
King. As we have said, we believe that this circumstance is (as things
stand) unlikely, for reasons parallel to those we gave in favor of our
similar claim in the case of negated knowledge-sentences. But the
present case does not seem to us quite so obvious; it is perhaps less
unlikely that someone's set of well-established background theories
should support (157) in the relevantly agnostic fashion. At any rate,
there are further considerations we can bring to bear against the
nonspecificity hypothesis in this case.

     Notice first that (152) contains what we have called an emphatic
construction. For on our account, (153) is trivially entailed by, and
(we would further want to say) is at least loosely "part of the meaning
of" (152), and yet the entailment bears less than the standard amount
of emphasis--hence our reluctance (see Section 4.1.1 below) to judge
that (152) asserts (153). Thus, the (along with possessive pronouns
and whatever other definite descriptors there may be) performs a de-
emphasizing function, among others. And if so, then (by Principle H)
it performs the same de-emphasizing function in (155) as it does in
(152), viz. that of diverting focus from the existential implication
of the clause in which it occurs in semantic structure. Relatively
speaking, then, the scope of (155)'s negator stresses the predicate,
directing the hearer's attention to the property of baldness. Now we
can raise the same sort of explanatory question that we did in case
3.2 (that of negated cleft sentences): If the utterer of (155) is wholly
noncommittal as to his or her evidence, i.e. if he or she has neither
(159) nor (160) as specific grounds, then what accounts for the
(relative) emphasis, on the predicate bald, which rather conspicuously
characterizes (159) but not (160)? In the absence of any offsetting
contextual factors, we ought to and do conclude as hearers that the
speaker does have (159) in mind; and (159) entails (153).

     At this point an exceptionally interesting sidelight appears.
Notice first that the force of an emphatic construction comes in
degrees; some such constructions emphasize or de-emphasize more than
others. For example, a descriptor, while it de-emphasizes its own
existential implication, de-emphasizes its own uniqueness implication

even more. (We are somewhat disinclined to say of an utterer of (152) that he or she "asserted" that there is a present King of France; but we are far more strongly disinclined to say of the same person that he or she asserted that there aren't two or more present Kings. And, while we are somewhat loath to say that (160) "contradicts" (152), we are much more loath to say that

(165) France has three Kings at present.

does.) To take a second example, a descriptor does not de-emphasize its existential implication as strongly as

(166) It was John who robbed the diaper service.

emphasizes the role of its agent, and the latter sentence in turn does not emphasize so strongly as does

(167) It was John—John, do you hear, dammit!, not Sheila—who robbed the diaper service.

Notice, second, that the likelihood or unlikelihood of a speaker's having nonspecific evidence for uttering the denial of a sentence whose truth depends on a general and a specific condition also comes in degrees. We have seen that nonspecific evidence is exceptionally unlikely in the case of negated knowledge-sentences. It seems somewhat less unlikely in the present case of negated subject-predicate sentences. And it is not at all rare in the case of cleft sentences. (166) has as general and specific conditions (168) and (169) respectively.

(168) The diaper service was robbed.
(169) If the diaper service was robbed, then John robbed it.

And someone might quite easily have evidence for the conditional

(170) If the diaper service was robbed, then John did not rob it.

without having specific evidence against either the general or the specific condition. (The presumption of a negated cleft sentence is not a case of factive implication.)

What is remarkable is that these two magnitudes, at least in the cases we have chosen to discuss, vary inversely. In our most obvious case of factive implication, that of negated knowledge--sentences, no emphatic construction is in play. And in the cases in which emphatic constructions are most obviously responsible for the pragmatic suggestions in question, (3.1. and 3.2.), even though "general"/"specific" structure is present in or can be imposed on them, the possibility of the speaker's having nonspecific evidence for the denial of the relevant conjunction is not strikingly unlikely or remote. Finally, our present case of slightly marginal or dubious unlikelihood is also a case in which an emphatic construction figures, but in which that construction is not so strongly emphatic as those

which occur in the cases which simply fail to support a claim of factive implication.

We cannot imagine why this inverse dependence obtains, if it does obtain in general. There is certainly no obvious connection between (on the one hand) the superficial emphatic properties of certain sentences, and (on the other) the probability or improbability of certain sorts of factual situations. The only hypothesis that occurs to us is one which lends pleasing support to our suggestions so far: that when speakers wish to implicate something by means of a negated sentence which can be construed in terms of "general" and "specific" conditions but which (for reasons of likelihood and unlikelihood) does not support a factive implication, they implicitly recognize the latter weakness and opt for the more superficial and hence more easily controllable device of emphasis, as a surrogate for the more natural variety of pragmatic suggestion.

In offering our total treatment of (152), we have exploited the fact that the present King of France, though it lacks a denotatum, nonetheless contributes meaning to the sentence(s) in which it occurs. On our view of singular terms, this means that the present King of France as it occurs in (152) is a "singular" term only superficially-- semantically, it "disappears on anlaysis" in precisely Russell's way. Thus, it is being used attributively (Donnellan 1966), or non-rigidly (Kripke 1972). But what of singular terms that are not semantically structured in this way? Pace Russell, who held that all singular terms of natural languages are or abbreviate superficial descriptions used attributively, most of us believe that some singular terms, primarily proper names, are semantically fused--that they have no hidden semantic structure, but function solely in such a way as to pick out particular individuals as their respective referents. Virtually all proper names have this "purely referential" use; and, if Donnellan (1966) is correct on some further points, sometimes definite descriptions do too.

What, then, about a nondenoting name or a description which is not being used attributively, which does not vanish in favor of its hidden structure in Russell's way? That is, suppose a singular term (say, the superficial subject of an atomic sentence) has neither a semantic connotation nor a denotation? What we believe is that Russell was exactly right in claiming that "the meaning of a genuine [i.e. purely referential] name is its bearer", or, less metaphysically, that a genuine name has meaning or significance only insofar as it serves to denote what it denotes. Consequently, a connotationless and denotationless "name" is, literally, a meaningless particle--not a word of our language.[16] And a string which contains it is therefore simply ungrammatical, ill-formed. Thus, there is at least this case in which reference-failure gives rise to truth-valuelessness. For a string such as

(171) Kanrog rides poorly.

where Kanrog neither carries attributive connotation nor denotes anything, is not a sentence, but merely a surface predicate preceded by a meaningless mark or noise; thus, it is obviously neither true nor

false. This, however, is cold comfort for the champion of truth-valueless sentences. (Note that the alleged presupposition in this case,

(172) Kanrog exists.

is ill-formed as well, for the same reason. It would be quixotic indeed to insist of one string of gibberish that it "semantically presupposed" another string of gibberish.)

Our thesis concerning nonattributive but nondenoting superficial names may strike some readers as being obviously false. Consider

(173) John loves Mary.

There is an inclination to say that (173) just is grammatical, whether or not the names John and Mary are imagined to refer to anything. But we intuitively regard (173) as grammatical only because we know that these expressions are commonly used as names of persons. Compare

(174) Flork loves glork.

Is (174) grammatical or not? If (174) is considered in isolation from any particular context of utterance, this question cannot be answered. If we are told that flork and glork are names, then our puzzlement vanishes: (174) gets treated just like (173). But to be a nonattributive name, an expression must be used by someone as a name of something. Names are very special lexical items. Except in a loose way, they do not "belong" to any particular language but are the transitory contributions of particular groups of speakers to the business of speech. The grammaticality of (174) is relative to an assumption about the semantic status of flork and glork, i.e. an assumption to the effect that the real or hypothetical utterer of (174) employs these expressions as names of actual things or people.

Strictly speaking, a sentence-type is true, or false, only relative to an assignment of denotata to its demonstratives, indexicals and genuine names. A particular token of (174) will be grammatical on its occasion of utterance only if denotata are in fact assigned on that occasion to the ingredient tokens of flork and glork, i.e. if those tokens are used by the speaker on that occasion to name something; and our token of (174) will have a definite truth-value determined by the amatory relations of the objects so named. If the utterer is—improbably—failing to name anything on that occasion, then his utterance (174) lacks a truth-value in virtue of being ill-formed.

Further development of this point, especially its extension to cover demonstrative pronouns and purely referential definite descriptions, would require extensive discussion of the nature of reference and the syntactic and semantic repercussions of the distinction between "referential" and "attributive" occurrences of singular terms—all of which is beyond the scope of this essay.[17] But we think we have succeeded in motivating the claim that not even the admitted truth-valuelessness of the rare construction just discussed requires the

semanticist to forsake the framework of classical two-valued logic
in favor of an encumbrance of novel semantic apparatus.

3.8. Counterfactual Conditionals.

Counterfactual conditionals are frequently cited as bearers of
semantic presupposition, although there is some disagreement about
the content of these presuppositions. Sentences of the form

(175) If it were the case that S_1, then it would be
the case that S_2.

and their cognates are sometimes said to presuppose the falsity of
both S_1 and S_2 (Lakoff 1972) and sometimes said merely to presuppose
the falsity of S_1 (Karttunen 1971a).. We agree that, at least with
respect to their antecedents, counterfactual conditionals do carry
certain implications, but we deny that these implications amount to
semantic presuppositions.

Consider first the consequents of such conditionals. Genuine
semantic presuppositions are noncancellable, but the insertion into
the consequent of the adverb <u>still</u> has precisely the effect of cancel-
ling any apparent presupposition of its falsity. Thus the true
sentence

(176) If I were a whale, I would be a good swimmer.

suggests that the speaker is not a good swimmer but loses this suggestive
force when expanded into the equally true sentence

(177) If I were a whale, I would still be a good swimmer.

Indeed, (177) seems to entail that the speaker is a good swimmer. So
counterfactual conditionals do not semantically presuppose the falsity
of their consequents, though they often defeasibly suggest the latter.

Moreover, the negations of counterfactual conditionals often fail
to suggest--much less to necessitate--the falsity of the embedded
consequent. Consider the following sentences:

(178) a. If I were unconscious, I could move my arms.
b. It is false that if I were unconscious, I
could move my arms.

By itself, (178a) does seem to suggest that the speaker cannot move
his arms; but (178b) carries no such implication. In uttering (178b),
a speaker is concerned to deny a certain connection between two possible
states-of-affairs, viz. his being unconscious and his being able to
move his arms; but he does not seem to be saying, overtly or by
implication, that he cannot in fact move his arms. Genuine semantic
presuppositions of a sentence must attach both to that sentence and its
denial. So the failure of (178b) to imply what is allegedly implied
by (178a) shows that (178a) itself does not semantically presuppose the
falsity of its consequent.

However, even unnegated counterfactual conditionals do not uniformly
suggest or imply the falsity of their consequents. Whether or not the
suggestion is present appears to be largely a matter of extralinguistic
stage-setting rather than a feature of the conditional itself. To
take another example, the implication of falsity is manifestly absent
when we use counterfactual conditionals to speculate about possible
explanations of some admitted fact. We all know that Ford became
President upon the resignation of Nixon. Suppose someone asks for
some other possible ways in which Ford might have become President.
Then

> (179) If Nixon had been assassinated, Ford would have
>   become President.

is a perfectly true and acceptable answer which, in context, carries
no implication that Ford did not become President.

Indeed, there is an important linguistic job done by counterfactual
conditionals with (putatively) true consequents, viz. that of formula-
ting tentative or conjectural explanations of apparent facts. As will
be argued below, counterfactual conditionals minimally carry a "pre-
sumption" of lack of firm commitment to the truth of the antecedent,
which makes them ideal for offering speculations and guesses about
the causes of phenomena. For if one is convinced that, say, the
sinking of the ship was caused by a torpedo, one would say that it
sank because it was torpedoed; but if, one is merely casting about for
a sufficient reason for the sinking, one might say that if it had been
torpedoed, it would have sunk. In light of these facts, the claim
that counterfactual conditionals "presuppose" the falsity of their
consequents in any sense seems too insubstantial to warrant further
consideration, and will subsequently be ignored.

In contrast, counterfactual conditionals with recognizably or
putatively true antecedents virtually always sound radically odd--so
odd that many have been willing to say that the whole conditional is
truth-valueless in virtue of violating an alleged semantic presup-
position of the falsity of the antecedent. Nevertheless, there do seem
to be circumstances in which this "presupposition" can be cancelled.
Consider the following sentence:

> (180) If there were a God, it would be foolish to disobey
>   Him.

If anyone were to utter (180), he would certainly suggest to his
audience that he is an atheist. But an agnostic, who is neutral about
Theism, might wish to utter (180), without compromising his neutrality.
And it looks as if he could do so by inserting an appropriate
disclaimer, as in (181):

> (181) If there were a God--and, mind you, I don't think
>   we're justified in saying that there is or isn't--
>   it would be foolish to disobey Him.

Some speakers of English might prefer the indicative to the subjunctive

here; but in spite of any stylistic oddity, (181) appears to be a.
coherent (noncontradictory) and noncommittal remark. If so, then
(180) does not semantically presuppose the falsity of its antecedent.
An even clearer case in which the presumption of falsity is
cancelled has already been invoked: that in which we are casting
about for tentative or conjectural explanations of an apparent fact.
Thus,

> (182) If the ship had been torpedoed, it would have
> sunk; and if someone had bored a hole in it,
> it would have sunk; and if it had sailed
> directly into a tidal wave, it would have sunk...
> --which do you think is the true explanation?

does not contradict the assumption that at least one of the three
suggested explanations is true. Similarly, consider a person reading
the news of the naval disaster for the first time, and musing.

> (183) So the Nikita Khrushchev went down...That would
> have happened if the CIA had had it torpedoed.

(183) is certainly compatible with

> (184) The CIA had the Nikita Khrushchev torpedoed.

There is also a difficulty about negated counterfactuals with
true antecedents. If the falsity of the antecedent were semantically
presupposed, then a counterfactual conditional with a true antecedent
and the negation of that conditional would presumably both be truth-
valueless. But this does not square with the fact that we often
regard negated counterfactual conditionals as true even though the
conditional has a true antecedent. Consider the following sentence:

> (185) If the earth were a spheroid, the people in the
> Southern regions would fall off.

Suppose (185) is asserted by a naive defender of the flat-earth
hypothesis. A perfectly natural reaction is to say "That's false!"
or to counter with

> (186) It is false that if the earth were a spheroid,
> the people in the Southern regions would fall
> off.

--citing as our reason for the truth of (186) the theory of
Gravitation. Although this response could perfectly well be couched
in the indicative mood, the choice of the subjunctive is warranted by
our desire to deny just what the utterer of (185) asserted.
Similarly, certain unnegated counterfactual conditionals are
retrospectively called "true" or "correct" when, at a later date,
their antecedents and consequents are found to be true and suitably
related. Suppose, e.g. that a nineteenth-century medical skeptic
had contemptuously uttered (187):

(187) If infections were caused by microörganisms,
       then infections could be cured by injection
       of chemicals hostile to these microörganisms.

Today we regard both the antecedent and consequent of (187) as true
and related by known laws, and we deem this a sufficient (though
certainly not necessary) condition for saying that the nineteenth-
century skeptic was "unwittingly right"--i.e. that what he said was
true, not truth-valueless. Of course, if someone were to utter (187)
today, we would regard his remark as bizarre; but (187), thought of
as uttered a century ago, is quite acceptable. All of the foregoing
facts are inexplicable on the assumption that counterfactual condi-
tionals semantically presuppose the falsity of their antecedents.
    What all of this suggests is that the oddity in question attaches
not to the counterfactual conditional itself, but to utterances of the
conditional in certain circumstances. The oddity, in other words, is
pragmatic rather than semantic. One who utters an instance of (175)
"represents himself", at least for the sake of argument, as not
believing S_1 to be true. It would be incorrect to say that he repre-
sents himself as positively disbelieving S_1, since it is allowable that
he should have no firm opinion about the matter. The presumption is
merely that the utterer lacks (or coöperatively feigns to lack)
commitment to the truth of S_1. (This is especially evident with future-
tensed counterfactuals, for we are less sure of the future than we are
of the past.) And the oddity arises when we impute to the actual or
hypothetical utterer the belief that S_1 is true. What we need now is
an account of why the oddity arises. We shall tentatively contend
that counterfactual conditionals conversationally imply that their
antecedents are not presumed true. To show this, however, we must
have some prior account of the semantics of such locutions to serve
as our guide.
    The traditional account of the truth-conditions for sentences
of the form (175) held that a sentence of this form is true if and
only if the conjunction of S_1 with certain "cotenable" premises
(typically thought of as formulations of laws of nature), entails S_2.
But it proved impossible in practice to provide a precise formal
definition of cotenability which would result in the validation of
just the favored counterfactuals. Subsequently, David Lewis (1973)
has provided an elaborate possible-worlds semantics for counter-
factuals which, as a valuable corollary, makes possible a workable
definition of cotenability and hence a defensible version of the
traditional truth-conditions for counterfactual conditionals. Since
Lewis' account is, for better or worse, the only viable candidate
presently on the scene, we can do no better than provisionally to
opt for it and to argue that it provides a basis for our contention
that counterfactual conditionals conversationally imply that their
antecedents are not presumed true.
    For our purposes, the crucial feature of Lewis' analysis is
that counterfactual conditionals with true antecedents turn out to
be semantically equivalent to mere material conditionals, hence to
have the same truth-values as their consequents. For example

(188)   If Nixon had resigned, Ford would have become
President.

counts as semantically equivalent to

(189)   Nixon resigned ⊃ Ford became President.

and is thus counted as a true sentence. This procedure has some
intuitive plausibility with regard to sentences like (188), but may
seem artificial or even wrong when applied to sentences like

(190)   If cows were mammals, lemons would grow on trees.

Since both the antecedent and consequent of (190) are true, Lewis
would count (190) itself as true. This is admittedly somewhat artificial,
since ordinary speakers of English probably would not know what to say
about (190). There is some inclination to say that (190) is false on
the ground that the states-of-affairs described by antecedent and
consequent are irrelevant to one another. But it is difficult to give
any pretheoretical justification for this intuition. For the claim
that cows' being mammals is irrelevant to lemons' growing on trees
could itself be paraphrased counterfactually by (191):

(191)   Lemons would grow on trees regardless of whether
cows were mammals or not.

and (191) in turn seems to amount to (192):

(192)   If cows were mammals, lemons would grow on trees;
and if cows weren't mammals, lemons would grow on
trees.

It is easy to imagine someone uttering (192), e.g. if he were not sure
whether cows are mammals or not but were certain that the outcome
makes no difference to how lemons grow. But (192) is a conjunction,
hence is true if and only if both conjuncts are true. Yet one of
these conjuncts is none other than the troublesome (190). So what
has become of our intuition that (190) must be false?

Sentences like (190), regarding which we have little in the way
of clear and consistent semantic intuitions, are just the sort whose
semantic status requires adjudication by a full-blown semantic theory
of counterfactuals. Since, in default of an articulate rival, we
have opted for Lewis' theory, and since that theory is otherwise
elegant and powerful, it would be unreasonable to balk at its conclu-
sions regarding counterfactual conditionals with true antecedents.
(After all, a theory may be allowed to override an intuition it
contradicts if it can satisfactorily explain why we have that mistaken
intuition. The apparent motion of the sun overhead does not give
the lie to heliocentricity. Similarly, as we shall show below,
treating counterfactual conditionals with true antecedents as semanti-
cally equivalent to material conditions does enable us to explain
why such sentences evoke puzzlement.)

Given Lewis' theory, it is easy to see what is wrong with uttering a counterfactual conditional in circumstances where the antecedent is presumed true. Suppose, e.g. that John utters

> (193) If Mary were in town, she would contact her
>   parents.

We could then reason as follows. If it is presumed that Mary is in town, then (193) is to be regarded as semantically equivalent to

> (194) Mary is in town ⊃ Mary contacts her parents.

But (194), together with our presumption, entails that Mary has contacted her parents. Since we normally assume--as a matter of conversational etiquette--that people are speaking truly, it must also be presumed that Mary has contacted her parents. But in light of these presumptions, the utterer of (193) is fully entitled to assert

> (195) Mary is in town and has contacted her parents.

(195), however, is semantically much stronger than (194), hence--on our present view--much stronger than (193). So why didn't the utterer of (193) utter (195) instead? In other words, to utter (193) when its antecedent is presumed true is to violate the Maxim of Strength, which dictates that one should not say significantly less than one is entitled to say. Therefore, from the assumption that the utterer of (193) is obedient to the conversational Maxims we may derive, via the Gricean inference-schema, that the antecedent of (193) is not presumed to be true. This explains our assumption, as hearers, that the utterer of a counterfactual does not believe its antecedent to be true.

In general, the actual truth-value of the antecedent has nothing directly to do with the conversational deviance of a given utterance of a counterfactual conditional. Rather, such deviance is a matter of whether the context of utterance is such as to generate a presumption of the antecedent's truth, i.e. an imputation to the actual or hypothetical utterer of belief in the antecedent, real or merely feigned for the sake of argument with or about some contextually involved believer. When this presumption is present, we cannot make sense of a person's uttering the counterfactual conditional in question, since the uttered sentence conversationally implies the absence of that presumption.

It is much harder, even with the aid of Lewis' theory, to explain the further strong inclination felt by some hearers to go on to infer that the speaker (or whoever) positively believes the antecedent to be false, although we have argued above that the latter "suggestion" is easily cancelled at least for semantic purposes. Previous strategies are unavailable here: Counterfactuals per se contain no emphatic constructions; nor do they have sets of "general" and "specific" conditions on their truth; nor do any further Gricean considerations seem to help. Insofar as the alleged positive suggestion of the falsity of a counterfactual's antecedent is considered a real and hard datum, it is one which we have yet to handle.

Moreover, even our foregoing explanation of the unacceptability
of uttering a counterfactual with an antecedent presumed to be true
must be regarded as tentative, since it rests on a rather unintuitive
consequence of a theory which, though elegant, is by no means firmly
established. An alternative explanation, one that covers the stronger
presumption as well, will be suggested in Section 5 below. In any
case, it is clear enough that the claim that counterfactuals semanti-
cally presuppose the falsity of their antecedents has little or nothing
to recommend it, and in addition renders inexplicable many of our every-
day responses to counterfactuals and their negations.

4. Sources of the Myth.

The notion of "semantic presupposition" is, we believe, an epi-
phenomenon of the unfortunate coincidence of some otherwise unrelated
confusions, equivocations, and bad inferences. We have already remarked
on some of these in carrying out our case studies; in this section we
shall pursue our diagnosis in more revealing detail.

4.1. Old Friends
4.1.1. Assertion and Contradiction

In discussing cases 3.1 and 3.2, we pointed out the fallacy of
supposing that what is not "asserted" by a sentence is therefore not
entailed by that sentence. The relevance of this point becomes even
clearer when we reflect that, historically, the term presuppose has
been used in each of two different ways: one, as contrasting with assert,
and the second, as contrasting with entail. The former usage is more
natural, the latter technical.

Despite the vagueness of the notion of what a sentence "says" or
"asserts", we have some tolerably clear cases (cf. again nonrestrictive
relative clauses, and clefting) in which information that is plainly
part of the semantic content of a sentence may have been placed (by one
syntactic transformation or another) in so unemphatic a position in the
surface structure of that sentence that we are disinclined to admit
that that information is part of what that sentence says or asserts.
It is natural and harmless to say of this information that it is
"presupposed, rather than asserted", by the sentence, i.e. that it is
taken for granted, rather than actively put forward or emphatically
pushed by the speaker. But this natural notion of "presupposition",
which contrasts with that of "assertion", is not that which
contrasts with that of entailment. It is the Strawsonian notion,
that of "semantic presupposition", which contrasts with and precludes
that of entailment. Therefore, it is an equivocation to argue
(explicitly or implicitly), from purely intuitive data concerning what
some sentence asserts or does not assert to positive technical
conclusions about semantic presupposition. And it is this fallacy
which, we think, has misled Keenan and others in cases 3.1 and 3.2,
as well as Karttunen in case 3.3 (see 1971b:350-1).

Parallel considerations hold for denying and contradicting.
Just as it is fallacious to argue from "failure to assert" to "failure
to entail", it is fallacious to infer from the fact that a sentence S_1

(or someone who tokens S_1) cannot properly be said to have denied or contradicted an utterance of S_2, that S_1 does not entail the falsity of S_2. Not every utterance, or even every assertion, of an S_1 that entails the falsity of S_2 is properly said to contradict S_2, especially if S_2 is (logically) much stronger than the denial of S_1 and if the latter is an unemphasized consequence of S_2. For example, if a speaker were to utter

(196) Hud certainly is a devious swinging bachelor.

one who replied by uttering

(197) Hud is not an adult.

would not properly be said to have contradicted the first speaker, even though (197)—on the assumption that being a bachelor entails being an adult—entails the falsity of (196). Similarly, if a speaker were to utter

(198) So it was Moriarty who killed Holmes.

one who replied by uttering

(199) Holmes was only put in suspended animation.

would not properly be said to have contradicted the original speaker or to have denied what was asserted. To take a degenerate but even more obvious example, one who uttered

(200) The economy will soon take a turn for the better.

could not in any nontechnical sense be said to have contradicted a (demented) speaker who had tokened

(201) Three is both prime and not prime.

though (200)—like any other sentence—entails the falsity of (201). It is this general point that is overlooked by Strawson (1950) in offering the second of his two arguments against Russell's treatment of nondenoting singular terms:

> Now suppose someone were in fact to say to you with a perfectly serious air: 'The King of France is wise.'...when, in response to his statement, we say (as we should) 'There is no King of France' we should certainly not say we were contradicting the statement that the King of France is wise. We are certainly not saying that it is false. (pp. 183-4).

Doubtless Strawson's premise is correct: In general, we would not say that one who uttered

(202) There is no King of France.

in response to

(203)   The King of France is wise.

has contradicted the utterer of (203), at least not without further
comment or qualification. But, as our foregoing examples have shown,
it does not follow that the utterer of (202) did not token a sentence
which in fact entails the falsity of (203); the utterer has merely
attacked (203) at a de-emphasized outpost, showing (203) nonetheless
surely to be false. Thus, the fact that we would not ordinarily say
of an utterer of (202) that he or she had denied (203) or contradicted
the utterer of (203) is of no consequence.

It is worth remarking that, while we believe the notion of
"semantic presupposition" to be empty and uninteresting, the harmless
"natural" notion of presupposing in the sense of "taking for granted"
deserves thorough investigation--first, because its contrasting notion
of "asserting" is intuitively viable but terribly unclear; second,
because it may prove illuminating in connection with issues in pragmatics;
and, third, because it may well play a role in epistemology and in the
theory of dialectic.

4.1.2. External vs. Internal Negation

A second source of confusion which we have already mentioned is
the failure to distinguish external from internal negation. The
distinction is forced on us by the assumption that syntactic transfor-
mations operate on logical structures, i.e. on formulas of some suitably
enriched formal system; for in such a system all scope ambiguities
have been purged.

Some linguists tend (in conversation at least) to protest, when
faced with the external/internal distinction and reminded that a
sentence's external negation is not only true but mandated to be true
when that sentence's alleged "semantic presupposition" fails, that
external negations "aren't English". For example: "No one talks that
way. In English, when you want to deny (204) you say (205)

(204)   It was Peter who got sand in the parsnips.
(205)   It wasn't Peter who got sand in the parsnips.

and when you want to deny (206) you say (207), etc.

(206)   The present King of France is ugly.
(207)   The present King of France isn't ugly.

'External negation' is just logicians' claptrap, not good English;
and so it isn't recognized by the syntax/semantics of English."
There are at least two grains of truth here (but only grains). First,
we have already admitted that some external negations are difficult
or impossible to form in surface structure (cf. the case of non-
restrictive relative clauses). But this admission has no effect on
our arguments. To see this, notice again that nothing we have relied
on in the course of our case studies requires us to decide, given some

superficially negative sentence, whether that sentence expresses an internal negation, expresses an external negation, or is ambiguous between the two readings. In many cases, such as 3.1, 3.2, 3.3, 3.4, and 3.7, the (semantic) external/internal distinction by itself gives rise to an inescapable dilemma for the champion of semantic presupposition--no assumptions about surface structures are needed.

The second grain of truth in the quoted complaint is that external negations of complex sentences, uttered without verbal qualifications, are rarely acceptable in everyday English conversation. Why?--Because they are almost always frowned on by Grice's first Maxim as being uncooperatively weak and cautious, not because there is anything semantically wrong with them. Anyone can truly and felicitously utter (208) or (209).

(208) It wasn't Peter who got sand in the parsnips, because no one at all did.

(209) It's false that the present King of France is bald, because France doesn't have a King.

And anyone can truly utter (210) or (211)

(210) It's false that it was Peter who got sand in the parsnips.

(211) It's false that the present King of France is bald.

in the circumstances envisioned; the deficiencies of (210) and (211) are conversational, not semantic.

As a final way of seeing this, notice that any external negation is perfectly acceptable in the precise speech of philosophical logicians-- the salient characteristic of that patois being that, in it, conversational maxims are ignored in the interest of rigor and precision.

4.1.3. Necessitation

A third polluted source of intuitions about "semantic presupposition", theoretically negligible but significant in particular cases, is the ignoring of arcane and bizarre but perfectly clear counterexamples to claims of necessitation. Semantic presupposition requires necessitation, and necessitation requires the absolute inconceivability of counterexamples. A reader with sufficient imagination will easily find counterexamples to an enormous number of alleged semantic presuppositions in the literature (see particularly, for example, Lakoff 1972). Thus, even many of the data which are claimed to indicate semantic presupposition are spurious.

4.2. Truth-valuelessness and Infelicitousness

Let us turn to a somewhat more penetrating examination of the causes underlying belief in semantic presupposition, for, we believe, this diagnosis will shed some light on remaining linguistic and philosophical issues. In particular, we want to investigate the notion of "truth-valuelessness" more closely than has been done to date. We should like to express skepticism about it, skepticism which is the

more crucial in that "truth-valuelessness" is the central notion in
any semantic theory of presupposition.

It is not for a moment in question that there are truth-valueless
sentences. Questions, imperatives, and (some say) explicit performa-
tives do not have truth-values--obviously. We become skeptical only
when this relatively clear insight is extended to cover declaratives
of the familiar sort--sentences that look like fact-stating sentences.
Even within this class, we recognize a subgroup of truth-valueless
sentences: those which contain hidden parameters so far unspecified.
Thus,

> (212) Rex is big.

lacks a truth-value until we explicitly or implicitly specify a
reference-class ("Big for a what?"). Similarly, we have argued (in
press) that a sentence like

> (213) Perry knows who Clark Kent is.

lacks a truth-value until some purpose or project has been specified.
And Ethical Relativists contend, though rarely on syntactic or semantic
grounds,[18] that a moral judgment such as

> (214) Murder is wrong.

has a truth-value only relative to some person or group.

This sort of truth-valuelessness is easily understood: it is simply
that of the open sentence. The string

> (215) He is sick.

is truth-valueless in exactly the same way. But truth-valuelessness
of this type is a purely syntactic and semantic matter, determined by
our formation-rules and our model theory. It does not depend on any
background information concerning facts in the world; and that is
precisely what the alleged truth-valuelessness resulting from pre-
supposition failure does depend on. Presupposition theorists surely
do not mean to suggest that "presupposition" failure somehow implants
a hidden parameter in the allegedly presupposing sentence that is not
there when the putative presuppositum is true. So the truth-valueless-
ness in terms of which semantic presupposition is defined is of none
of the foregoing familiar types.

It is obvious on reflection that "truth-valuelessness" in the
Strawsonian sense is no ordinary, commonsensical notion. It is quite
a technical one. Although speakers of plain English may balk when
queried, "Is S_1 true or false?", finding themselves unable to respond
either "It's true" or "It's false" without further clarification,
explanation, or qualification, this mulish behavior is hardly tantamount
to responding, "Neither--S_1 lacks a truth-value" or the like. To take
a native's inability to choose one of the two truth-values on the spot
as indicating either that he believes S_1 to lack a truth-value or that
S_1 in fact lacks a truth-value is to make a highly substantive explana-
tory claim, a claim which must be compared to alternatives. And in

every such case there are plausible alternatives in the offing.

This point undermines the first of Strawson's two arguments against Russell (offered, incidentally, in the article (1950) that originally gave rise to talk of truth-valuelessness). Strawson, as before, asks us to suppose that someone has uttered (203) "with a perfectly serious air". Now:

> Would you say, 'That's untrue'? I think it is quite certain that you would not. But suppose he went on to ask you whether you thought that what he had just said was true, or was false; whether you agreed or disagreed with what he had just said. I think you would be inclined, with some hesitation, to say that you did not do either; that the question of whether his statement was true or false simply did not arise, because there was no such person as the King of France. (p. 183)

We have indicated our rejection of Strawson's contention that we have "pure intuitions" of truth-valuelessness. (If an informant did respond to our query "that the question...did not arise", the most likely possibility would be that he or she had read Strawson somewhere.) Still, it is true that no normal speaker would respond simply, "That's false". (Note in passing that falsity is the operative notion in Strawson's argument, despite his mention of the sentence, "That's untrue"; the latter can only be a slip, since on Strawson's own theory the utterance of (203) is untrue.)

So let us agree that

(216) That's false.

would be inappropriate at best if tokened in response to (213). Strawson concludes without further deliberation that (216) itself is false. But, as we have been at pains to point out, falsity is only one of many, many different varieties of inappropriateness, infelicitousness, or unacceptability; and there may well be some more plausible account of the inappropriateness of (216). In fact, there is what we take to be a more plausible alternative: The trouble with responding to (203) by tokening (216) alone is that in so limiting one's answer one violates either Grice's Maxim of Strength or the Maxim of Relevance (for this case is one of factive implication, just like that of (155) in Section 3.7 above). One who believes that there is no King of France is in a position rather to assert the far stronger

(217) That's false, since there is no King of France.

(Notice particularly, in addition, that (217) is perfectly acceptable to a normal speaker in the circumstances envisioned.) This explanation of the inappropriateness of (216) is not only compatible with but entails the truth of (216) and hence the falsity of (203):

It is worth pointing out that what we have said here is entirely consistent with the contention, often attributed to Strawson, that when we utter a sentence whose "presupposition" has failed, we do not

succeed in thereby making a statement. Whether or not a speaker has
made a statement is a question of illocutionary force and hence of
pragmatics; thus, it is (so far as has been shown) irrelevant to the
question of whether the sentence uttered is in fact true. (It is
easily seen that anyone may utter a sentence which is in fact true
without thereby making a statement--as when he or she utters it within
quotation, on stage, to practice elocution, or to activate a phoneti-
cally coded door-opening device.) Therefore, even if it could be
established in particular cases that a speaker had failed to make a
statement in or by uttering some sentence, that still would not show
that the sentence was truth-valueless. The most we could say is that
the sentence's truth-value just did not matter in the context in
question (we shall amplify this point shortly).

We have seen that ordinary speakers are not normally capable of
making intuitive judgments of truth-valuelessness (as distinct from
refraining from making any judgment at all), and that the notion of
"truth-valuelessness" is a theoretical artifact of linguistic and
philosophical semanticists. It ought to be noted in addition that
to take truth-valuelessness seriously is to require some significant
departure from the simple traditional format of standard logic.
Logicians who are willing to take this step are forced to invent three-
valued logics (cf. Woodruff (1970)) and/or fancy semantical machinery
such as van Fraassen's (1966) method of supervaluations, in each case
courting justified charges of arbitrariness in settling the numerous
"don't-cares" that arise in the newly amplified models. To say this
is not to raise any direct objection to hypothesizing truth-valueless-
ness; there are deviant logics of the sort we have mentioned which can
be made as elegant and as mathematically satisfying as anyone could
wish. The point is only that "truth-valuelessness" as a semantical
notion needs considerable sophisticated formal spelling-out before it
can soberly be understood.

One would expect, from the foregoing points that "truth-value-
lessness" is not a concept possessed by laymen, and that its logic is
neither simple nor (let us add) uncontroversial), that it may be hard
even for the semantic theorist to form an intuitive judgment, concerning
a given sentence in a context, as to whether that sentence in that
context has a truth-value. And this expectation is richly borne out,
in our experience anyway. Although there are intuitively clear cases
of true sentences (in particular contexts) and clear cases of false
sentences (in particular contexts), we have yet to see a clear case,
in any context, of a truth-valueless sentence that is not an instance
of one of the familiar and unexciting types mentioned above. Whatever
theoretical function the notion of truth-valuelessness may serve, that
notion is no raw and intuitive one; by itself it yields no data.

If this is right, then whatever utility the notion of "semantic
presupposition" has is theoretical utility, as opposed to reportive
utility. To repeat: a field linguist may report, as a datum, that a
native refused to commit himself to a judgment of truth or to a
judgment of falsity; but the linguist may not report, as a datum, that
the native commited himself to a judgment of truth-valuelessness, unless
(as is both unlikely and irrelevant) the native is himself a professional

linguist or philosopher of has been force-fed on the spot by such a person.

.What, then, can "semantic presupposition" do for semantic theory? In the course of our case studies, we have found as yet no job for Strawsonian presupposition to do. If there is any such job, most likely the best way to get at it (as Garner (1971) has insisted) is systematically to investigate the consequences of "presupposition" failure. Are there any sentence pairs <S_1, S_2> of which we would want (for any theoretical reason) to say that if S_2 is false, S_1 lacks a truth-value?

In some cases of alleged semantic presupposition, we have seen, the penalty for the failure (falsity) of S_2 is simply the falsity of S_1. In other cases, the penalty is the violation of Grice's first Maxim. (Notice that as a byproduct of this violation, the presumed truth--far from the truth-valuelessness--of S_1 is assured. To violate the first Maxim in uttering S_1 is to utter S_1 when one is in a position to assert some stronger truth, i.e. one which entails S_1 but is not entailed by it; and only truths are entailed by truths.) No doubt, in still other cases, the penalty will be that S_1 is infelicitous; but infelicitousness entails nothing about truth or falsity, as we shall see. In still other cases, the penalty will be that whoever tokened S_1 (or possibly someone else in the situation) has a false belief; but that result too is consistent with S_1's being either true or false. In no case are we tempted to impose truth-valuelessness as a penalty, though we might be if someone were to show some powerful explanatory reason why we should thus eschew the Law of Bivalence.

If our skepticism about truth-valuelessness is as well justified as we believe it is, then there ought to be some further diagnosis of the fervor with which philosophers and linguists have embraced the notion. We believe that the correct (causal) explanation is to be found in Austin's pellucid doctrine of infelicities (1962, Lectures XI and XII), though we shall expand slightly on Austin's remarks here.

Austin was concerned to point out that, from the standpoint of speech-act theory taken in the large, a given speech act can be (and is, in particular cases) assessed or evaluated along a number of distinct and independent "dimensions of criticism", or spectra of satisfactoriness and unsatisfactoriness. This is clearest in the case of "pure" (explicit) performatives; a performative speech act can go wrong in any one of a number of different ways, some more tragic than others depending on context. But the same is true of any other speech act. So far as we can see, there is in nature no such thing as a "pure constative", though (on our view) a semantic representation or logical form is a picture of one, in the same sense in which we can draw a picture of a mass-point or a black box.

The true/false dimension is just one avenue of criticism among others; there are many other ways of being happy or unhappy, satisfactory or unsatisfactory, felicitous or infelicitous. And (here is the important point) the importance of the true/false dimension in fact varies widely from context to context with the passing purposes of speakers, hearers, and assessors. Sometimes we care very much about truth and falsity. At other times we care much more about other sorts of virtues and faults. We think, in fact, that cases of the

latter sort predominate rather heavily. Philosophers' treatment (prior to Austin) of English sentences as if all that mattered about them were their truth-values is an occupational disease, and has resulted in _true_'s having come to be, in some philosophers' vocabularies, the only honorific applicable to utterances. This is a crucial point to which we shall return.

Consider a case of Garner's, offered in conversation: A speaker suddenly utters a declarative sentence on a topic that he or she knows nothing about, say,

> (218) At this moment there are exactly three customers
>   sitting in the Cantonese restaurant downtown.

in a context in which it is clear that the speaker cannot possibly have any positive evidence for the truth of (218). Something is badly wrong; the utterance is infelicitous in some way yet to be specified. But it certainly need not be denigrated along the true/false dimension; the sentence uttered, (218), may very well be true.

Similarly, take Moore's Paradox:

> (219) It's raining, but I don't believe that it is.

In the absence of very special stage-setting, (219) is anomalous. Though much has been written about it, both by "ordinary language" philosophers and by epistemic logicians, no one has ever quite succeeded in showing exactly what is wrong with it.[19] The important thing to see here is that, though an utterance of (219) is almost invariably as infelicitous as any utterance could be, (219) might perfectly well be true (of the speaker); this fact, indeed, is essential to setting up the Paradox.

Finally, take a negated factive:

> (220) Herbert doesn't know that June is a go-go dancer.

uttered in a situation in which its complement is false. There is no question that this utterance, given appropriate stress contour, is infelicitous (in our discussion of case 3.3 above we suggested that the infelicity is partly statistical and partly Gricean). But, as we have seen, that does not affect (220)'s truth-value in the situation envisioned, since (220) is straightforwardly true--for what that is worth!

It is this last phrase that best expresses our view about "presupposition" and truth-value. In each of the foregoing three cases, something has gone badly wrong with the speaker's utterance. But there is no reason at all why this should lead us to judge that the sentence uttered lacks a truth-value.

Now we may proceed to explain philosophers' and linguists' enthusiasm for imputing truth-valuelessness to sentences whose only crime is that their "presuppositions" have failed. As we remarked earlier, philosophers at least have always grotesquely overemphasized the true/false dimension in thinking about language, to the extent that _true_ is regarded as a kind of diploma. Once we have decided that a sentence is true, we pat it on the head and pass on to the next

sentence we want to evaluate. And, we believe, it is this habit which accounts at least for philosophers' occasional invocations of truth-valuelessness. Faced with a sentence which, though undeniably grammatical, sounds funny when its "presupposition" has failed, a philosopher is extremely reluctant to call it "true", for to do this is to give the sentence a passing grade, to honor it in what seems to the philosopher to be a conclusive way. And yet the philosopher does not want to call the sentence "false", either, for to do that is to fail the sentence, to condemn it in an apparently conclusive way obviously unwarranted by the situation. The philosopher concludes that the sentence is not true, and that it is not false--hence, that it is neither true nor false, and so, truth-valueless.

The mistake, of course, is the philosopher's taking true and false far too seriously in the first place. Why not just admit that the sentence is true (or false, whichever seems dictated by the assumed facts, what we know of its truth-conditions, and considerations of theoretical elegance), for what that is worth (very little), and get on to more important kinds of evaluation of the sentence and hypothetical speech acts in which it occurs? That is, let us give up our excessively honorific use of true and recognize that, in the sorts of cases we are talking about, to admit that a sentence is true is no great concession, but is only a prefactory note to getting on with evaluation along dimensions perhaps more pertinent to everyday life.

This same failure to appreciate Austin's vital insight that true and false comprise only one among many important pairs of terms used for the praise and blame of utterances has, we suspect, misled linguists as well. For example, Karttunen writes,

> [John didn't manage to solve the problem, if John did not even try to solve the problem], would have to be rejected as an infelicitous utterance to which no truth value could be assigned. (1971b:344)

--the implication being that the infelicitousness of the utterance in the context envisioned is the reason why "no truth value can be assigned" to the sentence uttered; in that context (as we have heard some linguists put it), the sentence is "too infelicitous" to be true or false. But this attitude radically misconceives the status of truth and falsity as evaluative properties of utterances or sentences. The true/false dimension, it will be remembered, is only one avenue of evaluation among others; it is not a final touchstone which an assessor applies only after having run through all the "lesser" infelicities and found the sentence in question acceptable in all preliminary respects. A sentence or utterance can be infelicitous to an arbitrarily extreme degree in any number of respects and still be true (or false). To say of a sentence that it must lack a truth-value because it "is infelicitous" --or that it is "too infelicitous to have a truth-value"--is like saying of a dog which is blind and which is bad at following scents that it is therefore neither loyal nor disloyal, or of a man that he is so bad at his job and so ugly and such a rotten poker player that he is neither kind to his mother nor unkind to her.

5. Relative Grammaticality

Some linguists[20] have alleged that certain syntactic phenomena require a notion of presupposition, in that one and the same sentence may be deviant or ill-formed relative to some ways the world might be, and yet perfectly acceptable relative to other ways the world might be. (We use "relative to" here as a gloss designed to blur the distinction between the fact of the way the world is, the speaker's or hearer's belief as to the way the world is, the speech community's shared background information as to the way the world is, etc. remarked on in Section 2 above. We shall speak hereafter simply of "presumptions".) Now if a string S_1 is well-formed only given the truth of a sentence S_2 or in light of the fact S_2 describes, this provides considerable temptation to say that S_1 presumes or "presupposes" S_2 in some sense or other; and, in view of the intimate connection between syntactic deep structure and semantic representation or logical form, it suggests that the kind of presumption in question is semantical or at least semantically relevant. In fact, a brief argument suffices to show that if well-formedness is relative in this way to factual presumptions about the world, then a strong form of Strawsonian semantic presupposition is viable after all: If the failure of some (logically contingent) factual presumption S_2 suffices to render an otherwise grammatical string S_1 ungrammatical or ill-formed, and if (as is uncontroversial) a string must at least be well-formed in order to be either true or false, then the failure of S_2 a fortiori renders S_1 truth-valueless; thus, if Lakoff (1969) is right about the relativity of grammaticality, S_1 (by definition) semantically presupposes S_2.

Notice that the brand of truth-valuelessness appealed to here is far less mysterious (on its face) than that denigrated in Section 3 above. The latter is the reputed truth-valuelessness of an admittedly well-formed sentence in certain circumstances, requiring bizarre alterations in what we would ordinarily and naturally take to be the truth-conditions to be assigned to that sentence (recall the cases of nonrestrictive relative clauses and negated factives) and seemingly needless complications in our logic. The truth-valuelessness that allegedly arises from presumption-failure in a case of "relative grammaticality", however, is nothing so offensively arcane or baroque— it is simply the unexciting "truth-valuelessness" of an ill-formed string. An ungrammatical sequence of words need not be assigned any unusual truth-conditions; straightforwardly, it is assigned no truth-conditions at all.

5.1. Factual Presumptions and Logical Form

Unlike the alleged data underlying the claims we discussed in Section 3, some of the phenomena cited as examples of "relative grammaticality" are striking, evidently real, and hard to explain away. We shall take up only a few of the cases that we find the most interesting and troublesome for semantic purists of our stripe.

1. Laurence Horn (1969) argues that certain sentences containing only and even are well-formed only in contexts in which certain contingent factual presumptions hold. (Lakoff (1972:581ff) gives a useful summary of Horn's data.) For example, a sentence of the form

(221)   Even A ∅'d.

is deviant, ungrammatical, or at least quite peculiar if it was not
expected that A would not ∅, or if there was no one besides A that
∅'d. (As always, we leave open the question of who it is that is
doing the expecting.) The exact nature of the deviance or peculiarity
here is as yet unspecified.[21]

    2. Lakoff (1969) argues convincingly that the relative pronoun
who can be used grammatically only when it is presumed that its subject
is regarded for purposes of the discussion as denoting a person, as
opposed to a mere thing or lower animal. (Lakoff (citing McCawley)
finds it interesting that "semantics" is here invading what used to be
thought of as "purely syntactic", viz. judgments of deviance or
ungrammaticality; since syntax and semantics are no longer widely
regarded as being separate and autonomous areas of inquiry, this invasion
is not surprising. What is surprising is that our judgments of
syntactic/semantic deviance should vary with our background beliefs
or presumptions. To semantic purists of our persuasion, what informa-
tion about a sentence is encapsulated in that sentence's deep structure,
logical form, or semantic representation should not depend on any
contingent factual presumptions about the way the world is; it is a
purely formal matter. We shall pursue this below.)

    3. Lakoff goes on to show (pp. 109-10) that intonation contour
is sometimes dictated by background beliefs. Contrast:

        (222)   a. John called Mary a lexicalist and then 'she
                    insulted him.
                b. John called Mary a lexicalist and then she.
                    insulted him.

If we agree that intonation contour is at least sometimes a semantic
matter--e.g. that intonation contour sometimes suffices literally
to disambiguate an utterance which it characterizes--we can generate
more cases in which background beliefs appear to affect syntactic and
semantic well-formedness.

    4. Either, too, and instead carry factual presumptions not
unlike those carried by even (cf. 1 above). Lakoff claims, citing

        (223)   a. Jane is a sloppy housekeeper and she doesn't
                    take baths either.
                b.?*Jane is a neat housekeeper and she doesn't
                    take baths either.

That "[t]he construction, A and not B either, carries with it the
presupposition that one might expect A to entail not B" (p. 110). Of
course, this is a howler as it stands--what speakers expect about
entailment is irrelevant. Presumably what Lakoff means it that one
would not expect A and B, and in this he seems unmistakably right.
Consider also the following contrasts.[22]

(224) a. Jane just succeeded in proving Fermat's Last

Theorem, and her husband is very brilliant $\{^{too}_{as\ well}\}$.

b.?*Jane just added 2 and 2 and got 6, and her
husband is very brilliant $\{^{too}_{as\ well}\}$.

(225) a. Jane considered going to the dentist, but decided
to enjoy her day off instead.

b.?*Jane considered taking a pleasant ride through the
countryside, having a really good dinner, and
seeing a movie, but decided to enjoy her day off
instead.

Lakoff concludes on the basis of such data[23] that, while we may
continue to use deviant, ill-formed, ungrammatical, etc. as predicates
of utterance(-token)s in context, they and their positive cognates must
now be construed as designating relations between string(-type)s and
sets of factual judgments; a string is well- or ill-formed only relative
to such a set. Thus, we arrive at a strong notion of semantic presup-
position by allowing factual presumptions to invade semantics via
syntax.

Two theoretical arguments seem to be implied here. One (let us
call it the Argument from Meaningfulness) is a more explicitly semantical
version of that provided on the first page of the present section:
Neglecting well-known cases of "semi-", borderline or marginal grammati-
calness, a string must be well-formed or grammatical in order to be
meaningful. Further, a string must be meaningful in order to have any
semantic properties (save, trivially, that of meaninglessness) at all.
Therefore, if the grammaticalness of a string depends on contingent
factual presumptions, then so do that string's very meaningfulness and
a fortiori its other semantic properties.

The second theoretical argument (hereafter, the Argument from
Generative Semantics) is more remote from Lakoff's text, but we suppose
that it is one he would accept, since it captures a piece of motivation
for the invocation of "presupposition" in semantic theory that is based
squarely on the central claim of Generative Semantics: (i) The Lakovian
presumptions affect syntactic well-formedness. (ii) Semantic representa-
tions or logical forms are the input to syntactic derivations. There-
fore, (iii) The Lakovian presumptions are in some way part of semantic
content or logical form. The moral of each of the two arguments is
that factual presumptions ought in some way to be represented in our
semantic accounts of the target sentences in question. And, more
generally, syntax and semantics ought hereafter to be conceived as being
context-relative; they are not the austere, purely formal disciplines
they have been supposed to be; one cannot pursue them successfully
without taking into account particular utterers in particular situations.

As we have implied throughout this essay, we want to resist these
conclusions. It seems to us (though this is not the place to defend this
less than popular contention) that there is important theoretical
utility to be gained by splitting semiotic study into that which pertains
to the formal properties of sentences considered apart from particular
contexts, on the one hand, and relations that the same sentences bear
to features of particular situations, on the other. In particular, we

want to hold to our perfectly natural inclination to say that a
sentence simply has a certain meaning or meanings in English, and that
it simply has a certain range of possible uses, these being specifiable
quite independently of contextual considerations.[24] And we certainly
do not want to court the counterintuitiveness and ugly theoretical
complications of supposing that the very recursive rules which
delineate well-formedness (rules which seem by their very nature to
be purely formal) depend in any way on mention of specific possible
states of affairs. Intuitively, a sentence is either a well-formed
string of English or it is not (again barring borderline cases),
regardless of what speakers, hearers, or theorists may happen to
believe about nonlinguistic reality.

If we are to resist Lakoff's skeptical conclusions, then, we must
turn aside both of the theoretical arguments we have sketched, and
find some alternative account of the phenomena; and this will not be
entirely easy to do, since the arguments appear to be valid and the
data are hard. Let us begin with the Argument from Generative
Semantics. (We shall return to the Argument from Meaningfulness
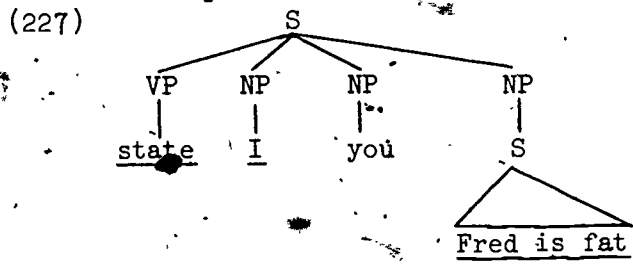considerably later.)

Lakoff has not <u>shown</u> that premise (i) is true. In the respective
contexts envisioned, it is plain that there is something wrong with
tokening the strings in question--"wrong" at least in the general
sense of "inappropriate", "nasty", or "unacceptable". What Lakoff has
not demonstrated is that the awfulness is specifically syntactic ill-
formedness. It is quite possible in each of the cases we have listed
that the penalty of "presupposition" failure is not syntactic defective-
ness at all, but infelicitousness of an Austinian sort, Gricean conver-
sational unacceptability, or some other nonsyntactic flaw. (In short,
the relation between a string and its associated set of factual
presumptions may well be pragmatic, as its essential contextualness
naturally leads us to expect.) The problem for us here is that, as
was not the case in our discussions in Section 3 above, no such
pragmatic explanation comes readily to mind--the ugliness of (223b),
(224b), (225b) and the like has no obvious pragmatic source.

Fortunately, we need not await the development of a detailed
pragmatics in order to defuse the Argument from Generative Semantics.
For we still have the option of denying premise (ii), despite its
apparent centrality to the Generative Semanticists' program. The
first thing to notice is that, if the argument is to be regarded as
valid, premise (ii) must be interpreted exclusively, i.e. as: (ii')
Semantic representations or logical forms are the sole input to
syntactic derivations.--Otherwise it would have to be regarded as
possible for the Lakovian presumptions to be <u>nonsemantic</u> input to
the syntactic derivations. And in fact, this latter possibility is
precisely what we want to hypothesize as fact. This requires, of
course, that we deny (ii'); we hereby do so, for there is independent
evidence of its falsity.

For example, there are several convincing reasons to think that
syntactic transformations operate in part on underlying performative
prefaces which refer to the utterer of a sentence, to the hearer
addressed, and to the speech act which the speaker is thereby
performing.[25] Thus, e.g. a declarative sentence such as

(226) Fred is fat.

has an underlying syntactic structure something like

(227)

```
                    S
        ┌───────┬──────┬──────────┐
        VP      NP     NP         NP
        │       │      │          │
      state     I     you         S
                                 ╱ ╲
                                ╱   ╲
                            Fred is fat
```

Now it is plain (contrary, perhaps, to slips or malapropisms on the
part of a few linguists) that this posited performative preface is not
part of logical form or semantic content in acceptably strict senses of
those terms. A logical form assigned to a sentence, on the usage
originated by Russell, determines a fully disambiguated reading of
that sentence, along with a set of truth-conditions for that reading,
and thereby (in the context of a containing logical theory) codifies
all of the sentence's entailment-relations—nothing more. And it is
clear that the performative preface displayed in (227) plays no role in
determining the conditions under which (226) is true, or what is or is
not entailed by (226). (Thus Lakoff writes, correctly,[26]

> Note that in sentences it is the propositional content,
> not the entire sentence, that will be true or false...
> in sentences where there is an overt performative verb
> of saying or stating or asserting, the propositional
> content, which is true or false, is not given by the
> sentence as a whole, but rather by the object of that
> performative verb. (1972:560)

The "propositional content" referred to is precisely the scope or
complement of the performative operator. The specification of overt
performative verbs is inessential to the point.) Entailment-relations,
and truth-conditions generally, are to be read out from under the
performative preface, and so, consequently, is logical form. Contrary
to what Lakoff goes on neologistically to say, logical form does not
properly contain propositional content—it is propositional content.
The semantic content of a sentence is one thing; the illocutionary force
of that sentence, or the (pragmatic) use to which it is put on some
occasion, is quite another, though both notions are important to the
understanding of "meaning" taken diffusely in the large.
    The relevance of the Performative Analysis to our discussion of
"relative grammaticality" is that it provides a counterexample to
premise (ii') of the revised Argument from Generative Semantics. Logical
form, properly construed, is not the sole input to the transformational
component, for transformations operate as well on performative material,
and performative material is not part of logical form. Thus, if we
take "deep structure" to be, by definition, whatever it is that syntactic

transformations take as input, we cannot accept the suggestion that deep structure may simply be identified with logical form. Deep structure has logical form as a proper part.) Now, what we want to suggest is that there is at least a second sort of input to the transformational component: factual presumptions. That is, we shall concede that contingent factual presumptions do indeed affect syntactic processes, but deny the alleged implication that these presumptions have semantical repercussions. In this way we may concede their existence and their syntactic relevance without courting the troublesome and counterintuitive claim that a sentence's semantic properties (as codified in the logical form(s) assigned to the sentence) vary with contingent fact.

No one who takes seriously the contention that syntactic processes have "psychological reality" need find this proposal startling. It is not surprising that performative prefaces affect syntactic deriva-tions, since what one wants and intends to do with one's words, no less than the thought (so to speak) passing through one's mind, may certainly be expected to affect the causal processes issuing in one's actual speech. Likewise, we would expect the background beliefs stored in one's belief-stockpile to affect these processes too. So it is quite natural to suggest that sets of beliefs (on someone's part) should serve as input to syntactic transformations just as performative prefaces do, or at least that some transformations should be sensitive to them.

5.2. Alternative Analyses

We hypothesize that the transformations that are sensitive to contingent factual beliefs are relatively superficial. Consider case 3 above, that of presumptive intonation contours. Our inclination is to suppose that the relevant stress is functioning only conversa-tionally in such cases; but, rather than put forward a Gricean theory applicable to stress phenomena, let us suppose for the sake of argument that stress contour cuts deeper than this, to the extent that a sentence uttered with inappropriate intonation relative to the contextually presumed beliefs is syntactically and not just conversa-tionally unacceptable. If so, we suggest, the beliefs affect the syntactic process somewhere in the relatively superficial subprocess of lexicalization (if intonation is taken to be a lexical matter), or even in the phonological component (if we are careful to distinguish a theoretical level of "surface structure" from what is ultimately produced in the form of patterns of noises or marks). It seems clear that the truth-conditions of (222a) and (222b) are precisely the same--though of course this would be denied by someone who held that (222a) is ill-formed, and hence has no truth-conditions at all, in contexts in which it is presumed that it's good to be a lexicalist. Why not adopt the far more natural alternative of saying, not that in such a context (222a) has been produced from no logical form at all, but that it has been produced from a conjunctive logical form (the same one which underlies (222b)) by a syntactic process culminating in a regrettably defective lexicalization?

It is much more obvious that Lakoff's data concerning who (case 2 above) are lexical in nature. When a syntactic process requires the insertion of a relative pronoun, the syntactic component waits until

almost all its operations have been completed before deciding whether
to lexicalize that pronoun as who or as which. The choice, to be
sure, is dictated by a nonsemantic factor; but it is quite a super-
ficial choice.

The insertion of even, too, and either (cf. cases 1 and 4) is,
we should think, nearly as superficial, triggered rather late in the
transformational process by items from whatever set of factual pre-
sumptions is in play. Since we want so far as possible to avoid
resting our main contentions on substantive and probably controversial
syntactic claims (not being in a position to defend such claims in any
detail), we shall not try to flesh out an articulated theory of the
sources of the Lakovian particles. But if a grammar is to be sensitive
enough to factual presumptions to mark the Lakovian target sentences
as being ungrammatical relative to the relevant presumptions, then
that grammar must have some way of recording that relativity. We
suggest that the most natural and appropriate procedure is simply to
flag some transformations in such a way as to limit their operation
to occasions of favorable conditions in a speaker's (or whoever's)
belief-store.[27]

We are a little more troubled by example (225) above. The
presumption of (225a) is evidently that going to the dentist is not
enjoyable (that going to the dentist and enjoying oneself tend to
preclude one another); and the (true) presumption relative to which
(225b) is deviant is that taking a pleasant ride through the country-
side, etc. are enjoyable (do not tend to preclude enjoying oneself).
We are not sure exactly what is going on here, but we shall hazard
some cautious preliminary syntactic remarks designed simply to
illustrate the pattern of explanation that we find attractive.

It seems clear enough that instead, at least in sentences like
(225a-b), contains a hidden reference back to a previously occurring
item; instead cannot occur in the absence of any assumed antecedent:

> (228) *The whale is a mammal instead.
> (229) *Two and two is four instead.

Probably there is a deleted redundancy--viz. instead in (225) very
likely comes from instead of NP where "NP" is replaced by a repetition
of the original noun or nominal phrase. Thus, (225a) would come from

> (230) Jane considered going to the dentist, but decided
>   to enjoy her day off instead of going to the
>   dentist.

the "instead of" clause being inside the scope of decided.[28]

It is less plausible here to say that instead is inserted super-
ficially in response to the presence of a factual belief, if instead
is indeed not a merely inserted item like even or too. If instead
derives from an entire underlying clause, then it is less easy to
fall back on our practice of saying that it is just kicked in lexically
at the eleventh hour by a piece of background information.

What may possibly be happening here is that <u>instead of</u> in inter-
mediate structure comes from a sentential connective, and is inserted
when the connected sentences are nominalized (if the nominalizations
do come from underlying sentences, as they may or may not). The
connective in question may well be <u>and not</u>. If so, then it is
plausible to suggest that <u>instead of</u> as a particular lexicalization
of & ~ has a contrastive connotation (unlike other lexicalizations
such as <u>and not</u>), just as <u>but</u> is a lexicalization of & which is
distinguished from other possible lexicalizations in that it carries
the suggestion of contrast. And this brings us to a brief discussion
of the nature of "contrastive connotation" itself.

. A naive theorist might demand that sentences whose main surface
connective is <u>and</u> and those whose main connective is <u>but</u> be assigned
different logical forms. E.g. since

> (231) George believes in semantic presupposition but
>   he's smart.

suggests in whatever sense that we don't expect believers in semantic
presupposition to be smart, while

> (232) George believes in semantic presupposition and
>   he's smart.

carries no such suggestion, it might be said that (231) and (232) have
different underlying semantic structures. This, we believe, would be
seriously mistaken. For, considered from the austere standpoint of
truth-conditions alone, (231) and (232) would seem to be equivalent.
Since (232) is true if George believes in semantic presupposition and
George is smart, this commits us to saying that (231) is true in that
circumstance as well.

Perhaps the contention that (231) and (232) have the same truth-
conditions will be seen as simply question-begging. After all, if
(231) is ill-formed in a context in which it is not presumed that
belief in semantic presupposition tends to preclude being smart,
then (231) and (232) cannot have the same truth-conditions, there
being at least one possible state of affairs in which (232) is true
but (231) is untrue (because ungrammatical). We shall argue against
this last claim by considering that possible state of affairs a
little more closely. Suppose we are in a seminar room full of
semantic presupposition enthusiasts, and that these worthies have
convinced us that the notion of semantic presupposition is not only
viable but a sharp and indispensable tool for linguistic semantics
in this century. No one in the room doubts this for a moment; any
one of us, faced with a philosopher who failed to recognize the
prevalence of truth-valuelessness, would conclude either that the
philosopher's intuitions and a priori assumptions were badly soured
or clouded by years of teaching introductory first-order logic, or
that the philosopher was a jackass. Now suppose that someone in the
company asserts (231), referring by his use of <u>George</u> to someone who
is not present. It seems clear that, although the speaker's utterance
is deviant in the context, nevertheless what he says has significant

implications. For example, he could justifiably be held to have
asserted that George believes in semantic presupposition, and likewise,
to be held linguistically responsible for the truth of the claim that
George is smart (the speaker did, after all, say that George is smart).
If George turns out to be stupid despite his belief in semantic
presupposition, then, it seems to us, the speaker has (inter alia)
said something false. Now if even in a context elaborately safe-
guarded against the presumption that believing in semantic presup-
position tends to preclude being smart, the speaker's utterance is
held to have implications (it entails its conjuncts at least) and to
be (even "in part") false, then it has semantic properties and hence
is not meaningless or semantically ill-formed in the context.

The case is even clearer if we imagine that the speaker, rather
than being one of our own number, has just entered from the outside.
He may utter (231), believing that Boër and Lycan were right in
"The Myth of Semantic Presupposition" and that they never should have
been persuaded to recant. What are we (the occupants of the seminar
room) to say about this utterance of (231)? Should we say that it is
ungrammatical and hence meaningless, though the speaker remains gaily
unaware of this? That the speaker's own apparent belief in (231)'s
presumption suffices by itself to render his utterance meaningful?
That (such matters being relative) the utterance is meaningful "for
him" but not meaningful "for us", whatever that might mean? Whatever
choice we make here, one thing that seems indisputable is that; as
before, the utterance has implications and admits at least of the
possibility of being false; and if so, then it is meaningful and
hence grammatical in the context, period.

But isn't there something wrong with uttering (231) in a context
in which no one believes or pretends to believe that believing in
semantic presupposition tends to preclude being smart? Certainly
there is, but not necessarily falsity, truth-valuelessness, or any
other semantic defect. An utterance of (231) would be inappropriate.
Why?

5.3. The Awfulness of (Relative) Deviance

It would be hard to explain the inappropriateness in Gricean terms,
since there is nothing wrong with the literal locutionary content of
(231)--it does not appear to violate any conversational maxim, and
hence does not give rise to a Gricean argument on the part of the
hearer. Nor, though the utterance of (231) in a hostile situation
would certainly be infelicitous in some sense, would the infelicity
be of any characteristic Austinian sort, for nothing would go wrong
in any standard way with the speech act performed (qua speech act)--
there is no temptation to accuse the utterer of having failed to make
a statement, or of having stated defectively (except in a tautolo-
gously broad sense of "defective" that simply co-extends with the
wholly general "inappropriate").

The problem seems intuitively to reside in the choice of the word
but, and thus to be a lexical problem. This brings us back to the
pattern of explanation employed in connection with who, even, too,
and either. The lexicalizing transformation that produces English
reflections of & is sensitive to factual presumptions: if it is

presumed (by whomever) that the truth of S_1 tends to preclude that of S_2, then the occurrence of & in $\ulcorner S_1$ & $S_2 \urcorner$ will be lexicalized as but; otherwise not. And what is wrong with (231) in a context in which no one has the relevant belief is that But-Lexicalization has operated on its own, without the appropriate trigger. A parallel account may explain the behavior of _instead_: We have suggested that _instead_ reflects a shallowly underlying _instead of_, and the latter appears to be a specialized lexicalization of & ~ (waiving questions of how and where in the derivation lexical insertion occurs), properly triggered only when the speaker's store of presumptions includes the belief that one of the relevant alternatives excludes the other. The string

> (233) *Jane thought of going swimming, but decided
> to go swimming instead.

is completely unacceptable because the presumption that going swimming tends to preclude going swimming is self-contradictory.

A similar if slightly extended strategy may suffice to account for the presumptive behavior of counterfactuals. Our account of counterfactuals in Section 3.8 above, unlike our other explanations of "presupposition" phenomena, rested on a highly substantive piece of theory (David Lewis') and so was introduced only as an attractive possibility; what we shall point out here is another.

Our feelings about counterfactuals with true antecedents are very strong, and (to report our own case) they bear interesting introspective similarities to our feelings about _even_, _but_, _instead_, etc. It is possible that the deviance of a counterfactual with a true antecedent is, like theirs, lexical. Notice that the problem arises only in connection with the superficial subjunctive mood. Even when a conditional expresses a speculative hypothesis, its antecedent may acceptably be true if it is couched in the overtly indicative mood, as

> (234) If it turns out that Haj comes to the party,
> there'll be a volleyball game.

which is perfectly acceptable even when it does turn out that Haj attends. Now it is interesting that the subjunctive mood (excluding the hortatory subjunctive) is in a way not on a par with the other moods of a traditional English grammar: indicative, interrogative, imperative. Each of the latter corresponds to a general type of speech act (stating, asking, ordering, etc.), and is produced at the surface presumably by transformations which are triggered by the corresponding performative prefaces in syntactic deep structure. The subjunctive mood, by contrast, corresponds to no familiar general type of speech act and is presumably not so produced. Our suggestion (only that) is that the superficial subjunctive mood is a lexical item, introduced by a lexicalizing transformation, and that this lexicalizing rule is a factually restricted one, like But-Lexicalization. One further small piece of evidence for this is the fact that, while the transformations

which produce surface interrogatives and imperatives reorder
structural elements of underlying forms, whatever produces surface.
subjunctives changes only individual words. To make a subjunctive,
one need only change does to should, was to were, will to would,
etc. If all this is right, then the deviance of a counterfactual with
a true antecedent is of just the same sort as that of (231) tokened in
a hostile context; a sentence of the form (175) above presumes (we might
say, lexically presumes) the falsity of S_1.

5.4. Narrow Grammaticality and Broad Grammaticality

A serious objection to our program comes to mind. We have conceded
that the failure of a Lakovian or lexical presumption has syntactic
repercussions, insofar as lexicalization is a syntactic matter, and we
have suggested that the resulting odd utterance is the product of
illicit lexicalization. Now to say that the lexicalization of but in
a hostile context is "illicit" is presumably to say that the appearance
of but at the surface is not the result of a correct application of
But-Lexicalization. But (so the objection goes) there is no such thing
as an incorrect application of But-Lexicalization—a syntactic rule
either applies or does not apply. Consequently, the surfacing of but
is not the result of an application of But-Lexicalization at all. And
it certainly is not the result of an application of any other syntactic
rule; so it is not generated by the set of syntactic rules taken as a
whole, i.e. not generated by the grammar. But a grammar is (among other
things) a recursive device that delineates the notion of grammaticality.
So our string whose factual presumption has failed is ungrammatical
(in the context in which the failure occurs). Moreover, since it is
not the output of any syntactic rule(s), and since our syntactic rules
(run in reverse) are what assign semantic representations to surface
structures, it seems we are forced to the conclusion that our defective
string has no semantic interpretation, and hence expresses no logical
form, and hence is assigned no truth-conditions, and hence cannot be
either true or false! In short, in offering our account of but and
other particles, have we not almost explicitly conceded Lakoff's claim
in its strongest form, and opened the door to semantic presupposition
after all?

This argument is impressive, and, though we believe that it
fails due to several crucial oversimplifications, we shall be able
here to offer only a rough sketch of a reply. But we can begin with
a datum that is tolerably clear and points toward complexities
unrecognized by the argument:

There is a substantial intuitive difference between the sense in
which (231) is "ungrammatical" relative to the fact that believing in
semantic presupposition does not tend to preclude being smart—at
best a somewhat attenuated sense, we believe—and that in which (236)
or even (237) is ungrammatical.

(236) *Good of believe off table the the the why.
(237) *Bertrand believes who Gottlob is.

What we want to maintain is that (231) is "grammatical" <u>enough</u> to have truth-conditions, and indeed to be <u>true</u> even when lexically inappropriate. The utterer of (231) (in the hostile circumstances) has violated a rule of grammar, but it is not a rule whose violation produces semantic anomaly. We propose the hypothesis that, even though the rule in this case has not been properly triggered, it can still be run backwards as a semantic-interpretation mapping in such a way that (231), even in our hostile context, will be assigned a (truth-conditional) semantic interpretation and hence can be understood in a rather narrow sense (for what that is worth). Thus, to address the formidable objection raised a few paragraphs above, the factual restriction on our But-Lexicalication rule does not serve as an impenetrable filter. That is, it is not an absolute restriction which, if violated, prevents the rule from operating at all; rather, it functions (if you like) as a strainer--the product succeeds in coming through, but not in a very appetizing form. It is, we shall argue, grammatical in a broad but useful sense, though deviant in a considerably narrower sense.

If there are (as we contend, contrary at least to the letter of Generative Semantics) several disparate sources of input to the transformational component, at least two of which must function jointly to produce a particular string that is grammatical in the context in which it occurs, then it is (though perhaps unfamiliar) not at all surprising that there should be more than one sort of syntactic or quasi-syntactic "deviance", corresponding to failures of various sorts of triggers. The deviance of (231) in our hostile context is due, not to any malfunction or misuse of the rules which rearrange elements of logical form to produce surface form, but to the unlicensed application (nevertheless, an application) of a presumption-sensitive lexicalizing rule which has nothing to do with structuring. The <u>form</u> is the same, and it is this form for which truth-conditions are defined. Thus, a sentence uttered in a context may be lexically deviant without being semantically deviant or uninterpretable. In this quaint sense, the sentence may (somewhat paradoxically) be both "ungrammatical" in its context and <u>true</u>, unlike (236) or (237), which simply have no semantic interpretation. And, a fortiori, the sentence can be both "ungrammatical" in this way and meaningful. This suffices to turn aside the Argument from Meaningfulness; since that argument baldly assumed, equivocating on <u>grammatical</u>, that ungrammaticality entails meaninglessness.

What is to become, then, of Lakoff's claim that "a sentence will be well-formed only with respect to certain presuppositions about the nature of the world"? We have distinguished two notions of "grammaticalness" which might paraphrase <u>well-formed</u> here, a broad notion and a narrow notion. A sentence is "grammatical" in the broad sense if it is assigned a semantic interpretation, whether or not it has been appropriately lexicalized (alternatively, if it is the product of some application of the relevant syntactic rules, even if one or more of the rules has been applied in violation of a "strainer"-style restriction). A sentence is "grammatical" in the narrow sense, however, only if it is not only semantically interpretable but correctly lexicalized given the factual presumptions that in fact obtain in the context in which it is uttered. Thus, a sentence in vacuo is "grammatical" in the broad

sense, or else it is not; it is "grammatical" (or "ungrammatical")
in the narrow sense only relative to a set of contingent beliefs.

To be semantically interpretable is to have a specific logical
form or forms. In view of this, we prefer to reserve the term _well-formed_ as a synonym for "grammatical" in the broad sense. (Thus, some
well-formed sentences are lexically improper.) We may relate well-formedness in this sense to "grammaticalness" in the narrow sense in
the way suggested by Lakoff himself (1969:115): A string S is well-formed (= "grammatical" in the broad sense) iff there is at least one
set of factual presumptions relative to which S is "grammatical" in
the narrow sense. The well-formedness of S, on this usage, does not
vary with contextually specified sets of beliefs.

Lakoff writes,

> However, if a speaker is called upon to make a judgment as
> to whether or not S is 'deviant', then his extra-linguistic
> knowledge enters the picture.

On our usage, _deviant_ here is to be read as "not 'grammatical' in the
narrow sense"; a sentence's being "deviant" in this sense is (contrary
to Lakoff's usage) compatible with that sentence's being well-formed
(semantically interpretable).

The contrast between the broad and narrow senses of "grammatical"
has so far been highlighted only by the behavior of words of a certain
class (_even_, _too_, _either_, _instead_, _but_, ...), which (so to speak)
themselves carry connotations of various kinds. If we are right in
supposing all this, then possibly other syntactic phenomena will be seen
to point toward the distinction as well. And it should be added that
there are probably lots of different senses (or kinds, or grades) of
grammaticality besides these two; _grammatical_, _deviant_, _OK_, and other
evaluative predicates applied by linguists to strings mask many
different kinds of linguistic (and sometimes nonlinguistic) goodness
and badness, and someday these must all be straightened out.

Lakoff anticipates and disparages our suggestion of defining
"grammaticality" in the broad sense in terms of "grammaticality" in
the narrow sense and reserving "well-formedness" as a synonym for the
former:

> Such a definition would define a field of presupposition-free syntax. One might ask then what would be the content
> of this field, what phenomena would it deal with, would it
> be interesting? Such a field of presupposition-free syntax
> would deviate from the traditional study of syntax in that
> it would no longer involve the study of the distribution of
> all grammatical morphemes. As we have seen, the distribution
> of grammatical morphemes like _who_ versus _which_ cannot be
> stated in terms of presupposition-free syntax...It is not
> even clear that principled grounds could be found for
> motivating the notion of grammatical transformation within
> the bounds of such a field...In fact, it may well turn out
> that such a field would be limited to the study of the well-

formedness conditions on possible surface structures of a
language. Such a field might well be no more interesting
than traditional phrase structure grammar. At present, there
is no reason to believe that it would be. (pp. 115-6)

Lakoff seems to concede here that our distinction between well-formedness
and "grammaticality" in the narrow sense is tenable; what he doubts is
that, as a matter of empirical fact, a "presupposition-free syntax" or
recursive characterization of (what we call) well-formedness would be
able to explain many of what are traditionally taken to be syntactic
phenomena--or so we read the quoted remarks.

He points out that "presupposition-free" syntax would fail to
account for the distribution of all grammatical morphemes, e.g. for
that of who and which. This is correct; on our account, a recursive
grammar of (mere) well-formedness would not predict whether who or
which was correct in a given context--obviously, since it would not be
context-relative at all. But this consequence is entirely congenial to
us. Whether one uses who or which in a given context is not a matter
of form or structure, and, so far as we can see, has nothing to do with
truth-conditions in the semanticists' sense of the term. It is a matter
of the appropriateness of a single word. Possibly appropriateness-
conditions should be built into an adequate semantics in the form of
nonlogical axioms or "meaning postulates", for those linguists and
philosophers who countenance such things (and it seems clear that our
syntax will have to countenance them, though philosophers may go on to
argue over their logical or epistemic status). But axioms, for those
who appeal to them, serve strictly to account for (or "account for")
those semantic phenomena that are nonstructural, that turn on particular
information about particular morphemes or semantic primes. Thus, it
seems to us that a recursive theory of well-formedness should fail to
predict the behavior of all morphemes.

A more serious question is that of whether a "presupposition-free"
syntax would be interesting or important. Lakoff contents himself with
giving a few examples of allegedly interesting phenomena that would
fail to be treated by such a syntax. That in itself is unexciting.
What makes Lakoff's examples more interesting is that the phenomena in
question are ones which have been thought of by linguists specifically
as syntactic phenomena. And data of this sort drive home our earlier
contention that syntactic rules operate on something in addition to
semantic representations or logical forms.

However (assuming that Lakoff's points concerning selectional
restrictions, coreference and identity, etc. can be dealt with inde-
pendently), we have found only one class of syntactic phenomena that
require us to posit input from the belief-store, and the hypothesized
syntactic effect of such beliefs is (so far as has been shown) quite
superficial. There seems to be a group of morphemes whose distribution,
rather late in the transformational process, is indeed governed by
background beliefs. But that in itself hardly warrants Lakoff's grandly
skeptical predictions quoted above. He would have to find much more
evidence, and many more different kinds of plainly syntactic but
equally plainly context-bound data, in order to make a case for

doubting the importance or interest of "presupposition-free" syntax.
     Two final replies:
     1. Lakoff says, "It is not even clear that principled grounds
could be found for motivating the notion of grammatical transforma-
tion within the bounds of such a field." His reason for this (deleted
from the foregoing quotation) is that

> since selectional restrictions in general involve pre-
> suppositions, any such restrictions could not be used
> to motivate transformations. If such grounds for moti-
> vating transformations were taken away, it is not clear
> that very many, if any, of the traditionally assumed
> transformations could be motivated within a presupposition-
> free syntax. (p. 116)

Two dubious claims are involved here: that "selectional restrictions
in general involve presuppositions", and that most of the "traditionally
assumed" transformations are assumed largely on the basis of arguments
from selectional restrictions. The first of these claims is entirely
unclear as it stands, though it is likely to yield a truth upon
clarification, since "selectional restrictions" rather obviously
depend on the beliefs of speakers and hearers and consequently may
be expected to vary considerably with those beliefs (this is one reason
for supposing that "selectional restrictions", contrary to the inten-
tions of Gilbert Ryle, should play only a minor role in syntax). The
second claim is much more striking. Doubtless Lakoff knows far more
of the history of syntax than we. But (i) we have never noticed that
appeals to selectional restrictions loomed particularly large in
syntactic argumentation that we have come across, and (ii) we should
regard such appeals as argumentatively suspect, since (intuitively
speaking) they bear not on formal structure, but on what we say about
the meanings of words. Only much further work can settle these
issues.
     The matter of selectional restrictions aside, it is easy enough
to provide "principled grounds" for motivating the notion of a
grammatical transformation within the bounds of presupposition-free
syntax. The job of a presupposition-free syntax as limned above is,
given semantic representations or logical forms written in a logicians'
canonical idiom, to map these forms onto well-formed (i.e. in Lakoff's
phrase, possible) English surface structures. A syntax of well-
formedness is needed (whether or not it is, as "important" as some
other branches and sub-branches of semiotics); and it is hard to see
how such a mapping would be able to function in the absence of
grammatical transformations--it seems, indeed, to require them by
definition.
     2. Lakoff says, "[Presupposition-free syntax] might well be no
more interesting than traditional phrase structure grammar. At
present, there is no reason to believe that it would be." If what
Lakoff is looking for is an a priori reason to believe that
presupposition-free syntax would be interesting, in addition to the
rather obvious fact that both logic and grammar require some notion

of abstract structure (however unimportant that structure might turn out to be in comparison to other features of a natural language), he can find that reason in his own remark about "well-formedness conditions on possible surface structures". For we have the notion, marked vividly in intuition, of a possible sentence, a string which has a possible use in English, though of course not every possible sentence is appropriate in every (or even any) context. There is a firm distinction between strings which are possible sentences of English and strings which simply have no semantic interpretation. (We would be the last to rule out the possibility that this distinction masks further and more refined distinctions as well.) It is precisely the job of "presupposition-free" syntax, as Lakoff sees, to mark this distinction and thereby to delineate the class of strings that are candidates for lexically correct, felicitous and conversationally acceptable utterance. And that is interesting enough for us.

Footnotes

[1] Keenan (1972) provides a good example of the theoretical complications attending the acceptance of presuppositions.

[2] Wilson (1975) makes a valuable step towards discrediting presuppositions, albeit from a somewhat different standpoint from the one adopted here. Boër and Lycan (1974) attack presuppositions in the form of "invited inferences" (Geis and Zwicky 1971).

[3] Langendoen and Savin (1971); Karttunen (1973).

[4] Karttunen's more recent writings display increasing sophistication in these matters (1973; Karttunen and Peters 1975).

[5] This formulation is our reconstruction (Boër and Lycan 1974) of Geis and Zwicky's text.

[6] The following point has been made independently and somewhat differently by Katz (1973).

[7] Thus, Lakoff (1972) cannot (contrary to his explicit statement in footnote 2 to Section V) have been speaking of semantic presupposition when he wrote, "...in certain cases [sic] the presupposition relation is transitive...[But] transitivity of the presupposition relation fails in [other] cases" (575, 576).

[8] This is not to say that stress does not sometimes have semantic significance as well.

[9] The treatment of it as a "surface marker" for a bound variable in deep structure figures prominently in the version of Montague Grammar formulated by Cresswell (1973:178-9), obviating the need for a rule of clefting.

[10]Reis (1973) pursues this line in a rejoinder to Wilson (1972).

[11]Notice that this is slightly paradoxical in itself: (74b), when uttered (as is more common) with rising stress on know, suggests or implies that Sam is a Martian, even though (74b) itself is entailed by the claim that he is not!

[12]In a system of Montague Grammar, the distinction between internally and externally negated factive constructions can be made explicit at the level of deep structure, in terms of variations in the scope of negation relative to the scope of the nominalized sentential complement (regarded as a functor which forms sentences from monadic predicates). Given an appropriate semantical rule for a factive complementizer that, factive constructions and their internal negations can both be shown to entail their sentential complements (Cresswell 1973:165-9). If negated factives are thus syntactically ambiguous, there is yet another explanation of the temptation to invoke semantic presuppositions here, viz. failure to distinguish the genuine entailment which attached to internal negations in deep structure from the merely pragmatic implication attaching to external negations. This explanation would in turn neatly account for the fact that the factive suggestion carried by a negated epistemic sentence is obliterated when that is replaced by whether.

[13]Compare also As soon as Smedley arrived at the party, he managed to slip and fall on his face, though some hearers might insist on understanding this as irony.

[14]The actual semantics and syntax of (103a) are mysterious to us. If (103a) is equivalent to some conjunction, as we suppose, is it itself derived from some conjunction in semantic structure? Is there any syntactic evidence to indicate that manage undergoes lexical decomposition? These are matters we shall have to leave. But our data concerning (119)-(121) suffice to make the preliminary point that (103a) is simply stronger than (103c), and this point yields a natural explanation of Karttunen's phenomena, obviating any need to invoke semantic presupposition.

[15]For some speakers, actually, our technician's opening-and-shutting action verifies (147b) as well as (147a). For these speakers, the following account is unnecessary. The oddity of (142a) when (142b) is false is due simply to the statistical rarity of actions relevantly like John's.

[16]Of course, this kind of situation almost never actually occurs. When vacuous names occur in ordinary English, they do so attributively. See Boër (to appear).

[17]The distinction between referential and attributive uses of singular terms, originally introduced by Donnellan (1966) as a pragmatic matter, has subsequently been given both a semantic dimension (Boër, to appear; Boër and Lycan, in press; Devitt 1974) and a syntactic dimension (Stampe 1974; Bell 1973).

[18]However, see Harman (1975).

[19]For what we take to be the reason for this lack of success, however, see Lycan (1970).

[20]Chiefly Lakoff (1969 and 1972). See also Fillmore (1971) and Langendoen (1971).

[21]Horn argues for related conclusions concerning only; these, we believe, are easier to explain away in terms of quantificational structure.

[22]Data of this sort were called to our attention by Jon Schonsheck in an unpublished note.

[23]He also offers examples concerning selectional restrictions, and some which depend on claims about coreference and identity; but we find these far less convincing than those we have listed.

[24]Of course, this is not to say that sentences could have meanings at all in the absence of speakers who use them in certain ways in certain situations.

[25]See McCawley (1968); Ross (1970); Lakoff (1972); Sadock (1975).

[26]The point, however, is not entirely uncontroversial; an opposing view is taken by Lewis (1972) and by Cresswell (1973).

[27]Cresswell (1973:235-6) seems to endorse a similar proposal for Montague Grammar, for he remarks on the "elegance" of incorporating "use-dependent acceptability principles" and notes that such principles can be generalized to include beliefs as well.

[28]Actually, there is a relatively useless alternative reading of (225) and (230) according to which what Jane did instead of going to the dentist was to make a decision, one which may or may not have been carried out.

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A Reconsideration of Conditional Perfection

Marion R. Johnson

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

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

   Lilje (1972) and Boër and Lycan (1973) rejected the idea of
Conditional Perfection as a real property of English conditionals, and
documented a number of persuasive counterexamples to the claim that
it exists as a general property of all conditional utterances.[1] Never-
theless, I think that the original observation has some interest if it
is viewed in pragmatic rather than semantic terms. In this paper, I
will try to show that there exists a systematic relationship between
what type of speech act is being performed and whether the conditional
embodying that speech act tends to situationally imply its converse.

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

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

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

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

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

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

(5) If I mow the lawn, then give me five dollars.
(6) If it rains, then take me home.

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

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

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

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

(8) If this cactus doesn't grow native to Idaho, then
it's an Astrophytum.[3]

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(12a) seems to be a reasonable inference,

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

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

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

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

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

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

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

the addressee is likely to behave as if his instructions included

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

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

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

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

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

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

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

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

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

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

Footnotes

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

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

[2]Note that it is possible to say, 'If you would please mow the lawn, I'll give you $5'.

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

[4]By this I mean that he is observing Grice's (1974) conversational maxims.

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Impositive Speech Acts

Patricia A. Lee
University of Hawaii

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Patricia A. Lee
University of Hawaii

1. Types of Impositive Speech Acts

1.1. The speech acts which are impositive speech acts are those whose
illocutionary point is to get someone to do something, or to impose the
speaker's will upon the hearer. Verbs which describe such speech acts are:

> admonish, advise, appeal, ask, beg, beseech, bid, caution,
> command, counsel, demand, direct, enjoin, exhort, forbid,
> implore, insist, instruct, interdict, move, nominate,
> order, petition, plead, pray, prescribe, proscribe, propose,
> recommend, request, require, solicit, submit, suggest,
> urge, warn.

For Austin[1] impositive acts were a part of the rather diverse
category he called exercitives. Vendler[2] reduced Austin's category of
exercitives, but it still contains two subcategories which do not fall
into the impositive class. One is the type Vendler calls 'weaker
exercitives', which includes the verbs permit and allow; although acts
of permitting and allowing may make it possible for the hearer to do
something, they are not attempts to get the hearer to do something.[3]
The other type Vendler includes in his list of exercitives that are
not impositive verbs are what he calls 'provokers'; examples of such
verbs are dare and challenge. These verbs do seem to share the same
illocutionary point as the impositive verbs mentioned above, but they
also differ in many ways. For this reason I have labelled them 'semi-
impositives' and will deal with them in more detail later, after the
nature of the more straightforward impositive verbs has been examined.
    In yet another taxonomy of speech acts, J. McCawley (1973) divides
impositive acts into imperatives and advisories, apparently using a
criterion similar to the status condition, the imperatives being those
verbs which may be used to describe an act in which there is unequal
status and advisories being used when there is equal status between the
speaker and hearer. In a taxonomy formulated by Fraser (1972), the
distinction is between verbs of requesting and verbs of suggesting;
these two categories correspond, for the most part, to McCawley's
imperatives and advisories, respectively.

1.2. In this section I will attempt to show that impositive speech
acts are properly divided into two main types and three secondary
types according to the condition on status. Also, it is my contention
that there is a further semantic distinction which differentiates acts

within one of the main status types. A summary of the proposed taxonomy of impositive speech acts follows.

The specific Status condition involved in impositive acts applies to distinguish the relative status of the conversational participants in 'orders' and 'requests' (hereafter grouped together as the 'unequal status impositives'). The condition applies to insure that the status of the conversational participants is the same in 'suggestions' (the 'equal status impositives'). Although the Status condition applies to impositive acts in three ways (distinguishing, in general, orders from suggestions from requests) the type of application is not always discrete; for instance, acts of advising require only slightly unequal status. There is no impositive act to which the distinction does not apply; all impositive acts exhibit some reference to status. The condition applies to orders by requiring that the speaker have (or be acting as if he had) superior status to the hearer or be in a position of authority (or acting so, at least). Verbs of ordering are: <u>command</u>, <u>demand</u>, <u>direct</u>, <u>enjoin</u>, <u>forbid</u>, <u>instruct</u>, <u>interdict</u>, <u>prescribe</u>, <u>proscribe</u> and <u>require</u>. For requests the speaker is in an inferior position or has lower status than the hearer (or, is acting as if this were the case). Requests are performed and/or described by the following verbs: <u>appeal</u>, <u>ask</u>, <u>beg</u>, <u>beseech</u>, <u>bid</u>, <u>implore</u>, <u>petition</u>, <u>plead</u>, <u>pray</u>, <u>request</u>, <u>solicit</u>, <u>suplicate</u>. Recommendations and suggestions are distinguished by the fact that recommendations require that the speaker have just slightly higher status than the hearer, or at least that he definitely not have lower status than the hearer. For suggestions, the status need only be approximately equal, and the speaker can even have slightly lower status than the hearer. Verbs of recommending are: <u>admonish</u>, <u>advise</u>, <u>caution</u>, <u>counsel</u>, <u>exhort</u>, <u>insist</u>, <u>recommend</u>, <u>urge</u> and <u>warn</u>. Suggesting verbs are: <u>move</u>, <u>nominate</u>, <u>propose</u>, <u>submit</u> and, of course, <u>suggest</u>.

There is another property which distinguishes among equal status verbs. There are verbs of suggesting and recommending which reflect an attempt to cause the hearer to consider a proposition or action, and there are verbs of suggesting and recommending which reflect an attempt to get the hearer to do an action. The unequal status impositive acts are all attempts to get the hearer to do an action.

1.3. The first two properties used above for distinguishing the various types of impositive acts are quite different in nature from the third, and they present different kinds of analytic problems. Felicity conditions such as the Status condition can be considered to be pragmatic, whereas the decomposition of verbs of recommending and suggesting into considering as opposed to doing is clearly semantic. The problem arises of how to determine what is pragmatic and what is semantic in illocutionary acts; and, although linguists have at least some idea of how syntax and semantics interact, it is unclear how pragmatics interacts with semantics. While a final solution to this major theoretical problem is beyond the scope of this study, some remarks on the matter are required.

The traditional philosophical distinction between semantics and pragmatics is that semantics concerns propositions as they occur in language while pragmatics concerns language users and contexts in which language is used. One problem is whether illocutionary force is semantic or pragmatic, since the function that illocutionary force performs is to

link up the speaker (his intentions, desires, etc.) with the proposition of the speech act. Linguists have generally considered illocutionary force to semantic for several reasons. Ross (1970a) considers the possibility of illocutionary force being pragmatic rather than semantic (a 'pragmatic analysis' of speech acts as opposed to a 'performative analysis') and rejects it mainly on the grounds that no pragmatic theory of language exists and therefore the pragmatic analysis does not exist. There is, however, a semantic theory into which a performative analysis fits. Moreover, there are syntactic facts supporting performative verbs in deep syntactic (i.e. semantic) structure. Ross does not rule out the development of a pragmatics, but since the time of his writing of this article no theory of language use has been propounded that would be capable of incorporating a pragmatic analysis of illocutionary force.[4] What has been proposed is that illocutionary acts, while not actually pragmatic in nature, are sensitive to pragmatics in specific ways. I will be adopting a performative analysis here, and taking the view that illocutionary force is semantic and is represented by abstract performative predicates, but that the illocutionary force can be indirect and that such indirection is the result of operations which may be performed on pragmatic felicity conditions.

It is easier to see that illocutionary force is semantic in nature if one considers speech acts other than impositive acts. As was noted earlier, the illocutionary point of impositive acts is to get someone to do something, and, although it was also noted that illocutionary points are in general felicity conditions, this is an oversimplification (which will be discussed further in sub-section 1.4). At least a portion of what Searle (1973) labelled illocutionary point[5] is semantic and part of the illocutionary force. The difference between impositive acts and other speech acts is that the illocutionary force of impositive acts includes an intended perlocution, i.e., it is the speaker's intention to, in some way, affect the hearer's future actions (even if only mental actions). However, this does not warrant calling the illocutionary force of impositive acts pragmatic.

Certain felicity conditions on illocutionary acts can only be said to be pragmatic; extrinsic conditions refer to the language user and the context, and they neither refer to propositions nor have any direct syntactic consequences. Viewing felicity conditions as semantic creates a problem in that their representation in semantic structure, as it is generally accepted, is difficult. Calling felicity conditions pragmatic simply relocates the problem of representation, one of the many problems yet to be solved in pragmatics.

One relationship between felicity conditions and presuppositions is that what is a felicity condition for the performance of a particular speech act is a presupposition in the reporting of that act. This would seem to imply that if any felicity conditions are pragmatic, so are presuppositions (or at least those presuppositions that correspond to felicity conditions). Recently it has been suggested (Karttunen 1973, Stalnaker 1973, Thomason 1973) that at least some presuppositions are pragmatic rather than semantic. It is most likely that the type of presupposition that reflects felicity conditions is one of these pragmatic presuppositions.

1.4. Given the apparatus of generative grammar, the semantic structure[6] of impositive speech acts can be any of several possibilities which interact in some way with various felicity conditions to produce commands, suggestions, recommendations, and requests. I now sketch these possibilities in order to show which is the best and why.

Although I will be concerned here solely with impositive acts, the analysis presented here is extendable to other sorts of speech acts. Based on the facts about both direct and indirect impositive acts, I will try to show which aspects of meaning and illocutionary force must be expressed as part of the semantic structure of the impositive utterance and which must be considered as pragmatic conditions on those utterances.

There are basically four possibilities for the semantic structure of impositive acts; beginning with the most extreme and most unlikely we have:

1.4.1. No similarity in semantic structure

This view is that there is no necessary underlying similarity among impositive speech acts either in semantic primes or in the manner in which such primes relate to one another. The problem with this view is that there are certain similarities among the various types of impositive acts which must be accounted for in some way. First, there are the properties that derive from the illocutionary point. Since the illocutionary point of all impositive acts is to get the hearer to do something, the following properties are shared by all impositive acts:

a) they are intentional;
b) they involve causation;
c) they involve a change of state.

Next there are syntactic properties:

d) the subject of the proposition is in the second person when the act is explicitly performative;
e) the proposition of an explicitly performative impositive act is in the future tense.

There are exceptions to (d) and (e), significant exceptions, in fact; however they are limited to suggestions. (These exceptions will be dealt with in sub-section 1.4.2.)

Finally there is a property whose importance is very difficult to determine:

f) impositive acts can, in general, be performed directly with an explicit performative verb.

Although there is no obvious significance to impositive acts having many explicit performative verbs, the fact that they do contrasts sharply with the fact that Searle's representatives[5] (e.g., affirm, describe, mention), for instance, have relatively few explicitly performative verbs. Since it is doubtful that property (f) has any real bearing on the nature of impositive acts (and if it does, it is a mystery how), this property will not be considered in trying to arrive at a probably semantic structure for impositive acts.

Properties (a)-(c) could be considered to be either pragmatic or semantic; of the three, property (a) is the one most likely to be pragmatic; intention certainly refers to the language user. There is,

however, no real problem with considering (a) to be pragmatic, since it
is a property common to all illocutionary acts having locutions (that
is, all speech acts except exclamations involve the idea of intention,
even though what is intended differs for various kinds of acts). Inten-
tionality is therefore not particularly useful in characterizing imposi-
tive acts. What is significant is that while (a) can be thought of as
pragmatic, (b) and (c) cannot (as will be shown below). Consequently,
the notion of illocutionary point, which includes (a), (b) and (c), is
not as simple as it at first seemed.

In adopting a performative analysis, I have already excluded the
possibility that all these features are pragmatic. However, it remains
to be seen that properties (b) and (c) are not pragmatic (the syntactic
properties (d) and (e) are not serious candidates for pragmatic features).
Causation and change of state ((b) and (c)) are, I believe, semantic;
such semantic features have already been proposed and used in semantic
structures throughout the literature (e.g., Dowty 1972, G. Lee 1971,
J. McCawley 1968). In fact, the syntactic property (d) is a consequence
of either (b) or (c), or both (b) and (c). (Since causation implies
change of state it is perhaps unnecessary and redundant to refer to them
as two separate features.) Change of state involves a time prior to the
change (t_1) and a time after the change (t_2). When a speech act is
performed it is performed in the present (t_1); consequently any change
which the act is intended to bring about must occur after t_1, and any
time after the present is the future. It is therefore a direct result
of property (c) that the proposition of an impositive act is in the
future tense (property (d)).
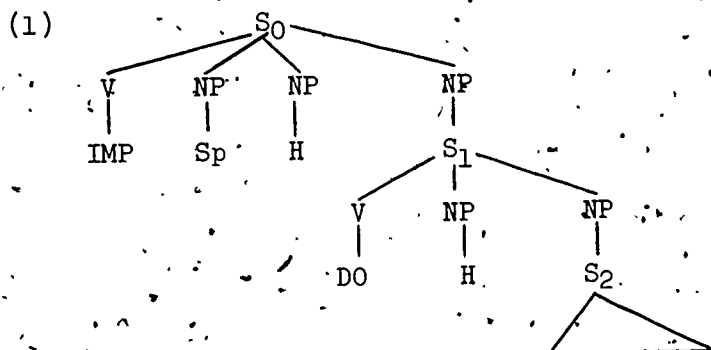
Since properties (b) and (c) are semantic and are common to all
impositive acts, they must be represented as similarities in the semantic
structure of impositive acts.

1.4.2. Total similarity in semantic structure

This view is that all impositive acts are semantically the same,
i.e., they share a distinctive set of semantic primes and similar semantic
structure and their only differences are those arising from different
felicity conditions. This view is not as blatantly wrong as the first
one, but it does suffer serious drawbacks.

Before examining the problems with such an analysis, let us look
at what sort of semantic primes are involved. An abstract performative
verb, represented as IMPERE, has been posited in the underlying structure
of both requests and commands by several linguists (among them R. Lakoff
and Sadock); however, the nature of this performative predicate is not
always agreed upon, and, in fact, is rarely even specified. I propose
a related predicate IMP which has the advantage of not being any more
closely associated with imperative sentences types or commands than with
any other sentence type or impositive act type. The semantic prime IMP
embodies that which is semantic and peculiar to impositive speech acts,
i.e., the speaker's attempt to cause the hearer to perform an action.
The predicate IMP has, of course, in addition, the properties that all
abstract performative verbs have of being a linguistic verb of communica-
tion, being unembeddable and being able to be realized as an explicit
performative (the last property is generally, but not universally, true
of performative predicates).

Returning to the second alternative for the semantic representation of impositive acts, such a structure can now be represented as:

(1)

```
                    S₀
         ┌────┬────┬────────┐
         V    NP'  NP       NP
         │    │    │        │
        IMP   Sp   H        S₁
                        ┌───┼────┐
                        V   NP   NP
                        │   │    │
                        DO  H    S₂
                                 △
```

(where Sp stands for speaker and H stands for hearer). This proposal is that all impositive acts can be represented as (1) and that the only differences among them derive from non-semantic sources such as pragmatic felicity conditions.

If it were the case that there were no syntactic variations corresponding to impositive act types, this proposal would be a plausible one. There is some negative evidence for this proposal in Fraser's (1972) demonstration that there is no correspondence between types of impositive acts (or at least different impositive verbs) and types of complementizers that occur with those verbs. But there is also more direct evidence against this proposal.

It was mentioned above (in 1.4.1.) that there are exceptions to the two syntactic properties (d) that the subject of the proposition be in the second person, and (e) that the verb of the proposition be in the future tense. First, there are some exceptions to (d) which occur frequently but are easily accounted for.

This set of exceptions to (d) are exemplified in the performative utterances (2) and the reports of performative utterances (3):

(2) a. I demand that he leave.
    b. I insist that he leave.
    c. I request that he leave.
    d. I order that he leave.
    e. I advise that he leave.
    f. I beg that he leave.

(3) a. I demanded of Hilda that Norman leave.
    b. I insisted to Hilda that Norman leave.
    c. I requested of Hilda that Norman leave.
    d. ?I ordered (of) Hilda that Norman leave.
    e. I advised Hilda that Norman leave.
    f. I begged of Hilda that Norman leave.

(The dubious grammatical status of (3d) is idiosyncratic and not relevant to this point.) Although these all seem to be violations of the generalization that impositive acts require the subject of the proposition to be the hearer or second person, these sentences submit only to a rather special interpretation, namely, that, in the speaker's opinion, the hearer is in some way able to control or influence the behavior of the person referred to in the proposition. This is shown

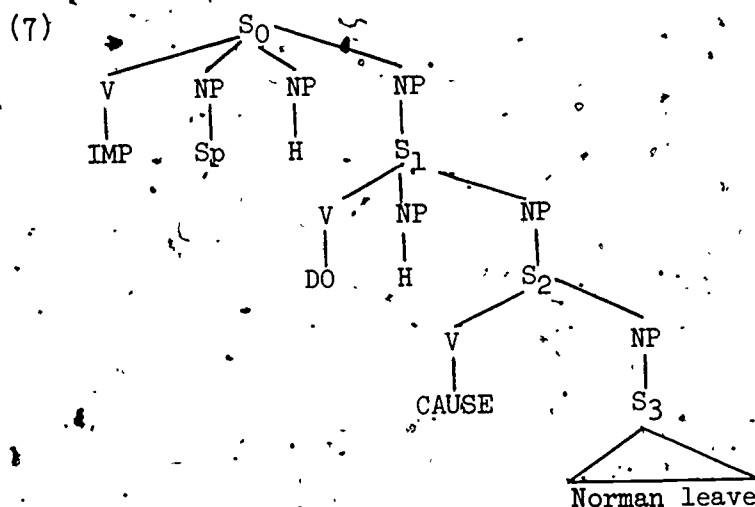by the fact that (4) is a paraphrase of (2) and (5) or (3).

(4) a. I demand that you $\begin{Bmatrix} \text{let/have him leave.} \\ \text{get him to leave.} \end{Bmatrix}$

b. I insist that you $\begin{Bmatrix} \text{let/have him leave.} \\ \text{get him to leave.} \end{Bmatrix}$

c. I request that you $\begin{Bmatrix} \text{let/have him leave.} \\ \text{get him to leave.} \end{Bmatrix}$

d. I order you to $\begin{Bmatrix} \text{let/have him leave.} \\ \text{get him to leave.} \end{Bmatrix}$

e. I advise you to $\begin{Bmatrix} \text{let/have him leave.} \\ \text{get him to leave.} \end{Bmatrix}$

f. I beg you to $\begin{Bmatrix} \text{let/have him leave.} \\ \text{get him to leave.} \end{Bmatrix}$

(5) a. I demanded of Hilda that she let Norman leave.
b. I insisted to Hilda that she let Norman leave.
c. I requested that Hilda have Norman leave.
d. I ordered Hilda to have Norman leave.
e. I advised Hilda to get Norman to leave.
f. I begged Hilda to get Norman to leave.

Also, the (3) sentences can be conjoined with sentences explicating the manner in which the request, recommendation or order is carried out:

(6) a. I demanded of Hilda that Norman leave and she obeyed
          by letting him go.
b. I insisted to Hilda that Norman leave and she obeyed
          (?) by letting him go.
c. I requested of Hilda that Norman leave and she
          complied by having him go.
d. ?I ordered (of) Hilda that Norman leave and she
          obeyed by having him go.
e. I advised Hilda that Norman leave and she took my
          advice and got him to go.
f. I begged of Hilda that Norman leave and she complied
          by getting him to go.

Sentences (4)-(6) indicate that the semantic structure of (2), rather than being grossly different from (1), is simply an elaborated version of (1) where the structure under S_2 is causative, on the order of (7).

(7)

```
                        S₀
         ┌──────┬──────┼──────┐
         V      NP     NP     NP
         │      │      │      │
        IMP     Sp     H      S₁
                           ┌───┼────────┐
                           V   NP       NP
                           │   │        │
                          DO   H        S₂
                                     ┌───┴────┐
                                     V        NP
                                     │        │
                                   CAUSE      S₃
                                              △
                                         Norman leave
```

Although these orders, recommendations and requests cannot be said to be exceptions to (d), in any but a most superficial sense, that is not true of suggestions.

(8) a. I propose that he leave.
    b. I suggest that he leave:
(9) a. I proposed to Hilda that Norman leave.
    b. I suggested to Hilda that Norman leave.

The performative utterances (8) and the reports of them (9) do not necessarily imply that the hearer has, in the speaker's opinion, influence or control over the actions of the subject of the proposition; rather, they only imply that the speaker wants the hearer to think about the possibility or desirability of the proposition. This is shown by the fact that (10) and (11) are not paraphrases of (8) and (9) (as (4) and (5) were of (2) and (3)).

(10) a. I propose that you get him to leave.
     b. I suggest that you let him leave.
(11) a. I proposed to Hilda that she get Norman to leave.
     b. I suggested to Hilda that she let Norman leave.

The point here is that the proposition of suggestions and some recommendations may have subjects in some person other than second with no special interpretation of hearer influence over the subject associated with them.[8]

The exceptions to syntactic generalization (e)--that the verb of the impositive act always be in the future tense--are the same type of impositive acts that are exceptions to (d), i.e., suggestions.

(12) I {order / advise / insist / request} you to leave {immediately. / tomorrow. / *yesterday. / *last year.}

$$(13) \quad I \; \begin{Bmatrix} propose \\ suggest \end{Bmatrix} \; that \; you \; left \; \begin{Bmatrix} yesterday. \\ last \; year. \end{Bmatrix}$$

It might be argued here that these violations of the syntactic generalizations (d) and (e) stem from felicity conditions because the kind of impositive acts that violates them (i.e., suggestions) is the kind to which the Status condition applies equally. However, the Status condition applies relatively equally to recommendations too, but they do not tend to violate (d) and (e). Moreover, there is no way in general to link up felicity conditions with syntactic facts and, in this particular case, a connection between the Status condition and the second person pronoun or the future tense is extremely unlikely.

I think it is fair to conclude that there is some semantic difference among different types of impositive acts. The question now is: how should such differences be represented. The last two proposals for the semantic structure of impositive acts explore this question.
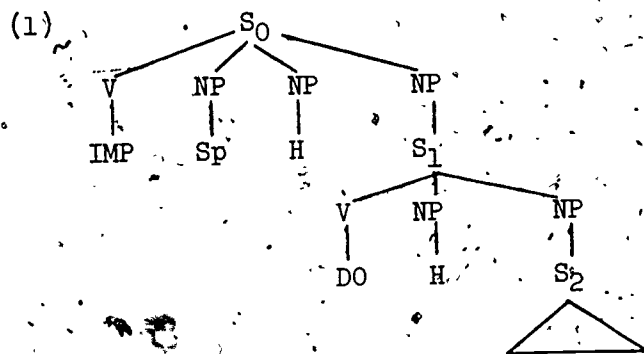
1.4.3. Different abstract performative verbs, same embedded proposition.

This solution does not really come to grips with the problems mentioned in 1.4.2. above. It is inadequate in that it simply says that there are two IMPs with different syntactic restrictions; it offers no explanation as to why that might be so. Perhaps the lack of explanation offered by such a proposal results from our general lack of knowledge about the nature of abstract performative verbs. In any case, a solution along these lines does not provide much enlightenment.
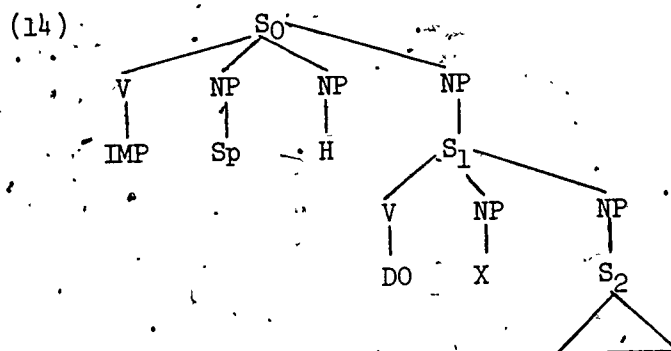
It was stated earlier that ideally the abstract performative verb should embody the illocutionary force of the speech act; having two verbs of imposition would lead one to wonder whether the illocutionary force of suggesting is different from that of ordering, recommending and requesting. This is certainly not an entirely implausible idea, however, the problem remains that there is no way, within the currently available framework, to explore this possibility. Consequently, the rejection of this view is based not on any real evidence against it, but on its lack of fertility. It may eventually turn out that this view is the right one, but for now we need a proposal which will shed more light on the similarities and differences among types of impositive acts.

1.4.4. Same abstract performative verb, different embedded propositions.

This proposal says that the similarities among orders, recommendations, suggestions and requests are due to the same abstract performative verb and that the differences result from the structure beneath the performative predicate. For orders, recommendations, and requests, the structure proposed earlier as (1) is adequate.
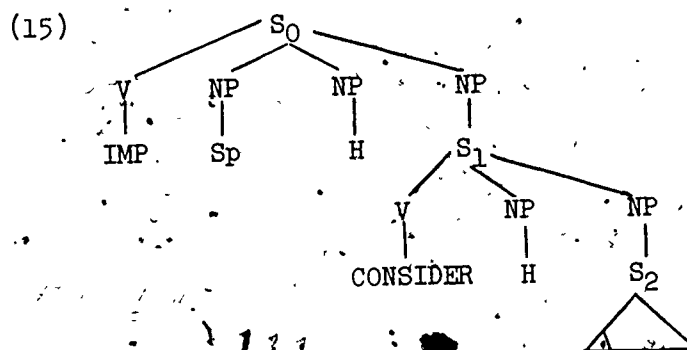
(1)

```
                    S0
        ┌──────┬──────┬──────────┐
        V      NP     NP         NP
        │      │      │          │
       IMP     Sp     H          S1
                             ┌───┼────┐
                             V   NP   NP
                             │   │    │
                             DO  H    S2
                                     /\
```

Suggestions, however, require some modification of the structure S_1.
One possibility is to simply substitute a variable for H in S_1, as
is illustrated in (14).

(14)

```
                    S0
        ┌──────┬──────┬──────────┐
        V      NP     NP         NP
        │      │      │          │
       IMP     Sp     H          S1
                             ┌───┼────┐
                             V   NP   NP
                             │   │    │
                             DO  X    S2
                                     /\
```
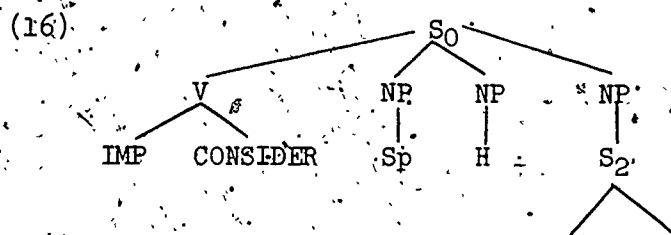
This would solve the problem of the unrestricted subject of the
embedded proposition of suggestions, but it does not deal with the
fact that the verb of the embedded proposition is not necessarily in
the future tense for suggestions. Also, this formulation of the
semantic structure of suggestions leads to a rather peculiar result
when the rule of Performative Deletion[10] is applied to it. Since
what Performative Deletion does is delete the performative sentence,
S_0, when applied to a structure like (14) it would produce a sentence
which is indistinguishable from a declarative-form assertion and not
interpretable as a suggestion (e.g., the reduced form of (8a) would
be He will leave).
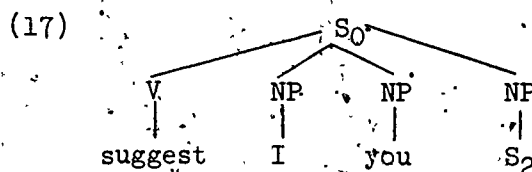
The other solution, and the one advocated here, is a semantic
structure on the order of (15) with an intermediate proposition whose
predicate is CONSIDER, a representation of the properties common to
the lexical items consider, think about, take into account, etc.

(15)

```
                    S0
        ┌──────┬──────┬──────────┐
        V      NP     NP         NP
        │      │      │          │
       IMP     Sp     H          S1
                             ┌───┼────┐
                             V   NP   NP
                             │   │    │
                          CONSIDER H  S2
                                     /\
```

The hearer NP of S_1 is deleted under identity, and then Predicate Raising (McCawley 1968) applies, giving the structure illustrated in (16).

(16)

```
                        S0
          _____/  |  _____
         V           NP   NP        NP
       /   \          |    |         |
     IMP  CONSIDER    Sp   H        S2
                                    /\
                                   /__\
```

Finally, the surface verb suggest (or one of its synonyms) is inserted to produce the derived structure (17).

(17)

```
                      S0
          _____/  |  _____
         V         NP    NP       NP
         |         |     |        |
     suggest       I    you      S2
```

The semantic structure (15) explains why suggestions seem to violate the syntactic generalizations (d) and (e) which hold for other impositive acts. The proposition which turns up in the surface structure was not originally embedded under IMP and is therefore not restricted as to person of subject and verb tense. The next section explores the restrictions the predicate CONSIDER places on its complement sentence and the general nature of CONSIDER.

2. Suggestions.

2.1. Before going into the details of the predicate CONSIDER and the arguments for its existence in the semantic structure of suggestions, I would like to examine the verb suggest, or, more precisely, the various verbs suggest. The other impositive verbs of suggesting (propose, move, submit, etc.) are not ambiguous in the same way as suggest is, and, since they share the important semantic features of the impositive suggest, they will be assumed to derive from the same semantic structure as suggest.

In each of the categories of impositive verbs there are a few verbs which seem to typify the category by their neutrality and their freedom of occurrence. For suggestions these verbs are suggest and propose (as opposed to move and nominate, for example). For orders, the verbs order and command are typical; advise and recommend are typical to recommendations, as are ask and request for requests. The other verbs in each of these categories are distinguished by such things as the context in which they may occur, the style or manner of speaking, and the strength of the impositive act. Since it is my contention that each of the two types of impositive acts has a particular semantic structure, regardless of which verb appears in the surface structure, I will not be concerned with the individual vagaries of each verb.

2.1.1. One sort of ambiguity that suggest exhibits involves the agentive sense as opposed to the connection-of-ideas sense. This is

an ambiguity that resides in many non-impositive verbs as well (mean, imply, indicate, prove, demonstrate, say and tell).[11] The connection-of-ideas suggest (suggest$_1$) has the meaning 'to bring to mind through association' and is illustrated in the following sentences:

(18) It suggested a fine Italian hand to me.
(19) The fragrance suggested trade winds and palm trees.

Suggest$_1$ is, consequently, entirely distinct from the impositive suggest, since verbs which can be used as explicit performatives or which can be used to describe speech acts (as the impositive suggest can) must take agents as their subjects.

It has been argued by philosophers (e.g., Ware 1973) that a crucial difference between acts and actions is that acts must be performed by an agent. Linguistic evidence for such a view, however, is something of a problem to produce. Explicitly performative uses of verbs are highly restricted: they do not allow manner adverbs nor do they occur embedded after persuade--so that such verbs cannot be shown to be pro-agentive[12] when they are used as explicit performatives. They can be used in imperative-form sentences, e.g.,

(20) Order her to stay.
(21) Advise him to return.
(22) Request them to come soon.

but all that shows is that they can take agents when occurring in that context; it says nothing about when they occur as explicit performatives. Similarly, it can be shown that in reports of impositive acts the verbs are agentive:

(23) Miranda $\begin{Bmatrix} \text{cleverly} \\ \text{stupidly} \end{Bmatrix}$ $\begin{Bmatrix} \text{ordered} \\ \text{advised} \\ \text{requested} \end{Bmatrix}$ us to leave.

(24) Hilda persuaded Miranda to $\begin{Bmatrix} \text{order} \\ \text{advise} \\ \text{request} \end{Bmatrix}$ us to leave.

These facts make it seem likely that the subjects of explicit performa-tive utterances at least can be agents, but what is really needed is evidence that the subject of such verbs cannot be non-agents. Such evidence is provided by the following anti-agentive context (proposed in G. Lee, 1971):

(25) NP turns out to _____.

where turns out to is interpreted as proves to. In this frame only verbs which cannot have agent subjects may occur, as (26)-(29) illustrate:

(26) *He turns out to assassinate the premier.
(27) *He turns out to believe the story.
(28) It turns out to glimmer.
(29) It/he turns out to be tall.

Those impositive verbs which can be used as explicit performatives
and which do not have a non-agentive reading (as <u>suggest</u> has) cannot
occur in this environment.

(30) *It/he turns out to $\left\{\begin{array}{l} \text{advise} \\ \text{order} \\ \text{request} \end{array}\right\}$ that we leave.

This indicates that these verbs can never take non-agents as subjects
and therefore must take agents as subjects. Although because of its
non-agentive reading, <u>suggest</u> does not prove to be agentive according
to this test, I will show that there is an agentive <u>suggest</u>, which is
similar enough to the other impositive verbs to be supposed to be
agentive when used as an explicit performative.

2.1.2. Another property of explicitly performative verbs is that they
are verbs of linguistic communication. It is in this way that the
impositive <u>suggest</u> differs from yet another <u>suggest</u>; this suggest_2 is
agentive but not necessarily a verb of saying and means 'to show
indirectly or imply':

(31) Carl suggested he was guilty by refusing to answer
    the question.
(32) Without saying a word, Hermione managed to suggest
    that we go to bed early.
(33) Zachary cleverly suggested leaving by declining
    another drink.
(34) Silently, but unmistakably, Jane suggested that I
    had said enough.

There are speakers for whom (31)-(34) are marginally acceptable at
best; this may be the result of a hierarchical relationship of the
linguistic communication aspect of verbs, which will be examined below.

2.1.3. The third <u>suggest</u>, meaning 'to bring (a thought, problem, or
desire) to mind for consideration', is the one which occurs as an
explicit performative, as in (35)-(37).

(35) I (hereby) suggest that we try to help.
(36) I suggest you eat less.
(37) I suggest that Cora did it.

Suggest_3 is a more specific verb than suggest_2 (having the added
restriction of being a verb of linguistic communication) and, as was
pointed out to me by Arnold Zwicky, can be contrasted with suggest_2
in a sentence like (38),

(38) She suggested_2 that Harbird was guilty, without
    $\left\{\begin{array}{l} \text{,in fact,} \\ \text{actually} \end{array}\right\}$ suggesting_3 it.

A sentence such as (38) would be contradictory unless two distinct
verbs were involved; the less specific one (suggest_2) being asserted

and the more specific one (suggest$_3$) being denied.[13]   I personally do not find (38) to be contradictory and there are speakers who agree with that judgment; however, other speakers do consider (38) to be contradictory. This judgment is similar to the judgment of unacceptability of (31)-(34) in that it results from the same (closely compacted) hierarchy.

This hierarchy consists of verbs of communication and is determined by the nature of the communication--whether or not it is linguistic and to what degree it is or is not. A rough idea of this hierarchy's categories and category members is given in (39).

(39)   Not   Not necessarily   Necessarily   Really
       linguistic   linguistic   linguistic   linguistic

       persuade-imply-suggest$_2$-suggest$_3$-say-mutter-say in a mutter

The verbs on the non-linguistic end of the continuum occur with the adverbial phrase without saying a word, while the really linguistic verbs do not.   Conversely, the non-linguistic verbs do not occur with the adverb loudly, while the linguistic and really linguistic verbs do occur with it.

(40)   a.   Without saying a word, Joshua persuaded Irving to
            give up.
       b.   Without saying a word, Joshua implied/suggested$_2$
            that Irving should give up.
       c.   ?Without saying a word, Joshua suggested$_3$ that
            Irving should give up.
       d.   ?*Without saying a word, Joshua said that Irving
            should give up.
       e.   *Without saying a word, Joshua muttered that Irving
            should give up.
       f.   **Without saying a word, Joshua said in a mutter that
            Irving should give up.

(41)   a.   *Joshua loudly persuaded Irving to give up.
       b.   ?*Joshua loudly implied that Irving should give up.
       c.   ?Joshua loudly suggested$_2$ that Irving should give up.
       d.   Joshua loudly said that Irving should give up.
       e.   Joshua loudly muttered that Irving should give up.
       f.   Joshua loudly said in a mutter that Irving should
            give up.

There are many mysteries connected with this hierarchy; for instance, why are manner-of-speaking verbs like mutter or say in a mutter so much worse with the phrase without saying a word than say or suggest$_3$? By labelling the manner-of-speaking end of the hierarchy 'really linguistic' I have suggested that these sorts of verbs are somehow more linguistic than other necessarily linguistic verbs; I have no idea what it might mean for some necessarily linguistic verbs to be more linguistic than

others. In any case, if it turns out that there actually is such a
hierarchy, it may be that for some speakers the continuum is so
tightly compressed in the middle that suggest$_2$ and suggest$_3$ are
indistinguishable; for those speakers, sentences (31)-(34) are
unacceptable and (38) is an internal contradiction.[14] This is really
just to say that, for those speakers, agentive suggest is neutral
rather than ambiguous and that the neutrality involves the manner of
communication.

2.1.4. Returning to the verbs suggest, we find that there is one more,
suggest$_4$, which means 'to propose someone or something as a possibility'.
Suggest$_4$ can also be used as an explicit performative, and, in fact,
seems to differ from suggest$_3$ only in the nature of its direct object,
which must be concrete as opposed to the abstract object (e.g., thought,
problem, etc.) that suggest$_3$ takes. But even that difference has a
superficial appearance since, according to the definition of suggest$_4$,
it is as a 'possibility' that the concrete is being viewed. The
following sentences,

    (42) I suggest Cora. (may = 37)
    (43) I suggest mangoes.

can be reduced versions of the sentences

    (44) I suggest (that it is possible) that Cora did it.
    (45) I suggest (that it is possible)
         { to have mangoes / that we have mangoes } for dessert.[15]

The fact that the sentences in which suggest$_4$ occur have non-elliptical
counterparts which look very much like the sentences in which suggest$_3$
occurs indicates that they are the same verbs, and that the difference
resides in their complement sentences. This, then, is the impositive
suggest whose semantic structure will now be examined.

2.2. It was proposed in section 1 that the semantic structure of
suggestions involves a predicate CONSIDER; such a predicate would
encompass the meaning common to the following lexical items (and
probably others as well):

    (46) consider, contemplate, deliberate on, mull over,
        muse, ponder, reflect on, take into account,
        think about.

The semantic commonality of these verbs is that they all express
intentional mental activity, directed toward a specific matter.
    Syntactically, they are non-stative:

    (47) a. Morley was { considering / reflecting on / thinking about } going home.

(47) b. Morley slowly $\left\{\begin{array}{l}\text{considered} \\ \text{reflected on} \\ \text{thought about}\end{array}\right\}$ going home.

These verbs are also agentive:
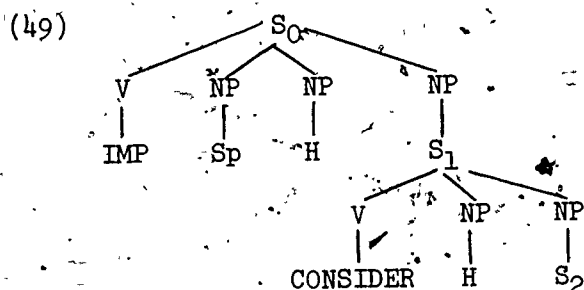
(48) a. — $\left\{\begin{array}{l}\text{Consider} \\ \text{Reflect upon} \\ \text{Think about.}\end{array}\right\}$ going to the party.

b. Milly $\left\{\begin{array}{l}\text{carefully} \\ \text{deliberately}\end{array}\right\}$ $\left\{\begin{array}{l}\text{considered} \\ \text{reflected on} \\ \text{thought about}\end{array}\right\}$ going to the party.

c. Lynn persuaded Mark to $\left\{\begin{array}{l}\text{consider} \\ \text{reflect upon} \\ \text{think about}\end{array}\right\}$ going to the party.

From these properties of the verbs in (46) it can be inferred that the semantic predicate CONSIDER is also non-stative and agentive; consequently, CONSIDER is decomposable into some structure involving DO.[16] Although the details of such a structure are not clear, nor especially important here, it is interesting to note that the semantic structure of suggestions is not as radically different from that of other impositive acts as it may have appeared when CONSIDER was first introduced. That is, the predicate embedded immediately under IMP is DO for orders, recommendations and requests; for suggestions it is also DO, but with the added specification of direct mental activity.

A more interesting property of the verbs in (46) and of the predicate CONSIDER, is that they take as complements sentences whose main verbs may be of any tense. If CONSIDER is a part of the semantic structure of suggestions, this property would account for the fact that the suggested propositions may be in the present or past tense, as well as the future tense. In other words, the proposed structure (repeated here as (49)),

(49)

```
                    S0
          /     /    |     \
         V    NP    NP      NP
         |     |     |       |
        IMP   Sp     H      S1
                          / | \
                         V  NP  NP
                         |  |    |
                   CONSIDER H   S2
```

would, by virtue of a syntactic property of CONSIDER, explain why suggestions like (50) are acceptable, while similar orders, recommendations and requests, as in (51), are not.

(50) I $\left\{\begin{array}{l}\text{suggest} \\ \text{propose}\end{array}\right\}$ that you left $\left\{\begin{array}{l}\text{yesterday.} \\ \text{last year.}\end{array}\right\}$

$$(51) \text{ *I} \begin{Bmatrix} \text{beg you to leave} \\ \text{order you to leave} \\ \text{demand that you leave} \\ \text{advise you to leave} \\ \text{insist that you leave} \\ \text{request you to leave} \end{Bmatrix} \begin{Bmatrix} \text{yesterday.} \\ \text{last year.} \end{Bmatrix}$$

There are two other properties of the verb consider that must be carefully excluded from the syntax of the predicate CONSIDER. The first one is only a property of consider when it is synonymous with the verbs assume and suppose; the property is that the complement sentence be suppositional in nature. The predicate CONSIDER does not take suppositional complements, so that (52), which looks like it could derive from a structure like (49) (by Equi-NP Deletion of the hearer NP of S_1 and Performative Deletion of S_0), is not a suggestion.

(52). Consider that all triangles are red.

It is, rather, the equivalent of (53), which must have a suppositional reading.

$$(53) \begin{Bmatrix} \text{Assume} \\ \text{Suppose} \end{Bmatrix} \text{ that all triangles are red.}$$

In this imperative-form construction the preferred reading of consider is suppositional and therefore not equivalent to the suggestion:

(54) I suggest that all triangles are red.

The other property of consider that is not a property of CONSIDER is that consider may take a factive complement but CONSIDER may not. This is related to the fact about suppositional complements; what it means for a sentence to be suppositional is that the proposition being put forth is to be accepted as true or as a fact for the sake of an argument. It is, therefore, a factive. So it seems that the observation about the difference between consider and CONSIDER in regard to suppositional complements is just an instance of the more general difference between them involving factive complements. (55)-(57) show that consider (or one of its synonyms) may have complements which can only be interpreted factively;[17] (58)-(60) show that suggest (or IMP CONSIDER) cannot:

(55) a. Consider the fact that Martha ran for office.
    b. Think about the fact that Sam skipped the country.
    c. Take into account that the corporation donated a million dollars.
(56) a. Consider his refusal to testify.
    b. Think about Bland's gift to the committee.
    c. Take into account Yvonne's perserverance.
(57) a. Consider Martha's running for office.
    b. Think about Sam's skipping the country.
    c. Take into account the corporation's donating a million dollars.

(58) a. *I suggest the fact that Martha ran for office.
      b. *I suggest the fact that Sam skipped the country.
      c. *I suggest the fact that the corporation donated
         a million dollars.
(59) a. *I suggest his refusal to testify.
      b. *I suggest Bland's gift to the committee.
      c. *I suggest Yvonne's perseverance.
(60) a. *I suggest Martha's running for office.
      b. *I suggest Sam's skipping the country.
      c. *I suggest the corporation's donating a million
         dollars.

There is a construction very similar to the Poss-ing construction of
(57) and (60) which is non-factive and therefore does occur with suggest.
This non-factive construction differs from the factive one only in not
having a possessive marker on the first noun of the proposition.
Examples are:

(61) $\left\{\begin{array}{l}\text{Consider.}\\\text{Think about}\end{array}\right\}$ Martha running for office.

(62) I suggest Martha running for office.

2:3. It should perhaps be noted here that the imperative sentence
form, which crops up so often in a discussion of impositive speech acts,
is a direct result of an underlying structure which has as its abstract
performative, IMP, since one of the properties of IMP is that the subject
of its embedded sentence is coreferential with its indirect object (i.e.,
the hearer of the utterance). The result of this property of IMP (which
is, incidentally, reflected in the statement of the illocutionary point
of impositive speech acts) is that Equi-NP Deletion can apply to delete
the hearer NP of S_1, after which Performative Deletion may apply to S_0,
producing the typical subject-less imperative sentence form. With the
exception of requests, whose deferential nature requires that the
direct act be somehow modified (as with the addition of tags like
please or will you), all impositive acts can undergo Equi-NP Deletion
and Performative Deletion and turn up as imperative sentences. There-
fore, if a structure like (49) does underlie suggestions, one would
expect imperative-form sentences beginning with consider (at least in
its non-factive sense) to be suggestion. Sentences like (61) do seem
to be suggestions.[18] Not only are they paraphrases of sentences like
(62), but they also do not allow tags that orders typically allow (such
as expletives like dammit, or adverbs indicating urgency like now!,
immediately!, and I don't mean next year!):

(63) Consider Martha running for office, *dammit!

(64) Think about doing it, $\left\{\begin{array}{l}\text{*immediately!}\\\text{*and I don't mean next year!}\end{array}\right\}$

Consider imperatives like (61) cannot be requests because requests do
not occur as unmodified imperatives. It is more difficult to
distinguish imperative-form suggestions from imperative-form recommen-
dations, but it does seem that a sentence like (65) is odd.

$$(65) \quad \left\{ \begin{array}{l} \text{?For your own good,} \\ \text{For } \left\{ \begin{array}{l} \text{Thelma's} \\ \text{my} \end{array} \right\} \text{ sake,} \end{array} \right\} \text{consider} \left\{ \begin{array}{l} \text{Joe doing it.} \\ \text{having your} \\ \text{hair cut.} \end{array} \right\}$$

Both the strangeness of (65) and the restrictions mentioned above on the kinds of tags that may occur with either orders or requests are results of felicity conditions on various types of impositive acts; these conditions will be examined in detail in section 3.

2.4. There is another way that suggestions may be distinguished from other impositive acts which could also be taken as evidence for the existence of CONSIDER in the semantic structure of suggestions. It was demonstrated by Morgan (1973) that there is a syntactic relation between utterances and their responses. Suggestions can typically be responded to by sentences making reference either to the act of consider- ing or the sort of thing which can be considered (i.e., an idea, a proposition, etc.). So the suggestions in (66) below can be responded to by the sentences in (70), but the orders in (67) and the requests' in (68) cannot. Just as the distinction between suggestions and recommendations was difficult to perceive above, so it is now, with some of the responses in (70) being appropriate to the recommendations in (69) and some not. However, the fact that the responses which are not appropriate to the recommendations are those with explicit reference to considering, (70d-f) may indicate a real semantic difference between suggestions and recommendations. In any case, it is clear that suggestions and recommendations have more in common with each other than suggestions do with either orders or requests; this is a point that I will return to shortly.

(66) Suggestions:
    a. I suggest we all leave now.
    b. I suggest Harry go first.
(67) Orders:
    a. I order you to clean the latrine.
    b. Pick up your socks, dammit!
(68) Requests:
    a. Please give me a dime.
    b. I humbly request that you stay.
(69) Recommendations:
    a. I recommend that we leave now.
    b. I advise you to stay put.
(70) Responses:
    a. That's a good idea.
    b. That's a terrible idea.
    c. I'll keep that in mind.
    d. That's worth thinking about.
    e. That's worth considering.
    f. I'll think about it.
    g. I'll take that into consideration.

2.5. The problem of determining just what is a suggestion and what is a recommendation involves both semantics (if CONSIDER is actually

a semantic predicate of the act of suggesting) and pragmatic felicity conditions. This sub-section will be devoted to exploring both kinds of distinctions in an attempt to clarify the suggestion/recommendation problem. The reason that these two types of impositive acts are so much more confusing than orders and requests is that the latter two are easily distinguished from each other and from suggestions and recommendations by the felicity condition involving the relative status of the speaker and hearer. This Status condition applies in a very similar way to suggestions and recommendations, so the difference between these two kinds of impositive acts must be sought elsewhere.

The simple proposal for distinguishing suggestions and recommendations is that: a) recommendations have in their semantic structure IMP DO, and a felicity condition that the speaker believe that the action being recommended is desirable or good for the hearer or some other concerned party, and that: b) suggestions are semantically IMP CONSIDER and do not have a 'Good For' condition. As might be expected, this simple proposal is too simple; the impositive verb suggest, for many speakers, implies a Good For condition identical to that of recommendations. In addition, there are occurrences of direct suggestions which do not seem to involve CONSIDER, but rather DO, e.g.,

$$(71) \quad \text{I suggest you} \left\{ \begin{array}{l} \text{go soak your head.} \\ \text{go jump in the lake.} \\ \text{bug off.} \end{array} \right\}$$

It does seem that sarcastic suggestions like (71), which have a semantic DO, are never supposed to be good for the hearer, so suggestions and recommendations are still indistinguishable.

A less clear set of examples of suggestions which have DO rather than CONSIDER in their semantic structure are those indirect suggestions beginning with Let's as illustrated in (72).

(72) a. Let's go swimming.
      b. Let's throw a party.
      c. Let's get to work.
      d. Let's clean the fish; we've got to do it sometime.
      e. It's now or never and we've got to get it over with, so let's do it.

There is a problem with Let's suggestions; they frequently seem to have a Good For condition (as in (72a) and (72b)), but sometimes it is unclear whether or not they have such a condition. (72c) is especially unclear, while (72d) and (72e), by their explanatory additions, indicate that the end result or the accomplishment of the action is a good or desirable thing. If Let's suggestions do have a Good For condition, then they are not really suggestions at all, but recommendations. Another possibility for these sentences is that they do not have exactly a Good For condition, but a more general condition that the proposed action is not bad for the hearer or hearers.[19] That would account for the neutrality of (72c) in regard to desirability and the apparent need for justification in (72d-e). It would also explain why (71) is either rude or facetious, but not an ordinary suggestions. If

this is the case, then there is still a pragmatic difference between suggestions and recommendations.

The final problem is that the verbs advise and recommend (though none of the other verbs of recommending) are sometimes used with the same freedom of complements as verbs of suggesting. That is, (73) and (74) are not unacceptable.

(73) I recommend that John, Ella and Ann go.
(74) I advise that he leave now.

If the semantic structure of recommendations is IMP DO, there is a problem in deriving these forms; if it is IMP CONSIDER there is no problem. Also, (75) and (76) are at least rough paraphrases of (73) and (74).

(75) For your sake, consider that John, Ella and Ann go.
(76) In your own best interest, I suggest that he leave now.

This indicates that, while these sorts of recommendations can have the Good For condition, they also have the semantic structure usually associated with suggestions.

The result of this attempt at disentanglement is four kinds of equal status impositive acts:

I. DO recommendations.
   Semantic structure: IMP DO
   Felicity condition: Action is good for hearer.
   Example: I recommend you leave now.
II. CONSIDER recommendations.
   Semantic structure: IMP CONSIDER
   Felicity condition: Action is good for hearer.
   Example: I recommend that Ann go.
III. CONSIDER suggestions.
   Semantic structure: IMP CONSIDER
   Felicity condition: Action is not bad for hearer.
   Example: I suggest that he did it.
IV. DO suggestions.
   Semantic structure: IMP DO
   Felicity condition: Action is not bad for hearer.
   Example: Let's get to work.

2.6. In concluding this section, I would like to point out that, although there are no strong arguments for the existence of CONSIDER in the semantic structure of CONSIDER suggestions or CONSIDER recommendations, such a predicate would account for the fact that these two kinds of impositive acts can be paraphrased by imperative-form sentences with consider and, more importantly, the fact that they can have complement sentences which are not constrained by IMP to have second person subjects and future tenses, as are other structures dominated by IMP. The second point is more important than the first because consider imperatives could just as easily be explained on the grounds that there is a felicity condition which says the hearer is to consider the proposition and this condition may be asserted to perform indirectly

the act of which it is a condition.[21]   There is, however, no other
way to account for the second point.

On the other side of the issue are two arguments against
decomposing suggest into IMP CONSIDER. One is that the scope of an
adverb like again or almost can be either the whole structure or just
the embedded verb; consequently sentences like (77) and (78), with
the causative verb boil, are ambiguous:[22]

 (77) John almost boiled the water.
 (78) John boiled the water again.

Sentence (77) can mean either (79) or (80).

 (79) John almost caused the water to boil.
 (80) John caused the water to almost boil.

Likewise, (78) can mean either (81) or (82).

 (81) John again caused the water to boil.
 (82) John caused the water to boil again.

If suggest decomposed into IMP CONSIDER one would expect (83) and
(84) to be ambiguous in the same way as (77) and (78) are.

 (83) John almost suggested it.
 (84) John suggested it again.

These sentences are not ambiguous in the expected way, and so the IMP
CONSIDER proposal is weakened.

To further weaken it is the fact that the embedded predicate of
a decomposed verb can be referred to by a pronoun, as in (85).[23]

 (85) Julia thickened the sauce, but it took her three
   hours to bring it about.

where the second it refers not to what Julia did, but rather to what
she caused to happen (i.e., that the sauce became thick). In a report
of a suggestion, CONSIDER cannot be anaphorically referred to.

 (86) George suggested the theatre, but it took him three
   hours to do it.

(86) can only be interpreted to mean George has a terrible stutter,
aphasia, or is incredibly circumlocutory. It cannot mean that it was
three hours before anyone considered the theatre.

Although these two arguments have only been made for causative
decompositions, there is no obvious reason they should not hold for
impositive decompositions as well, especially in view of the fact that
there is a causal relation between the speaker and the hearer of an
impositive act. These arguments are therefore good arguments against
the IMP CONSIDER proposal. For this reason, I leave it as simply a

proposal, or CONSIDER suggestion, saying only that it is possible, not necessarily desirable.

3. Indirect Illocution.

3.1. According to a proposal made by Heringer (1972), speech acts may be performed indirectly by reference to certain participant-based felicity conditions on those speech acts. Heringer's proposal is that such intrinsic conditions can be either asserted or questioned to perform, indirectly, acts for which they are conditions. These intrinsic conditions are either essential, involving the speaker's knowledge, intentions and desires, or non-essential, involving the speaker's beliefs. The essential intrinsic condition of intention is an important part of what Searle calls illocutionary point, in that the illocutionary point is the speaker's purpose or intention in performing the speech act. This condition and the essential conditions of speaker's knowledge and desire are not of primary importance to the performance of indirect impositive acts and therefore will not be discussed here.[24] This section will be mainly concerned with those intrinsic conditions, which happen to be non-essential, that are peculiar to impositive speech acts and that are the basis for the majority of indirect impositive acts.[25]

3.2. There is, for impositive acts, a condition of participant status which is neither purely intrinsic nor purely extrinsic.[26] It cannot, therefore, be used as a basis for indirect impositive acts (i.e., either questioned or asserted to perform the act), but it does affect how various types of indirect impositive acts may be performed.

The Status condition for impositive acts can be thought of as applying in three distinct ways: for commands the speaker must believe he has superior status to (or authority over) the hearer; for suggestions and recommendations, the speaker must believe that he and the hearer are of equal status; for requests, the speaker must believe, or be acting as if he believed, that he has status inferior to the hearer. This is a simplification, however; it takes slightly more status to advise than to suggest and even more to insist, urge or exhort. Similarly, it takes less status to propose or submit than to advise. Rather than viewing the Status condition as dividing impositive acts into a trichotomy, then, it will be considered to be one aspect of a 'squish',[27] with orders and requests having special properties, not because they are qualitatively different from suggestions and recommendations, but rather because they form the endpoints or boundaries of the squish.

Regardless of the way in which the relation between the Status condition and suggesting is viewed, it still contrasts sharply with the relation between the Status condition and ordering on the one hand, and the Status condition and requesting on the other hand. Commands are only felicitous if the conversational participants believe that the speaker has the authority or sufficiently higher status in terms of the particular social setting relevant to the conversation. When a person without such status issues a command it is considered rude or impertinent and will, no doubt, be ignored. Requests, however, are used when the speaker wants to act as if he is inferior in status to the hearer(s). Such behavior is usually referred to as 'deference'

and is crucially involved in certain conditions on illocutionary acts.
It should be noted that neither aspect of the Status condition is
independent of the social setting; in fact, they are completely
determined by such setting.

There is a certain asymmetry here due to the nature of authority;
a person in an authoritative position may easily show deference if he
likes, but it is much more difficult (perhaps impossible) for a person
not in authority to show authority. The linguistic consequence of this
is that the violations on authority conditions for commanding are much
easier to recognize than violations of deference conditions on requesting.
In fact it may never be the case that a speaker cannot show deference.

In both cases the speaker and hearer(s) have to agree upon their
relative status. If they do not agree and the speaker makes a command,
a hearer may respond with a denial or questioning of the speaker's
authority, e.g.,

(87) You can't tell me what to do.

(88) Who do you think you are, $\begin{cases} \text{telling me what to do.} \\ \text{trying to tell me what} \\ \quad \text{to do.} \end{cases}$

(89) You've (got) no right to order me around.

A speaker with authority to command may, of course, choose to be
deferent. However if his superior is recognized by the hearer(s) they
may respond with a direct reference to the speaker's ability to command:

(90) I won't do it unless you order me to.

(91) I'm afraid you'll have to make that an order.

(92) I'll do it if you command me to, but not $\begin{cases} \text{otherwise,} \\ \text{if you just ask.} \end{cases}$

There is a way in which the Status condition, by applying to
suggestions in such a neutral way, affects indirect suggestions. If one
person wishes to order another to do something, he cannot possibly do
it by asking a question; likewise, in making a request or plea a
speaker cannot use an assertion without relinquishing his guise of
deference or subservience. Since these restrictions do not hold for
suggestions, both assertions and questions may be used to perform the
indirect illocutionary act of suggesting.

The squish representing the continuum of the Status condition
also indicates the strength of the act, with the strongest acts being
at the order end and the weakest at the request end. Strength itself
is not a felicity condition but rather a result of a combination of
conditions, one of which is Status. (The other condition involved will
be discussed in 3.5.).

Impositive verbs fit into the strength squish in approximately
the following order (slashes indicate equivalence of strength):

(93) <u>command/order/enjoin/interdict</u> - <u>proscribe/demand/</u>
      <u>forbid</u> - <u>direct/require</u> - <u>instruct</u> - <u>exhort/urge/</u>
      <u>warn</u> - <u>insist/admonish</u> - <u>caution/counsel/advise/</u>
      <u>recommend</u> - <u>suggest</u> - <u>submit/propose/move/nominate</u> -
      <u>ask/request</u> - <u>petition/bid</u> - <u>solicit/appeal</u> - <u>plead/</u>
      <u>beg/beseech/implore</u> - <u>pray/supplicate</u>.

This is not meant to be definitive by any means; there is always a
problem with fixing the order of continua; especially when many of the
items are synonymous or nearly so. It is presented here only to give
a general idea of how a squish based on strength might look, and it
does reflect the way in which these acts are talked about. For
instance, a strong suggestion is actually a recommendation. Also,
different impositive acts can be referred to in different ways, e.g.
and th..'s an order, versus it was just a suggestion and I was only
asking.

3.3. There are three main intrinsic conditions upon which indirect
impositive acts are based and one derivative condition. The first
condition is one discussed by Heringer as condition 3.31: 'the performer
of an illocutionary act K believes that no acts involved in the
performance of K are already performed.' - This formulation, however,
needs certain modification; not only must the speaker believe the actions
are not performed, he must also believe they are not, at the time of
the speech act, being performed.[28]
      That this condition is actually a condition on impositive speech
acts is illustrated by the fact that if it is denied at the same time
that the act is uttered, an unacceptable sentence results:

      (94) *I don't care if you are doing the dishes, (I order
              you to) do the dishes.
      (95) *I suggest you have your wisdom teeth taken out even
              if you've already had them taken out.
      (96) *Please set the clock if you've already done so.

      That the proposed modification of Heringer's statement of the
condition is necessary is shown by the fact that (97) - (99) are not
unacceptable:

      (97) I don't care if you did do the dishes (once), (I
              order you to) do the dishes (again).
      (98) I suggest you look (some more/again), even if you've
              already looked.
      (99) I know you just did it, but please do it again for me.

This condition will be referred to as the Not Done condition.

3.4. The next intrinsic condition is restricted to recommendations
and suggestions, and requires that the action involved be possible.
It is rather difficult to tell where this Possibility condition stops
being applicable on the impositive continuum, but it does seem that
whereas one can order and request actions, he does not necessarily

believe to be possible, he cannot suggest or recommend them:[29]

(100) Whether it's possible or not, I order you to be there.

(101) Whether or not it's possible for you to come, I request you to (come).

(102) ??Whether or not it's possible for you to do so, I suggest you take Joanna with you.

(103) ?*I advise you to get a good night's sleep, even though it's impossible.

3.5. The third condition has to do with whether or not the action, in the speaker's opinion, is desirable, or good for, either the hearer or some third party.[30] This is a belief condition and should be carefully distinguished from the intrinsic condition involving the speaker's desire. This latter condition is an essential one, and it requires that the speaker want the action to be done. The non-essential belief condition (which will be called the Good For condition) primarily concerns the nature of the act mentioned and usually some person other than the speaker. The two conditions are not unrelated, however; it can be the case that the reason the speaker wants the hearer to do the action is that the speaker believes the action will benefit the hearer or someone else whom the hearer has an interest in. Orders do not have this condition and requests ordinarily do not, although they may be modified to include it, as it:

(104) a. For Charley's sake, I beg you to leave now.
b. For your own good, please tell the truth.

It was assumed in section 2, for the sake of exposition, that there was a qualitative difference between suggestions and recommendations in terms of the Good For condition. Upon closer examination; however, it appears that this condition is really only quantitatively different for suggestions and recommendations. Consequently, there are no absolute differences between these two types of impositive acts. That there is no absolute difference is not surprising in view of the overlap in meaning of the verbs _suggest_, _advise_, and _recommend_. These verbs are in the middle of the strength squish mentioned above; they are the equal status verbs. This portion of the squish will be referred to simply as suggestions when there is no reason to specify whether the semantic structure contains DO or CONSIDER and no reason to specify the particular application of the Good For condition.

(105) exhort/urge/warn - insist/admonish - caution/
counsel/advise/recommend - suggest - submit/
propose/move/nominate.

This strength squish corresponds not only to difference in status, but also in how good for the hearer (or whomever) the action is believed to be. Although the Good For condition cannot in itself definitively differentiate between various direct impositive acts,

it does play an important role in differentiating indirect impositive acts, as will be seen in the next section. The Good For condition can be used to perform indirect impositive illocutions because it is an intrinsic condition; the Status condition is not purely intrinsic and therefore cannot be so used.

The Good For condition applies most strongly to the strong end of the sub-squish (105); those acts to which the Good For condition applies most strongly can be modified by the condition, but not by its denial as (106) and (107) show.

> (106) a. Since sunshine is healthful, I recommend that
>   we all sunbathe two hours a day.
>   b. *Since sunshine is dangerous, I recommend that
>   we all sunbathe two hours a day.
> (107) a. I warn you that if you don't get out of the
>   way, you'll get hurt.
>   b. *I warn you that if you don't get out of the
>   way, you won't get hurt.

(106) and (107) are, of course, not out-and-out unacceptable sentences; they can be used if the speaker is trying to be ironic or especially perverse (i.e., the speaker has, or is acting as if he had, the belief that being unhealthy or dead is good and that one should try to attain such a state). It should be noted that on the perverse reading of (106) and (107) the Good For condition is still not being violated or suspended; what is being violated is the ordinary way of interpreting the adjective _dangerous_ and the verb _hurt_. Whereas in normal usage _dangerous_ and _hurt_ are both considered to be bad or undesirable, in the perverse usage they are being used by the speaker as good or desirable things. So that if _dangerous_ or _hurt_ are believed by the speaker to mean or imply something which is bad for the hearer, then the (b) sentences are unacceptable. I am not able to find an acceptable reading for:[31]

> (108) *Since I believe sunshine is dangerous, and I believe
>   danger is bad and to be avoided at all costs, I
>   recommend that we all sunbathe two hours a day.

Before going into the last intrinsic condition which may be used derivatively to perform indirect impositive acts, I would like to point out that there is at least one other feature of impositive acts that is derived from others. Because there are two conditions determining the strength squish, it is very difficult to be precise about which of several verbs, like _urge_, _exhort_ and _warn_, is stronger--or even if strength is what differentiates them. There is, however, a derived property of strength, which Searle calls style of disclosure, that can be used to distinguish among impositive verbs.[32] Style is said to be derivation of strength, because style tends to correspond very closely with strength, and it is only when two or more impositive verbs have identical strength that style distinguishes them. Such is the case with _exhort_, _urge_ and _warn_; although _warn_ has certain distinctive syntactic properties, semantically, it is indistinguishable from _urge_

and _exhort_. All three of these verbs have the same amount of strength,
but _exhort_ emphasizes the contribution of the Status condition to
strength, while _urge_ stresses the Good For condition. _Warn_ is more
like _urge_ in that it also stresses the Good For condition, but it
tends to do it by giving the reason that a particular action is or
is not good for the hearer.

3.6. Finally, indirect illocutions of impositive acts may be performed
by asserting or questioning certain implications of the three intrinsic
conditions just discussed. The implications that may be so used are
those which refer to any of the three conditions as a (or the) reason
for the hearer to carry out the action specified in the proposition,
or that give a reason for the speaker believing the particular intrinsic
condition. This Reason condition is a derived condition because its
existence is dependent upon the three basic conditions of Not Done,
Possibility and Good For, which provide the reason for doing the
proposed action. The Reason condition is, then, that the reason the
speaker wants the hearer to do the action is any one of, or any combina-
tion of, the three primary intrinsic conditions. The implication of
the Reason condition itself is that the speaker believes any one of,
or any combination of the intrinsic conditions.

The Reason condition can be used to modify impositive acts by
stating, either conditionally or not, that there is no reason not to
do the action (as illustrated in (109)), or that there is a reason to
do the action (as illustrated in (110) and (111)).

(109) a. If/Since there's no reason not to learn French,
          I suggest you do (it).
      b. *If/Since there is a reason not to learn French,
          I suggest you do (it).

(110) a. If/Since there's a good reason to go to New
          Zealand, I recommend that we go.
      b. *If/Since there's no good reason to go to New
          Zealand, I recommend that we go.

(111) a. If/Since there's a good reason not to eat
          apples, I warn you not to.
      b. *If/Since there's no (good) reason not to eat
          apples, I warn you not to.

For sentences (109a) and (110b) there is the same sort of
perverse reading as there was for (106b) and (107b). For the perverse
reading of (109b) the speaker must believe that things should be done
without reasons for doing them, which is a strange attitude. For the
weird reading of (110b) the speaker must believe that the fact that
there is no reason to do the action is itself a reason to do the action,
which is conceivable if, for some reason, the speaker wants to do
something irrational (or at least apparently irrational). Perhaps
it is more likely that such a speaker would want to do something
unpredictable, as when he does not want another person to be able to
figure out what he will do next or where he will go next and there-
fore tries to do the thing or go to the place for which no reason,
except for the very lack of reason, exists.

It seems that there ought to be a perverse reading for (111b) parallel to those of (109b) and (110b), however if there is one, I cannot discern it: (111b) seems simply to make no sense at all, perhaps because of the over-abundance of negatives.

It might be argued that the (a) versions of (109)-(111) are not ideal sentences either; and I would agree, however I believe that the reason they are not perfectly common everyday sentences is that these conditions are so basic to the speech acts in question that it seems odd actually to assert them; they are generally assumed by all speakers of the language. Certainly in the case of the version of the (a) sentences with if, the oddity arises from the fact that the sentences are tautologies. In the cases of the (a) sentences with since, they seem strange because usually if a speaker believes that there is a reason to do something or not to do something, he will give the reason rather than just saying that there is one. This is borne out by the fact that (109a) with since is not an unusual a sentence as (110a) and (111a) with since, and in (109a) the condition being illustrated is the lack of a reason.

The Reason condition can also modify an impositive act by giving one of the three basic conditions as a reason, as is illustrated in (112)-(114):

(112) a. If/Since you haven't done your homework yet,
I suggest you do it.
b. *If/Since you've already done your homework,
I suggest you do it.
(113) a. If/Since it's possible to finish today, I
suggest we do so.
b. *If/Since it's impossible to finish today, I
suggest we do so.
(114) a. If/Since it's good for you, I recommend you do it.
b. *If/Since it's not good for you, I recommend you
do it.

4. Indirect Impositive Acts.

4.1. Impositive acts may be performed directly in two ways: as an explicit performative sentence with an impositive verb, or as an imperative-form sentence. The first way has been exemplified repeatedly in the preceding sections. The second way has been mentioned with regard to CONSIDER suggestions; it is the most normal for of impositive acts on the strong end of the impositive squish (i.e., orders). Imperative-form sentences may also be used to suggest, but not to request, since using a direct form is not a polite way to impose one's will upon another, and the Status conditions on requests is that the speaker act as an inferior to the hearer (and hence deferentially).

There are many more ways to perform impositive acts indirectly, but even these are limited by the Status condition. Orders, to be effective, must be direct; requests, to be polite, must be in the form of questions or otherwise modified (e.g., with the addition of please or tags). Suggestions, however, are not so constrained by the Status condition and therefore may be either assertions or questions. The

result is that there are many types of indirect suggestions, some types of indirect requests and no indirect orders.

4.2. Looking first at the Not Done condition, we find the following indirect suggestions based on it,

> (115) Have you thought about Jeremiah's doing it?
> (116) You haven't considered Jeremiah's doing it.
> (117) Have you read Cat's Cradle?
> (118) You haven't read Cat's Cradle.

Sentences (117) and (118) are less obviously suggestions than (115) and (116), but they do appear quite natural with the responses appropriate to CONSIDER suggestions. There seems to be no reason that (117) and (118) are not DO suggestions; also, one would expect (115) and (117) to be possible indirect requests which they are not. It would appear that the Not Done condition has a very narrow range of indirect acts that it can produce by being questioned or asserted; although it is a condition that applies very generally, it only produces CONSIDER suggestion indirectly. Why this should be so is not clear, but the Not Done condition is the only condition which applies equally to all impositive acts; the other conditions apply more strongly to some impositive acts than to others and can be used to perform indirectly those to which it applies most strongly. The Not Done condition follows this pattern for the performance of indirect acts, but it does not apply any more strongly to one type of act than to another.

The Not Done condition also has implications which may also be used to perform indirect suggestions:

> (119) Are you aware that Jeremiah could do it?
> (120) You don't seem to be aware of the possibility of Jeremiah's doing it.

Sentences like (119) and (120) are possible indirect suggestions based on the Not Done condition because 'not being aware' is related to 'not doing' or 'not done' by the Reason condition; that is, a possible reason for not having done an action is not being aware of the possibility of doing it. The indirect suggestions (119) and (120) also involve the Possibility condition, illustrating that indirect illocutions may be far from simple results of asserting or questioning felicity conditions.

Notice that (121) is not really a suggestion—possibly not an acceptable sentence of any kind:

> (121) ?You aren't aware of the possibility of Jeremiah's doing it.

The oddity of (121) is a result of the fact that it is very difficult (if not impossible) to know, or even think with any confidence, what another person is aware of (in ordinary circumstances). It is not as difficult to have an opinion on whether or not another person has

considered a matter since such consideration usually results in some sort of action (linguistic or otherwise), especially in a situation calling for suggestions upon or discussion of, a matter.

4.3. The Possibility condition produces the following indirect suggestions, (122)-(124), and requests, (125)-(126).

(122) You could eat liver.
(123) It wouldn't kill you to wash your feet.
(124) Maybe she could take you to school.
(125) Could we move that thing?
(126) Is it possible to turn the radio down?

No doubt, for some speakers, the more direct assertion, It's possible for you to eat liver, which (122) is a paraphrase of, is also acceptable; in my dialect there is something strange about stating such an obvious fact in such a direct manner.

Sentence (123) is slightly more indirect than (122), but since it rests on the indisputable fact that, for most people, an action which requires relinquishing one's life is not a possible action, it is a reasonable indirect suggestion. (124) illustrates that the possibility can be asserted more than once, and that such a possibility may depend on someone's physical ability to do something. An even more exaggerated assertion would be Maybe it might just possibly be the case that she could possibly, if she were able, take you to school, which is still an indirect suggestion although it certainly gives the hearer cause to doubt that the speaker actually believes in the possibility of the action. Sentences (125) and (126) are straightforward and need no further comment.

It should be noted at this point that since all the conditions being discussed here are conditions on the speaker's beliefs, the indirect suggestion performed by asserting those beliefs can be prefaced with I believe or I think, so that such versions of (116) and (122)-(126) are also suggestions:

(127) I think you haven't considered Jeremiah's doing it.
(128) I don't think you've thought about Jeremiah's doing it.
(129) I believe you could eat liver.
(130) I don't think it would kill you to wash your feet.
(131) I believe maybe she could take you to school.

I have used as main examples, and will continue to do so, those sentences without the I believe or I think in them because it is always assumed that, if a speaker is being sincere, he believes what he asserts, and therefore the simple sentences are more common and more natural.

Although the Possibility condition applies to all impositive acts, it is stronger on the weak end of the continuum; that is, the Possibility condition is more important for suggestions and requests.[33] With the exception of orders, at the strong end of the squish, just the opposite is true for the Good For condition. It applies more strongly

to recommendations than to suggestions and more strongly
to suggestions than to requests. The result of this, for indirect
illocutions, is that the Possibility condition is used to perform
indirect requests and suggestions, but not recommendations, and the
Good For condition is used to perform recommendations (and sometimes
suggestions), but not requests.

4.4. The Good For condition is that the speaker believes the action
is desirable or good for the hearer, although it is not always as an
individual that the hearer is being thought of, but rather as a member
of a group. There may be cases where the best interest of a particular
individual is, in the speaker's opinion, less important than the welfare
of the group; in such cases a recommendation may still be made, even
though the proposed action may not be desirable for a particular member
of the group. (However, even in these cases, the speaker believes the
hearer will, as a member of the group, benefit in the long run..)
Some indirect recommendations, then, are:

(132) It would be nice if you visited your mother.
(133) He ought to learn to drive.
(134) You should read Tolkien.
(135) Shouldn't you try sketching first?
(136) It wouldn't hurt to straighten up your desk
         once in a while.
(137) Wouldn't it be better to chew tobacco?

Sentences (132)-(135) are fairly straightforward; that which is 'nice'
is good for someone, and, for (133)-(135), the only link needed is the
generally accepted notion that people should do good or desirable
things, or that desirable things are things that people should do.
Sentence (136) is more complicated, partly because it is a sarcastic
recommendation, but also because of certain assumptions the speaker
makes when he says (136). Since the speaker of this sarcastic
recommendation believes that for the hearer to straighten up his desk
once in a while is a desirable thing, and furthermore he believes (or
at least is pretending to believe) that the hearer shares this belief,
then there must be some reason that the hearer doesn't straighten up
his desk; a candidate (deliberately unlikely, by the way, since otherwise
the speaker would not be able to deny it so confidently) for such a
reason is that the hearer fears he will do himself psychic or bodily
harm by cleaning up his desk. The speaker doesn't think any harm will
befall the hearer if he cleans up his desk and says so. The sarcasm
comes from the assumption of some sort of harm as a consequence of
desk-cleaning; the speaker doesn't really believe that that is the
reason for hearer's slovenliness, he is just pretending to believe it
in order to attribute a reason to the hearer which he (the speaker)
can then dispute or deny. This complex example involves the Reason
condition as well as the Good For condition.
Sentence (137) is considerably less complicated; the speaker is
questioning the condition with a negative auxiliary, which implies
that he believes that to chew tobacco would be better; since the
related question with a positive auxiliary lacks that implication,
Would it be better to chew tobacco? does not count as a recommendation;

this exemplifies the fact that the condition need not be stated, but only implied, to effect the recommendation; it is also true of (135) and other questions.

Indirect warnings are also produced by asserting the Good For condition; however, warnings are generally against particular actions, so they turn up in negative sentences more often than in positive ones.

(138) It's not a good idea to run on lava rock.
(139) If I were you I wouldn't do that.
(140) I don't think you should drink that cobra venom.
(141) It's not safe to swim here.

Example (138) is an assertion of the condition by virtue of the fact that a good idea is a paraphrase (perhaps a loose paraphrase, but a paraphrase, nevertheless) of 'something that is good for someone'. In (139) there are certain assumptions made; if an action is undesirable, the speaker would not do it--so, instead of saying it is not desirable, he says he wouldn't do it, thus affirming the consequent. Furthermore, since the hearer is the one contemplating, or about to do, the action, the speaker hypothetically puts himself in the hearer's position, thereby warning him indirectly.

The cobra venom sentence is more obvious; one should not do potentially harmful things. (141) is also straightforward--unsafe actions (in the belief of most people) are not good things to do.

This particular condition does not lend itself to questioning as a way to perform indirect warnings; the sorts of questions one would expect to be indirect warnings are:

(142) Is it wise to feed cockroaches?
(143) Should you grow pot in your front yard?
(144) Would it be healthful to eat granola?

These are obviously not warnings; they are not even suggestions; they may have the perlocutionary effect of warning, but not even that is obvious. There are two possible reasons for these questions not being indirect warnings. One has to do with the syntactic form of the question, which must be that the auxiliary is positive (since the action is a negative or undesirable one); it seems that although the negative auxiliary implies the desirability of the complement (as was noted above), the positive auxiliary does not quite imply the negative; it seems, rather, to be relatively neutral in this respect. Therefore the undesirability is not implied and the warning is not produced. The other possible reason that (142)-(144) are not indirect warnings is that warnings are toward the strong end of the impositive squish. Consequently, unless a speaker is fairly secure in his belief that the action is undesirable he will not feel justified in making a warning; if the hearer is already involved in the action or obviously contemplating it, a speaker who is not secure in his belief of the undesirability of the action will become even more insecure, since the very fact that the hearer does not seem to consider it undesirable may influence his (i.e., the speaker's) views on the matter.

It is the combination of the Good For condition and the Reason condition that produces the most common form of warnings, the conditional sentence. In some cases the Good For condition is relatively explicit, e.g.:

> (145) Don't touch that, if you know what's good for you.
> (146) If you want to stay alive, tell us the secret formula.

In other cases, it is not quite so explicit, e.g.:

> (147) There's a good reason not to sell now.
> (148) You'll lose a bundle if you sell now.
> (149) If you as much as look cross-eyed, I'll punch you in the nose.
> (150) Don't move or I'll blast you.
> (151) Don't touch it or it'll sting you.

Sentence (147) is not the best warning a person could give, but that is due to the fact that if the speaker has a reason, it is more normal for him to say what that reason is rather than to simply state that there is one. However, if the hearer has sufficient confidence in the speaker's knowledge of, for example the stockmarket in (147), then such an assertion will probably serve as a warning. (148) is actually the more normal form that one would expect an indirect warning to take, i.e., the asserting of the reason for not doing the action. (149) is one of the most common ways that warnings are made, giving the reason for not doing an action in terms of a hypothetical situation; it is, of course an exaggerated warning, but such an exaggeration simply adds force to the intended effect. The warning in (150) is also a common type and, like (149), gives the reason for the hearer's not doing the specified action. The last example is similar to the previous one and simply shows that warnings of this type do not have to be threats like (149) and (150).

As in the set of warnings derived from the Good For condition, there are no warnings based on the Reason condition in the form of a question. However, there are sentences like (152),

> (152) Why sell dope?

which are not quite strong enough to be warnings, but which admonish or discourage. This is to be expected since admonish is weaker on the impositive squish than warn, and, in general, questioning is the milder form of indirect illocution and tends to be used for weaker sorts of impositive acts.

4.5. The Reason condition is asserted and questioned to perform suggestions in the following sentences:

> (153) There's no reason not to have a party.
> (154) There's nothing preventing us from making stroganoff.
> (155) I see no reason not to drink wine.
> (156) Is there any reason not to invite Yuriko?
> (157) Does anyone have anything against rehearsing now?

The first two of these indirect suggestions are plain enough. (155) uses only the additional assumption that a reason has to be known to be a reason. The question (156) is straightforward and (157) requires only that a possible reason for not rehearsing now is understood to be that someone may not want or be able to. There is a point that becomes slightly more prominent here than in previous examples, and that is that all these sentences are ambiguous; they all have literal interpretations where the speaker intends only to state a fact or request information. In cases such as (156) and (157) where the literal readings tend to overshadow the indirect illocutionary readings, the stress of the sentences plays an important part. To be a suggestions, (156) must be stressed normally, i.e., on <u>Yuriko</u>; if the stress is on <u>not</u>, for instance, the suggestion reading does not come through. Likewise, for (157); the stress must be on <u>now</u>, which is the essence of the suggestion; extra stress anywhere else obliterates the impositive reading.

Recommendations based on the Reason condition are:

    (158) There's at least one good reason to impeach the president.
    (159) We'll make a lot of money if we sell now.
    (160) You'll live longer if you practice yoga.
    (161) Why don't we go horseback riding?
    (162) Why not buy the Bishop Estate?

The only assumptions involved in these sentences is that at least one reason is a reason, sentence (158); making a lot of money is a good reason for doing something, (159); and living longer is a reason to do something, (160). Like the suggestions in (156) and (157), the stress in the indirect recommendations (161) and (162) affects the import of the recommendation. The normal stress of (161) is on <u>horseback</u>; however if it is shifted to <u>don't</u> the recommending force is lost and the only sense left is that of requesting information. The stress can be shifted to <u>we</u> and still maintain the impositive reading; the only difference is that the recommendation centers on us as opposed to some other person or people. When the stress is reduced on <u>don't</u> and <u>we</u> they can be deleted, and a sentence of the form illustrated by (162) results. (162) can have stress either on <u>buy</u> or <u>Bishop Estate</u> and still be an indirect recommendation, but if there is extra stress on <u>why</u> or <u>not</u> it must be interpreted literally.

4.6. There are rather common types of suggestions which seem to be indirect but are not derivable, in any straightforward way, from the intrinsic conditions on direct suggestions. The first of these is the <u>Let's</u> suggestions, such as:

    (163) Let's go to town.
    (164) Let's think about moving to California.
    (165) Let's have dinner.

Part of the problem with these suggestions is that they are, at least

to some degree, idiomatic with very curious syntactic properties.[34]

None of the intrinsic conditions discussed above provide a basis for the Let's suggestions; however, there may be some basis for these suggestions in the intermediate (i.e., neither purely intrinsic nor purely extrinsic) Status condition. Since the form of Let's suggestions is idiomatic, it is very difficult to see what the exact relationship between them and the Status condition is. It does seem, however, that the speaker and hearer have equal status in Let's constructions, and if the Let's idiom originated from the permission granting let, and if the underlying subject of Let's is both I and you (as Costa 1972 suggests), these facts would link up the equal status requirement and the Let's suggestions. This is all very tenuous, of course, but there is one other fact that may lend it support. Sentences like (166) and (167),

(166) Let's go, Sheila.
(167) Let's get crackin', Kay.

can, for some speakers, be interpreted as not including the speaker in the action. When this is the case, the force of such impositives is much stronger than just a suggestion. It is, in fact, very like an order, made less severe (or perhaps even indirect) by using the equal status Let's.[35]

Another type of impositive act which does not fit neatly into the framework provided here are those beginning with How about and What about as in:

(168) How about a drink?
(169) How about coming home with me?
(170) What about Arlene?
(171) What about going home?

These too are idiomatic; there is no direct, literal reading of them. Because of this idiomaticity I can only offer a suggestion as to how they might be related to the felicity conditions on impositive acts: that How about and What about forms originate from questions on the order of How do you feel about and What do you think about, whose most direct function is to elicit an opinion from the hearer. Speakers generally only elicit opinions from people they consider their equals or superiors. According to the Status condition, these How about and What about sentences, if they are to be interpreted as impositive acts, must be either suggestions or requests. And so they are: (168)-(171) are all interpreted as suggestions by some speakers, while others take (168) and (169) to be suggestions and (170) and (171) to be requests.

(168) a. How about a drink?
      b. That's a good idea.
      c. OK./*Sorry.
(169) a. How about coming home with me.
      b. That's a lousy idea.
      c. OK./?Sorry.

(170) a. What about Arlene?
b. That's a possibility.
c. OK./Sorry.
(171) a. What about going home?
b. I'll keep that in mind.
c. OK./Sorry.

4.7.   I conclude with a brief discussion of verbs which exhibit some
properties of impositive verbs, but which differ from them in
fundamental ways.[36]   The first of these 'semi-impositives' is the verb
invite; invitations look very much like regular impositive acts.   They
can be direct:

(172) a. I hereby invite you to my party.
b. You are hereby invited to my party.

They can also have the same indirect forms that requests can have, e.g.,

(173) Can you come to my party?
(174) Will you come to my party?
(175) I'd like you to come to my party.

or even some of the suggestion forms,

(176) How about coming to my party?
(177) Why don't you come to my party?
(178) Why not come to my party?

The request-type invitations of (173)-(175) are more normal than the
suggestion-types (176)-(178) and (176) is a better invitation than
(177), which in turn is slightly better than (178).   Why there should
be a difference among the invitations (176)-(178) is not clear, but
the difference between (173)-(175) and (176)-(178) is understandable.
Requests are more polite than suggestions; invitations generally are
polite and therefore the requesting forms are better invitations than
the suggesting forms.   There is a problem here however, being polite
means assuming a position inferior to that of the hearer, but at the
same time, a speaker must, in order to be able to issue an invitation,
be in a position higher than that of the hearer.   In this way invitations
are different from impositives; although it may be the case for
impositive acts that the speaker is only acting as an inferior, there
are no impositive acts which require that the speaker have higher status
and at the same time require the speaker to act as if he had lower status.
     The other major differences between invitations and impositive
acts involves illocutionary point.   The purpose or aim of invitations
seems to be to get the hearer to do something, which is the same as
the illocutionary point of impositives.   There is, however, another way
of looking at the purpose of invitations: what appears to be the
illocutionary point is actually a purely perlocutionary effect, and
the illocutionary point of invitations is actually just to give the
hearer permission to do something or to make an action possible for
the hearer.   Whether getting someone to do something is illocutionary
or purely perlocutionary is in principle easily determined.   If

invitations are impositive acts, it is safe to assume they are requests;
it was proposed in P. Lee (1974) that the positive responses,

(179) OK.
(180) Sure.
(181) All right.

and the negative response,

(182) Sorry.

were appropriate to illocutionary requests but not to perlocutionary
requests, for which they require elaborated responses. E.g.,

(183) OK, I'll come.
(184) Sure, I'd like to come.
(185) All right, I'll be there.
(186) Sorry, I can't make it.

The problem with invitations is that, at least in my dialect, it
is not obvious that the simple responses (179)-(182) are completely
inappropriate, although they do seem considerably worse than the
elaborated responses (183)-(186):

(187) A.   i.   Can you come to my party?
          ii. I'd like you to come to my party.
(188) B.   i.   ?*OK.
          ii. ?Sure.
         iii. ?*All right.
          iv. ?Sorry.
(189) B.   i.   OK, I'll come.
          ii. Sure, I'd like to come.
         iii. All right, I'll be there.
          iv. Sorry, I can't make it.

I have called invitations semi-impositives because their status
condition works differently than that of any impositive act and their
illocutionary point, though similar, is not indisputably the same as
that of impositive acts. There are semi-impositive acts which appear
to be special types of invitations and differ from impositives in
even more interesting ways.
These acts I will refer to as challenges; they are performed
and/or described by the verbs dare, defy and challenge and are
exemplified in:

(190) I dare you to cross that line.
(191) I defy you to say that again.
(192) I hereby challenge you to   {defend that claim.}
                                  {a dual at sunrise.}

Challenges are invitations in that they invite (or make it possible
for) the hearer to do some action. However, challenges differ from

normal invitations in the application of felicity conditions. The
status condition is the same as for invitations (that is, the speaker
has higher status than the hearer) but one of the ultimate results
the speaker of a challenge hopes to produce is to conclusively determine
his superior status.

Another felicity condition that holds for impositives does not
hold for challenges, namely, the Good For condition. A speaker uttering
a challenge does not believe that the hearer's taking up the challenge
will benefit him (the hearer); in fact, he believes quite the opposite
and is trying to get the hearer to engage in an activity that will be
harmful to him.

The Possibility condition is an interesting one for challenges.
It seems to hold for them as (193) shows:

> (193) If/Since you think you can climb the tree,
>
> I $\begin{cases} \text{dare} \\ \text{defy} \\ \text{challenge} \end{cases}$ you to do it.

However, a common form of indirect challenges is based on the negation
or denial of this condition, e.g.,

> (194) You can't climb that tree.
> (195) You can't catch me.

Notice that the hearer may respond to (194) or (195) with either of the
following two remarks:

> (196) Is that a challenge?
> (197) That sounds like a dare to me.

This is the first instance we have seen of the denial of a felicity
condition being used to perform an indirect illocutionary act. A closer
look at negative illocutionary verbs is needed to see how general this
phenomenon is.

The denial of the possibility condition as an indirect challenge
is also exhibited in certain uses of the verbs bet and wager. When
these verbs are used to express the speaker's belief that the hearer
is incapable of performing a particular action, the resulting asser-
tions are illocutionary challenges. E.g.,

> (198) I bet you can't catch me.
> (199) I wager you aren't able to do it.

This illustrates another new aspect of indirect illocutionary acts:
the existence of specific verbs that can be used to perform only
indirect illocutions. Bet and wager do not count as challenges
(although they are, of course, used as direct bets), as the unaccep-
tability of (200) and (201) show,

> (200) *I bet you to climb that tree.
> (201) *I wager that you catch me.

(The asterisks here refer only to the challenge reading; with that-

clauses both verbs are acceptable but must be interpreted as bets, in which case the speaker does believe that hearer can do the specified action.)

Negative bets without the modal of possibility can are ambiguous as between bets and challenges, though the literal (bet) reading is stronger:

(202) · I bet you don't climb that tree..
(203) · I wager that you don't catch me.

This discussion has only touched upon the possibilities involved in related illocutionary act types (impositives and invitations), denial of felicity conditions, and indirect illocutionary verbs. A more comprehensive analysis must await further investigation.

There is one last semi-impositive I would like to mention. The verb threaten describes both linguistic and non-linguistic acts; it is related to the impositive warn in that a threat can be a specific kind of warning—namely, one in which the speaker intends to produce the undesirable effect being warned against.

However, threats can be used to inform the hearer of the speaker's intention to harm him. Threats only seem impositive when the hearer is offered a choice: either do the specifid action or suffer the consequences. The following threats do not have impositive force.

(204) I'm going to take your teddy bear away.
(205) No matter what you do, you can't stop me; I'm going
to cut your hair.

Illocutionarily, threats are commissives; causing people to do things is a perlocutionary effect of threats which can be either inten-tional or unintentional.[37] In this regard threats are very much like contingent promises which also have the perlocutionary effect of getting the hearer to do something. Thus the difference between the two is neither illocutionary or perlocutionary. The sentences below are threats if the intention of the speaker is to do something which is not good for the hearer, and they are promises if it is something that is good for the hearer.

(206) Cook dinner, and I'll help you with your project.
(207) If you cook dinner, I'll help you with your project.

The two interpretations of (206) and (207) depend entirely on the Good For, condition;[38] the relationship between threats and promises is similar to many different types of impositive acts which have the same illocu-tionary point but different felicity conditions.

The discussion presented here of semi-impositives is meant only as an indication that there are related speech act types and that such relations can be described in terms of illocutionary point, perlocutionary effect, and felicity conditions. Further such analyses of other types of speech acts should provide us with much valuable information on the nature of illocutionary acts.

Footnotes

*This is a revision of Chapters III-VI of my OSU Ph.D. dissertation (March 1974).

[1]In How to Do Things with Words, J. L. Austin offers the first recent taxonomy of speech acts, his classification includes verdictives, exercitives, commissives, behabitives and expositives.

[2]Zeno Vendler in Res Cogitans redefines Austin's classes and adds two more, operatives and interrogatives.

[3]At least they are not direct attempts to get people to do things; they may function as indirect illocutionary illocutionary impositive acts, but that is a different matter (see Lee 1974 b: Ch. 5).

[4]R. Lakoff (1972) has suggested that a pragmatic analysis is possible and that certain pragmatic features have syntactic consequences. However, it is not clear that these features are purely pragmatic, i.e., are not semantic features with closely related pragmatic features.

[5]By illocutionary point Searle means, at least roughly, the purpose, intention or aim of the act. In the same 1973 paper Searle provides a taxonomy of speech acts consisting of reprpsentatives, directives, commissives, expressives, and declarations. Impositives are Searle's directives.

[6]The term 'semantic structure' is used throughout this paper rather presumptuously; there are no doubt deeper semantic representations for the structures presented here.

[7]R. Lakoff (1968) in discussing abstract performative verbs in Latin syntax uses IMPER for commands only and suggests that there are other such verbs for other types of impositive acts. Sadock (1971a) uses IMPERE in an underlying structure (p. 223), but gives no explanation of what he means by it.

[8]The verbs suggest, recommend, and advise are, for some speakers, ambiguous as between a suggestion and a recommendation; see section 2.5 for more on this.

[9]This proposal, in general, is the same as R. Lakoff's (1968) who advocated several different abstract performative verbs, each representing only surface verbs which are synonymous. Each of her abstract performative structures are differentiated by undergoing only certain transformational rules.

[10]Performative Deletion was proposed by Ross (1970a, 1970b) and, although there are some problems with its exact formulation and application (see Anderson (1971) and Fraser (1971) for criticism of the performative analysis), the general idea is sound. All types of

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impositive acts can be formed via this rule: it applies after Equi-NP Deletion for orders (accounting for the imperative sentence type in Go home!) and before Subject-Verb Inversion for requests (Will you go home?).

[11]Several linguists have discussed this particular sort of ambiguity; G. Lee (1971) argues that the connection-of-ideas sense derives from a structure involving CAUSE (SEEM) whereas the agentive sense derives from an underlying agent. Zwicky and Zwicky (1973) suggest that the ambiguity stems from an underlying REASON which divides into CAUSE (for non-agentives) and PURPOSE (for agentives).

[12]The term 'pro-agentive' was introduced by G. Lee (1971) and refers to contexts in which agents may occur; the opposite term 'anti-agentive' describes contexts in which agents may not occur. Lee distinguishes pro-agentive contexts from the broader class of non-stative verbs proposed by G. Lakoff (1966); the following are pro-agentive contexts; in imperative sentence form; with a manner adverb typically referring to human attributes (e.g., cleverly, stupidly, intentionally); and as complement of the verb persuade. In contrast, a test such as whether or not a verb can occur in the progressive says nothing about agentivity, but only whether that verb is stative or non-stative.

[13]Notice that the relationship between the two verbs is such that suggest$_3$ implies suggest$_2$, but not vice versa; a sentence such as (i) is contradictory for all speakers:

    (i) She suggested$_3$ that Harbird was guilty (by saying
       "I suggest Harbird did it.") without actually
       suggesting$_2$ it.

It is because suggest$_3$ implies suggest$_2$ that G. Lakoff's (1970) test for showing ambiguity does not work:

    (ii) She suggested that Harbird was guilty and so did he.

This line of argument was originally presented in Zwicky and Sadock (1975).

[14]It may also be that the same speaker would accept (31)-(34) but not (38) simply because of the phonological idenitty of the two suggests in (38).

[15]See Morgan (1973) for an extremely interesting account of sentence fragments.

[16]See G. Lee (1971) and Dowty (1972) for a discussion of the role DO plays in the semantic configurations of activities and agentive predicates.

[17]There are speakers for whom (60) has a non-factive reading (in addition to the factive one); for those speakers sentence (60) is acceptable and means the same as (62).

[18]It is possible that (61) is an <u>indirect</u> suggestion based on a felicity condition involving the notion of considering; this and other problems with the CONSIDER analysis will be discussed in section 2.6.

[19]This was suggested or recommended to me by Gregory Lee.

[20]Recommendations and suggestions are beginning to look very indiscrete, especially with respect to the Good For condition.

[21]More will be said about this kind of illocution in the next section.

[22]The <u>almost</u> argument is attributed to Jerry Morgan by McCawley (1968); the <u>again</u> argument is simply a logical extension of the <u>almost</u> argument.

[23]This argument is due to G. Lakoff (1970b).

[24]An important non-essential condition of some impositive acts is that the speaker believe that the proposed action is one which is desirable to, or good for, the hearer or some concerned party. This is related to the essential condition of speaker desire in that it may provide a reason for the speaker's desiring to perform the act.

[25]See Heringer (1972), Chapter three, for more general conditions on a wider variety of speech acts, which account for some indirect impositive acts such as, <u>May I suggest you get ready</u> and <u>I would like to suggest that we leave now</u>.

[26]The status condition cannot be said to be strictly intrinsic or strictly extrinsic because it depends on the speaker and hearer sharing the belief that a particular status relation obtains.

[27]The term 'squish' is due to Ross (1972), who defines it as a quasi-continuum of linguistic elements. A later definition (Ross 1973: 98) is: 'the matrix formed when two hierarchies interact to mutually define each other'.

[28]Note that whether the notion of considering is represented as a semantic CONSIDER or as a felicity condition, it still falls under the domain of this condition, since in either case it is an act involved in the performance of an impositive act.

[29]It was pointed out to me by Richard Garner that this appears to violate the illocutionary point of impositive acts. However, that is only true if what the speaker is attempting to get the hearer to do is to complete the specified action. For these cases, it appears that the speaker is only trying to get the hearer to attempt to do the specified action. In this regard these acts are similar to the semi-impositive acts of challenging discussed in Lee (1974b: section 6.7.)

[30]A broader view of this condition is expressed in Searle's property six, which says that an act may differ in whether the proposition is in the interest of the speaker, hearer, both or neither. For impositive acts only the interest of the hearer is important.

[31]Apparently, for some speakers there is an acceptable sarcastic reading of (108). It was suggested to me by Gregory Lee that such a reading is possible, especially if the adverb <u>naturally</u> is inserted before <u>recommend</u>.

[32]There is also the factor of the extra-linguistic environment in which the act is performed affecting style; nominations and motions are the formal equivalent of suggestions.

[33]One way of looking at this difference is that for the weaker impositives the speaker is relatively neutral toward the possibility of the action, but for orders the speaker believes strongly that the action is either possible or not (cf. note 29).
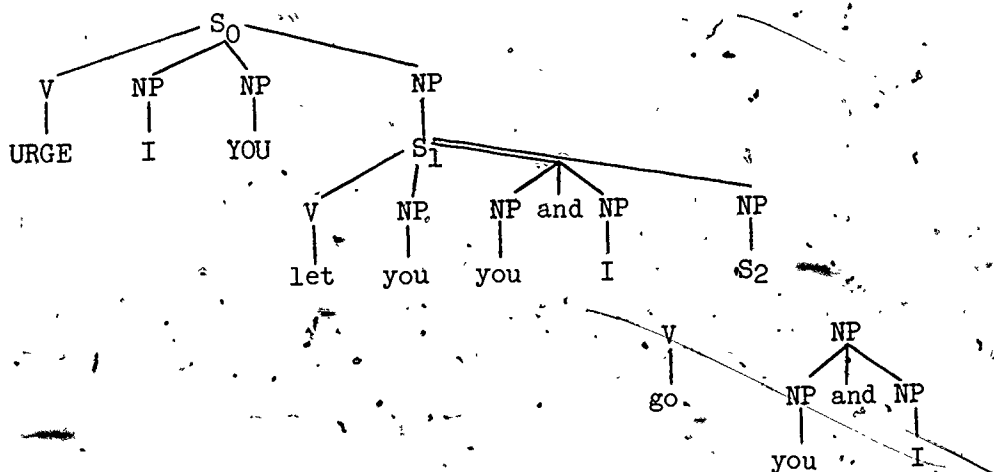
[34]Newmeyer (1971) points out that if <u>Let's</u> suggestions are assumed to have the underlying structure: [We let we [we eat]] certain tags are easily accounted for:

    (i) Let's eat, shall we?
    (ii) Let's eat, why don't we?

However, he notes, such an underlying structure would predict (iii) instead of (iv).

    (iii) *Let ourselves eat!
    (iv) Let us eat!

Costa (1972) proposes that <u>Let's</u> suggestions are 'true impera-tives' with an underlying structure like:

[35]It was pointed out to me by Arnold Zwicky that some speakers have the compound suggestions:

(i) { How about / Don't } let's do that!

[36]This discussion of kinds of invitations owes much to suggestions from Gregory Lee.

[37]This view is opposed to the one that Sadock (1974) takes; he claims that threats and warnings constitute a distinct illocutionary type.

[38]R. Lakoff (1969) discusses a consequence of this difference in application of the Good For condition. Where contingent promises normally have <u>some</u>, threats have <u>any</u>, e.g.,

(i) If you eat { some / *any } candy, I'll give you ten dollars.

(ii) If you eat { *some / any } candy, I'll whip you.

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Questions and Requests

. Marion R. Johnson

1. It has been suggested by some linguists (e.g. Ross (1970: footnote 19), Gordon and Lakoff (1971)) that pairs of sentences such as (1) and (2) below are syntactically derived from the same logical structure.

(1) Where is John?
(2) Tell me where John is.

Under such an analysis, both (1) and (2) would be derived from a structure something like: (REQUEST, I, you (TELL, you, me, (BE, John, WHere))).[1] In the derivation of (1), the rule deleting the performative predicate REQUEST would be followed by a rule deleting TELL and effecting subject-verb inversion. The import of such a claim is that (1) and (2) have the same illocutionary force, (1) being in effect an elliptical form of (2). The purpose of this paper is to show that (1) and (2) are not equivalent in their structure as speech acts. I will argue that formal and pragmatic properties require that we recognize questions as a distinct category of speech acts, not as a subcategory of requests.

An alternative proposal for analyzing the performative structure of questions vis-à-vis requests is presented in Sadock (1972, 1974). Sadock rejects the idea that the performative predicate ASK can be reduced to the complex predicate REQUEST-TELL. He argues that true questions (that is, information-seeking questions) have the illocutionary force of asking, while what he calls requestions have the separate illocutionary force of requesting to tell. According to Sadock (1972: 337), 'The main distinguishing characteristic is that in the re-question, the speaker is only interested in the act of telling but in the true question, the speaker is interested in the content of the answer'. Sadock's analysis makes all sentences such as (1) above ambiguous between these two possible illocutionary forces. However, I find the evidence for this distinction unconvincing. A further goal of this paper, therefore, will be to show that interrogative structures in English have unambiguously the illocutionary force of an atomic predicate ASK.

To simplify the discussion, I will ignore the problem of the 'rhetorical question' and its relationship to acts of questioning that are genuine attempts to elicit information. Example sentences will be treated as if they belonged to a context which did not imply their answer before the addressee had had a chance to reply.

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2. There are two problems in deciding whether the underlying structure of (1) is the same as that of (2). The first is determining whether the element TELL is present in the structure of (1), and the second is deciding whether REQUEST is an adequate representation of the illocutionary force of both (1) and (2).

The absence of TELL is demonstrated by the impossibility of continuing (1) with any adverb or adverbial clause referring to TELL. Thus, (2a) and (3a) below are unacceptable because of their 'dangling adverbials', whereas (2b) and (3b) are well formed.

(2) a. *Where is John tomorrow?
    b. Tell me where John is tomorrow:/Tell me tomorrow...

(3) a. *Where is John, so that Mary will believe you're smart.
    b. Tell me where John is, so that Mary will believe you're smart.

In true cases of verb deletion, it is still possible for adverbs to refer to them. Consider, for example, (4a) and (4b).

(4) a. John lives to play tennis, and George to swim.
    b. John arrived at seven, and George at seven-thirty.

The presence of 'deleted verbs' in the logical structures of (4a) and (4b) is plausible because these deletions are recoverable. The proposed deletion in (1) is not.

Another argument against the presence of TELL in the underlying structure of (1) concerns the surface verb ask. If ask could be decomposed as REQUEST-TELL, we would expect that the negation of ask would have ambiguous scope. This is not the case, as (5a)-(5c) show. (5a) corresponds in meaning to (5b) alone, and not to (5c).

(5) a. I'm not asking you where John is.
    b. I'm not requesting that you tell me where John is.
    c. I'm requesting that you not tell me where John is.

The paraphrase relations among (5a)-(5c) indicate that although ask as a unit can be paraphrased by a construction containing request-tell, the two constructions do not have equivalent internal structure.

3. The fact that questions and requests do not have the same illocutionary force can be demonstrated in several ways. First, they cannot be conjoined by and. (6a), which contains a question conjoined with a request, is ill formed, although (6b), where both members of the conjunction clearly have the same illocutionary force, is acceptable.

(6) a. ?Where is John, and hand me the phone-book.
    b. Tell me where John is, and hand me the phone-book.

Note that when a request is conjoined with an assertion, as in (6c), the result is also ill formed.

> (6) c. *Tell me where John is, and I met his sister last night.

In a conjunction of this type, the illocutionary force of each member must be the same. This provides strong evidence that questions and requests are not the same category of speech act.

Another reason for considering the force of asking to be different from that of requesting concerns the distribution of the politeness marker please. With requests, please is an extremely weak politeness device. Its occurrence is often so automatic and perfunctory that it need not sound odd or highly sarcastic even with inherently rude requests, such as 'Shut up, please'. The perfunctoriness of please extends to requests to tell, so that a sentence like 'Tell me where John is, please' does not require any special contextual factor to make it appropriate. With a question, however, the appropriateness of please is considerably more restricted. With information-seeking questions, please is relatively strong as a politeness device, signalling a social distance (frequently deferential) between speaker and addressee. For example, 'Where is John, please?' would not be used in conversation between two close friends, but it might be used by someone initiating conversation with a stranger. Sadock (1974:121) attributes the use of please with questions to the fact that 'the asker has no personal stake in the response'. But there are many situations in which please is likely to accompany a question, although it would be absurd to suppose that the questioner is feigning disinterest in the answer. For example, one might say to a salesclerk, 'How much does that one cost, please?', or to a stranger over the telephone, 'Is so-and-so there, please?', or to someone at an information booth, 'Where is the wash-room, please?'. The factors influencing the use of please in these cases include the impersonality of the social relationship, the desire to express a formal gesture of good will, and the uncertainty of the speaker that his addressee will cooperate conversationally with him. These aspects of please will be discussed in more detail below. At this point, I want only to establish that the interpretation of please is different with questions than with requests, and that this difference indicates a difference in the category of speech act.

Since a major argument for Sadock's question/requestion distinction is the supposed occurrence of please with requestions but not questions, it should be apparent how the foregoing refutes such a position. Two other arguments from Sadock require some comment. Sadock (1974:122) points out that expressions like in the world, in the hell, and so on 'in one common dialect can follow interrogative pronouns just in case the speaker is interested in the further specification of that noun phrase'. This means that sentences like 'Where in the world is John?' can be used only as questions and not as requestions, according to Sadock's definition of these terms. Moreover, in the world cannot co-occur with please, which is said to occur only with requestions.

I find the data in this argument confusing. Sadock seems to be saying that this use of in the world is distinct from its use to indicate exasperation or related emotions. That is, in the world can merely express curiosity, without a further connotation of tension because the speaker feels that his curiosity has been thus far thwarted. Even so, there is no problem in the tendency for such expressions to exclude please, since the expression of a personal feeling of curiosity is pragmatically incompatible with the goal of distancing the addressee. These co-occurrence restrictions show that lexical insertion is sensitive to a wide range of situational conditions. They do not show that the sentence 'Where in the world is John?' has a different illocutionary force from 'Where is John, please?'.

A further argument from Sadock is as follows. He points out that on a quiz show, a sentence like (7a) can be used with the same force as the question in (7b).

(7) a. This ungainly-looking bird is the symbol of Louisiana.
     b. What ungainly-looking bird is the symbol of Louisiana?

The point of this example is obscure. Obviously, the context of a quiz show supplies an implicit instruction to the addressee to give the name of the bird, having heard (7a). However, (7a) conveys this meaning in much the same way that an assertion like 'It's cold in here' conveys a request to close the window, given the right situational assumptions. The conveyed meaning depends upon special conditions that are unrelated to the basic structure of the speech act. In other words, the 'question' sense of (7a) is a perlocutionary effect, not a true indirect speech act.

To return to the central problem of questions and requests, there is a third reason for considering these as distinct categories of speech acts. The reason is that many idiomatic meanings attach themselves to questions, but not to the corresponding requests to tell. For example, in addition to its literal meaning as a question about the state of someone's knowledge, (8a) can convey the embedded question 'Where is John?', or it can convey an offer to tell about where John is (i.e. it can initiate a new topic in a conversation).[2] As a paraphrase, (8b) corresponds only to the literal meaning of (8a).

(8) a. Do you know where John is?
     b. Tell me if you know where John is.[3]

Similarly, (9a) can ask a question about someone's ability, or it can convey a request to close the window. (9b) paraphrases only the first, the literal, meaning of (9a).

(9) a. Can you close the window?
     b. Tell me if you can close the window.

If (8a) and (9a) were derived from the same source as (8b) and (9b) respectively, it would be necessary to say that the idiomatic meanings enter in the course of the derivation, after the application of the rule deleting _tell_. Obviously, this is unacceptable, because it would mean that the meaning of an utterance, including its illocutionary force, is not fully represented in its deep structure. Alternatively, the rule deleting _tell_ could be constrained to apply obligatorily in the presence of certain idiomatic meanings. This solution provides nothing more than an ad hoc label for an unsolved problem. Recognizing that questions have an illocutionary force of their own seems to me the necessary first step toward accounting for the possible illocutionary extensions of their use, extensions which do not apply to paraphrases beginning 'Tell me...'.

4. Without presuming to give a complete or philosophical account of questions, I would like to add here a few comments on the structure of questions as a speech act type, and how they differ systematically from requests. These comments should point, in turn, toward an explanation of the formal differences which have just been described.

The crucial difference between questions and requests lies in a rather obvious fact, namely, a request mentions _explicitly_ what action the speaker intends as an appropriate response to his speech act, whereas a question conveys _implicitly_ what constitutes the appropriate next move by the addressee. This means that the range of response types that can be elicited by a request is indefinitely large, but the range of response types to questions is quite small and inflexible. A request can directly elicit virtually any action describable by language, including various kinds of speech acts. A question, however, directly elicits only its answer, which most often will be an act of asserting, although it can also be an act of showing (for example, pointing a finger).

The flexibility of request structures shows up, for example, in the possibility of embedding a request for some action within a request to pursue some larger goal, to which the action is instrumental. For example, (10) is primarily a request to let the speaker die happy,

(10) Tell me where John is so that I can die happy.

and only secondarily (or rather, instrumentally), a request to tell something. On the other hand, it is possible to make a primary request to tell, while mentioning in addition the best possible means, as in (11).

(11) Tell me where John is, by wriggling your ears in his direction.
(cf.: Wriggle your ears in John's direction, so that I'll know where he is.)

None of this flexibility is available within the structure of a question, as the unacceptable sentences below show.

(10) a. *Where is John, so that I can die happy?
(11) a. *Where is John, by wriggling your ears in his direction?

It is not possible to add to the instructions implicitly attached to
a question within the structure of the question itself. A request,
in contrast, is not circumscribed by any set of appropriate responses
that are understood prior to the act of requesting itself.

Another way in which this difference shows up is that questions
reject time adverbials, but requests do not. For example,

    (12) Five minutes from now, tell me where John is
        a. *Five minutes from now, where is John?
    (13) After I wash the dishes, tell me where John is.
        a. *After I wash the dishes, where is John?

The response to a request may be explicitly deferred by the speaker,
because there is no standardized expectation concerning the appropriate
time lapse between uptake of the request and action in response to it.
In fact, no such standardized expectation based upon the speech act
is possible, because the appropriate time lapse will depend strictly
on the content of the request. In most conversational settings,[4]
however, the answer to a question is expected immediately following
uptake. In fact, answering is the normal sign of uptake; any response
other than something that constitutes 'an answer' is a conversational
non sequiter. If a speaker intends the answer to be deferred, he must
explain this intention in an additional sentence. Otherwise, he will
be understood as expecting some sort of reply as soon as his question
has been asked.

A further difference between questions and requests is that there
is a distinct set of rules concerning when it is permissible to make a
request, who may make one, which request-form is appropriate to a
given situation, and so on; but the rules concerning when to ask a
question are simply the rules concerning when to engage in conversation.
As long as someone is willing to engage in cooperative conversation,
then it will be understood that he is prepared to ask and answer
questions.[5] Please is used with questions precisely when this willing-
ness to cooperate conversationally is in doubt--for example, when
initiating a conversation with a stranger. Please shows that the
speaker does not intend to impose his attention on the addressee
without his consent. As soon as a conversational rapport has been
established, please becomes superfluous and its presence can only
imply a lack of confidence in the other's good faith.

In contrast to this, please is always appropriate with requests,
because it is never understood on general conversational principles
that the addressee will comply. There is always an implicit option
within the structure of requesting to accept or decline.[6] This shows
up in the fact that in reply to a request like 'Tell me where John
is', all of the following are possible: 'Yes (I will)', 'O.K.', 'All
right', 'No', 'Never'. These particles refer to the speaker's
willingness to comply. The corresponding sequences with a question,
however, are nonsensical. For example: *'Where is John? Never.'.
Thus, yes and no have a potential ambiguity with requests which does
not exist with questions. In reply to the request, 'Tell me if John
is in Halifax' yes or no can mean either 'Yes, I will', 'No, I won't',

or 'Yes, he is', 'No, he isn't', respectively. This ambiguity does not exist in reply to the question 'Is John in Halifax?'. Yes and no in this case can only mean 'Yes, he is' and 'No, he isn't', respectively.

5. In conclusion, I have argued in this paper that we must recognize questions and requests as distinct classes of speech acts. The syntactic evidence for this distinction centers on the absence of a verbal predicate tell in the logical structure of questions, to which adverbs can refer; the impossibility of conjoining requests with questions; the specialized distribution of please with questions; and the existence of idiomatic meanings attached to questions, but not to the corresponding requests to tell. The question/request distinction is confirmed by the existence of general rules of conversation which govern (implicitly) the appropriate responses to questions, but not requests. Asking a question is different from making a request because the pattern of the interaction is understood independently of its content, and the basic pattern is correspondingly less flexible.

Footnotes

[1] Such a representation would be assigned by supporters of the 'performative analysis'. This paper is not necessarily intended to support that theoretical view. What is at issue is whether questions constitute a distinct illocutionary class, or merely a subclass of requests. The further question concerning how information about the illocutionary force of a sentence is to be represented will not be touched upon here.

[2] These meanings are pointed out in Gordon and Lakoff (1971).

[3] For (8b) to correspond in meaning to (8a), the if-clause of (8b) must be interpreted as the nominalized complement of tell, not as an adverbial clause.

[4] 'Most conversational settings' is intended to exclude fundamental questions like 'Will you marry me?', where it may be understood in the context that the addressee is allowed to think about his response.

[5] My notion of 'conversational cooperation' is, of course, that presented in Grice (1974).
    Questions whose content violates cultural taboos (e.g. 'How old are you?') are obviously still excluded. The same constraint will hold for assertions, so that this fact is not related to the intrinsic structure of questioning.

[6] Orders are a special type of request characterized by the absence of this option. Even an order, however, invites the reply, 'Yes, sir' or 'Yes, ma'm', confirming the addressee's acceptance of the order. What is special about orders is the speaker and addressee's mutual realization that the reply 'No, sir' or 'No, ma'm', is socially unacceptable (i.e. not a genuine option).

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Canadian Eh*

Marion R. Johnson

A pervasive feature of Canadian English, at least in many regions
of Canada, is the use of the interrogative particle eh as a tag on
sentences like, 'Nice weather, eh?' or 'So you're a Canadian; eh?'.
Judging by my own dialect (Southern Ontario), this particle is largely
restricted to an informal speaking style, but there its presence is
almost compulsive. In this paper, I want to comment on the functions
of this particle in conversation, and the distributional restraints on
it which derive from these functions.

At first sight, it would seem that eh is merely a typical
expression of the Canadian's familiar lack of self-confidence and self-
esteem. However, some months of observation have convinced me that
friendliness, rather than uncertainty, is the basic emotion conveyed
through this particle. My conclusion is based partly on the fact that
the friendlier a conversation is, and the more a conversation aims at
expressing group solidarity, the more eh seems to crop up. In these
situations, people generally have no reason to feel insecure about their
acceptance (they are, after all, 'at home'), but they do have reason to
seek mutual reaffirmation of their friendly feelings. This need can
be an expression of personal insecurity, but more often it involves
plain old folksiness.

To understand how eh conveys this friendly, folksy manner, it is
necessary to consider its use in relation to the various kinds of speech
acts performed by the sentences in which it occurs. The current
linguistic notion of a speech act derives from the philosophy of J. L.
Austin.[1] Austin showed that languages provide means not only for making
assertions about the world that are true or false, but also for per-
forming various kinds of actions which are not true or false, but rather
properly or improperly performed. For example, if someone says, 'I
promise to loan you my car tomorrow night', he is not making a statement
about a promise but is making the promise itself. That is, by the mere
saying of a few appropriate words, it is possible to execute a wide
variety of actions (or speech acts), including thinking, apologizing,
marrying, requesting, commanding, congratulating, and so on.

Suppose now that someone said, 'I promise to loan you my car', but
that person was known not to possess a car. His statement cannot be
called false, but there is clearly something drastically wrong with it.
A basic condition on valid promising is that a person is capable of
doing what he promises to do, and in the case described, this is clearly
not possible. The act of promising is therefore void, because a
condition on its correct performance has been violated. Every speech
act has associated with it a set of such conditions which must be met

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in order for the speech act to be validly, or, to use the technical term, <u>felicitously</u> performed. For example, a speaker can only be said to have made a promise to do X if that person can do X, intends to do X, and knows (or strongly believes) that the addressee wants him to do X. An example of an infelicitous promise was given above. Another infelicitous speech act would be saying, 'I congratulate you', to someone who has not recently distinguished himself by any accomplishment in life.

Although some speech acts are conveyed by explicit performative verbs such as <u>promise</u>, <u>congratulate</u>, <u>apologize</u>, and so on, it more often happens that an act is conveyed without explicitly mentioning what the act is. For example, if someone ways, 'Why not move to Vancouver?', he has made a suggestion, even though he has not begun by saying, 'I suggest that...'. This is a basic fact about language, which turns out to be crucial in understanding how and why a particle such as <u>eh</u> works. Very often in human language, a speaker does not make his intentions fully explicit, but lets the situation, the tone of voice, and so on indicate much of what he wants to convey. <u>Imperatives</u>, for example, constitute a class of utterances within which there is a wide range of variation, according to the context in which they occur. For example, the sentence, 'Wash the dishes' can express a high-handed command or a reasonably polite request, depending upon the relations between speaker and addressee, the style of delivery, and so on. We could say that 'Wash the dishes' is <u>pragmatically</u> ambiguous, because we do not know whether it conveys a command or a request until we know the context in which it was uttered.[2]

Suppose the imperative sentence had been, 'Wash the dishes, eh?'. This revised version could no longer convey a command, because it solicits the addressee's point of view. It is a basic condition on requesting that the addressee is offered the option of declining, whereas when a command is given, obedience is expected regardless of the addressee's preferences. <u>Eh</u> questions whether conditions were right for the addressee to comply with the foregoing speech act, and such a question is compatible only with an act of requesting and not commanding.

There are quite a number of other ways of showing in English that you are making a request rather than giving a command. For example, you can ask a question which implies a request, without directly stating it.[3] Some question forms are so commonly used in this way that they can be automatically recognized as requests, and the politeness marker <u>please</u> can be used with them. For example, 'Can you (please) wash the dishes?', 'Would you (please) wash the dishes?', 'Will you (please) wash the dishes?', and so on. These forms differ only stylistically from the sentence, 'Wash the dishes, eh?', but not in terms of the speech act performed. That is, the request with <u>eh</u> is a more simple and direct locution, which makes it suitable to the most informal level of style. The great advantage of using <u>eh</u> to disambiguate requests from commands is that it allows the speaker to accomplish this goal without resorting to a more elaborate conversational device than a simple imperative form.

My general claim concerning the function of <u>eh</u>, then, is that it questions whether the conditions were right for the felicious performance

of the speech act which it tags. Eh indicates that the situational assumptions associated with a particular speech act are weak and subject to evaluation by the addressee. Speech acts requiring strong situational assumptions cannot tolerate the use of eh, because the act itself is vitiated by such a conversational move. In order to use certain 'strong' speech acts, a speaker must be certain that the situation is right for them. For example, a person cannot give a command unless he knows that he has authority over his addressee and that the addressee is obliged to comply. To question this set of assumptions is to destroy the act of commanding. An army sergeant would never say, 'Forward, march, eh?'.

Looked at from a somewhat different angle, eh is compatible with every broad category of speech act types,[4] but it is only compatible with certain subtypes within each category. These subtypes are themselves a natural class (of speech acts), since they are the class of actions which can be felicitously performed even when the speaker is uncertain whether all conditions have been ideally met. (It is possible, for example, to venture a request even when you are not certain that the addressee will be able or willing to comply.) The presence of eh signals that the speaker is making only weak assumptions about the possibility of the addressee's compliance. Eh leaves the door open for a different point of view to be expressed, and does so without resorting to a more complex device which might elevate and formalize the tone of a conversation unnecessarily.

We have seen how eh can distinguish a request from a command. This particle also distinguishes offers from promises,[5] and imperious suggestions from nonimperious ones. Promises differ from offers in the speaker's confident assumption that his addressee wants the thing that is being promised. When someone makes an offer, however, he does not presume to know his addressee's desires, but leaves open the option of declining if it turns out that his offer is not acceptable. A sentence such as 'I'll cook supper' can express a promise or an offer, depending on the situation, but 'I'll cook supper, eh?' can only be an offer.

Similarly, 'Let's climb the CN Tower' could be an imperious suggestion that anticipates no objections, but the corresponding sentence, 'Let's climb the CN Tower, eh?, explicitly solicits the addressee's opinion.[6] The assumption that goes along with making a suggestion (at least, making a friendly one) is that the content of the suggestion expresses a worthwhile project which the addressee will like but is free to reject. Obviously, this assumption can be held quite tentatively without preventing a suggestion from actually being made. By questioning whether it does hold, the speaker thus makes it clear that he does not intend to impose his views aggressively, and this makes his suggestion a friendlier action.

The use of eh with questions is, to a linguist, a surprising fact, since other interrogative tags are barred from this environment. For example, it is impossible to say, 'Where did he go, o.k.?', or 'Where did he go, didn't he?', but many Canadians will say things like 'Where did he go, eh?'. However, if my analysis of the function of eh is correct, this is a natural extension of its use. When someone asks a question, he is assuming (at least) that his addressee knows the

answer and that he will be willing to give it. Again, these assumptions can be held in a weak form without making it impossible to ask a question at all. In fact, it is friendlier to indicate that they _are_ only tentative assumptions, since this leaves the addressee the option of declining to answer without feeling that he has affronted some standing claim on his good will.

Earlier in this paper, I drew a distinction between sentences used to perform various kinds of actions, and sentences which express true or false propositions about the world. Actually, the latter type of sentence can also be viewed as performing a kind of speech act-- namely, an act of asserting. There are a great many subtypes within the category of assertions. These include acts of informing, reminding, accusing, warning, announcing, hinting, explaining, and so on. Again, we find that _eh_ is compatible only with those acts of asserting that are consistent with weak situational assumptions. The relevant assumptions in this category are, first, whether the speaker knows that what he is saying is _true_, and second, whether the addressee knows what the speaker knows _before_ it is asserted to him. If one or both of these conditions fails, the speaker has not accomplished an act of informing. For example, you cannot inform someone of the score of a hockey game by saying, 'Leafs 3, Bruins 0, eh?', because _eh_ signals to the listener that you might be wrong, so he can't believe that the score was what you said it was on the strength of your assertion.

Direct compliments, insults, and accusations are all strong forms of assertions, because they do not allow a speaker to be uncertain about his facts and defer to the addressee's judgment on them. It is no compliment to say to someone, 'You're the sexiest man in the room, eh?', because the assertion invites the addressee to show how egotistical he is by agreeing. Similarly, to insult someone by saying; 'You're a real stinker, eh?', is a much diluted insult, because it leaves the door open for discussion.[7] A sentence such as 'You stole my Maple Leaf pin, eh?', is likewise a very weak accusation, because if the speaker is sincerely accusing, he must be convinced that his claim is true, although the addressee is not likely to want to admit it. _Eh_ with an accusation merely encourages denial, which is opposite to the intent of the accusation.

Other types of assertions do not require such strong situational assumptions in order to be carried off successfully. For example, an assertion may be intended only to remind an addressee about something he already knows, or to advance some hypothesis which the speaker only tentatively believes and which the addressee is capable of evaluating. For example, it is often worthwhile to warn someone about some difficulty which he is already aware of, as a means of reinforcing his awareness. But at the same time, the person might take offense if he feels that he is being 'informed' of something that he already knows, as if he had been too slow to grasp it previously. Therefore, it is diplomatic for a speaker to make explicit that he realizes that he is recalling shared information, not stating something new. He can do this by tagging his assertion with _eh_. Here, _eh_ invites the addressee to evaluate whether the content of the warning was true, whether it pointed to a real danger, and so on. _Eh_ indicates that the speaker believes that the addressee is in an equal position to make these kinds of judgments.

Another very common use of eh is to tag expressions of a personal opinion, such as 'Nice weather, eh?', 'That was a great concert, eh?', or 'What a gorgeous Mountie, eh?'. In this case, the speaker expresses his opinion along with the expectation that it will turn out to be shared by the addressee, but he is not presenting some fact about the world which the addressee ought to believe. This use of eh requires that the addressee be in a position to form his own opinion on the topic, before hearing someone else's. You don't say 'What a gorgeous Mountie, eh?', to someone who can't see the Mountie for himself.

Eh can solicit confirmation of facts as well as opinions, if a speaker is uncertain about them and is deferring to the superior knowledge of his addressee. For example, someone might say, 'The meeting begins at 4 o'clock, eh?'. This differs from a regular question by the fact that the speaker indicates that he tentatively believes what he has asserted (questions convey no such information), but is prepared to revise his beliefs if corrected by his addressee. This is a somewhat different situation from soliciting confirmation of an opinion. In the latter case, you are interested in knowing if the other person agrees, but if he doesn't, you may still keep to your own ideas.

One frequent use of eh in conversation is to get confirmation of a shared belief, before drawing some further inference from it. For example, 'He's a very old man, eh?. So you can't expect him to do everything for himself'. This is a very useful device, because it draws the listener at least to the halfway mark in an argument, before springing what the speaker sees as the logical conclusion. Eh can also be used strategically in a conversation to slip in some point of view advantageous to the speaker, as if it were already shared knowledge between speaker and addressee. For example, someone might say, 'There was nothing more I could do under the circumstances, eh?'. Since the use of eh is so automatic among many Canadians, no overt reply is usually given or expected. Thus, the person who hears the above sentence is forced to choose between saying nothing (which indicates assent) or breaking the flow of conversation by openly dissenting, something people are generally unwilling to do without strong motivation.

Some Canadians extend these uses of eh so liberally in their narrative style, that virtually every sentence in a story is treated as if it were shared information and the addressee need only keep up with the logical development of the piece. An example of such a description: 'He's holding on to a firehose, eh? The thing is jumping all over the place, eh, and he can hardly hold onto it, eh? Well, he finally loses control of it, eh, and the water knocks down half a dozen bystanders.' (quoted by Avis 1972 103; source not given. As Avis points out, in this context, eh frequently has a level rather than rising intonation). This narrative technique provides at least one example of the hyperdefensive use of eh, because the speaker here seems to be anticipating at every turn a challenge to the accuracy or plausibility of his story, even from people who are not in a position to do so with much authority.

To summarize what I have said with respect to eh with assertions: the use of eh in this category of speech acts serves to distinguish those assertions whose content is informational from those whose content is assumed to be shared knowledge, subject to revision by the addressee. This is consistent with other uses of eh, since assertions which are acts of informing are simply those with strong situational assumptions which cannot be questioned without voiding the act altogether. This analysis is also consistent with the basic friendliness of eh, because its presence avoids giving the impression that one is 'informing' someone of something which, given the total situation, he ought to have known.

The general conversational function of eh, therefore, is to question the situational assumptions associated with different speech acts, thereby showing that these assumptions are held in a weak rather than a strong form. In this way, a speaker can avoid an attitude of officiousness and at the same time avoid unfriendly formality. This interpretation of eh fits well with Canadians' general conception of themselves as a rather cautious, rather retiring, but basically good-hearted nation. We are not afraid to form and express our own point of view, we just don't like to force it too much on other people.

Eh?

Footnotes

*pronounced [e:], with rising intonation. This paper has been slanted toward a non-technical, Canadian audience.

I would like to thank the many relatives, friends, and passengers on the Toronto subway who supplied me with invaluable data for this study.

Avis (1972) discusses the distribution of eh in British, Canadian and American English. He points out that 'eh? is no Canadianism--for it did not originate in Canada and is not peculiar to the English spoken in Canada. Indeed, eh appears to be in general use wherever English speakers hang their hats; and in one form or another it has been in general use for centuries'. On the other hand, there can be no doubt that eh? has a remarkably high incidence in the conversation of many Canadians these days. Moreover, it seems certain that in Canada eh? has gained such recognition among Canadians that it is used consciously and frequently by newspapermen and others in informal articles and reports (see footnote 19) and attributed freely in reported conversations with all manner of men, including athletes, professors, and politicians' (Avis 1972, 95).

[1] What follows is a capsule statement of Austin's theory of speech acts, and as such, tends to oversimplification. For a full discussion, see Austin 1962.

[2]An example of a <u>semantically</u> ambiguous sentence would be "Flying planes can be dangerous". This sentence can have two quite different meanings in two different contexts, but constitutes an act of asserting in either case.

[3]There has been extensive discussion of this phenomenon in recent linguistic literature. See, for example, Gordon and Lakoff (1971), Heringer (1971), Sadock (1974).

[4]One class of speech acts which permanently excludes <u>eh</u> is the class of official pronouncements and declarations. No one would ever seriously say, 'I pronounce you man and wife, eh?'. There are several clear reasons for this. First and foremost, it is never appropriate in ritual situations of an official capacity to express uncertainty that the felicity conditions on the relevant speech acts have been fulfilled. Normally, very exact specifications are set out concerning what counts as a pronouncement in a culture, and these are institutionally upheld. Secondly, particles such as <u>eh</u> are features of an informal speaking style; they serve to mediate human relations at a highly personalized level. Official pronouncements are restricted to very formal styles, in which language and relationships are highly ritualized. Thirdly, official pronouncements in general contain explicit performative verbs ('I <u>dub</u> thee...', I <u>baptize</u> thee...', 'I <u>crown</u> thee...'), and <u>eh</u> never occurs with explicit performatives, even in an informal style. No one says, 'I offer to go first, eh?' or 'I suggest we leave, eh?'. One reason is that <u>eh</u> performs no useful function once the performative verb has been named. A deeper reason is the fact that in using an explicit performative, a speaker is not only performing a particular act (whose felicity conditions are questioned by <u>eh</u>), but also mentioning that he is performing the act. The presence of <u>eh</u> in these sentences questions not only whether the act was such that the addressee will comply, but also whether the act has been performed at all. Clearly, it does not make sense to mention that you are performing an action, and at the same time ask if you have performed it.

[5]The unity of offers and promises as a class of speech acts is discussed in Ross (1970).

[6]When discussing 'polite' and 'impolite' speech forms, there is always the complication that people may use polite forms without meaning them sincerely. Thus, it is quite possible to say 'Let's climb the CN Tower, eh?' in a bullying manner, just as it is possible to say <u>please</u> with a rude request, like 'Shut up, please'. In these cases, additional situational factors override the 'politeness' of what has nevertheless originated as a politeness device in the language.

[7]More oblique insults might make effective use of <u>eh</u> by implying that what is being asserted should already be shared knowledge. But in general, direct insults are merely weakened by this particle.

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Discourse Phenomena and Linguistic Theory

Robert N. Kantor

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0. Introduction

Language, when viewed as a system of communication between people,
is used for many purposes. We all use language every day to inform,
make requests, ask questions, give direction or instruction, and for
much else.   Much research has been conducted into the specific
syntactic correlates of the speech acts that speakers perform (see
Sadock 1974 for a good summary and theoretical views on speech acts).
This is an exciting field of study, and it has greatly expanded the
domain of linguistic research. But while many syntactic processes
and constructions have been shown to correlate with so-called speech
act types, e.g., request, promise, suggestion, the speech act of
informing or stating has received less attention, probably because
most sentences uttered by speakers are informative statements.
Straightforward stating of information is the unmarked mode of
communication. I define an informative statement as one that
expresses a proposition in the logical sense with the illocutionary
force of a statement, for which, according to Searle (1969), the
speaker has evidence (reasons, etc.) for the truth of his statement,
the speaker believes his statement, and it is not obvious to both the
speaker and hearer that the hearer knows the proposition expressed by
the statement.

But beyond the fact that it is performed more often, the act of
informing is of special interest from another point of view. This is
that an act of informing may take place over a number of sentences.
While a speaker or writer performs an act of informing or stating
with each felicitously uttered or written informative statement, he
typically does not perform such an act "out of the blue." For example,
a speaker may perform an act of informing in response to a question.
Or, a speaker or writer may perform a series of acts of informing.
In answering a question, a speaker who is behaving rationally may not,
by his answer express any random proposition, but rather one that
provides the information requested by his interlocutor. Similarly,
a speaker who performs a sequential series of acts of informing does
not in general express random propositions. The sentences produced
are related to one another.

The aim of this thesis, then, is to investigate some of the
syntactic correlates of the relationships that hold between sentences,
and to suggest how linguistic theory might account for those correlates.
In Section 1, I briefly discuss some of the historical antecedents
leading to this study, primarily the Prague School view of syntactic
theory. I present in Section 2 a review of Kuno's (1972) article
"Functional Sentence Perspective", which serves as the Ausgangspunkt

for this study. Section 3 contains my definition of <u>discourse</u>, the domain of this study. In Section 4, I present a number of examples of sentences in context, and I argue that their structures may be accounted for by proposing that sentence elements in a discourse possess a property that I call <u>topicality</u>, a high degree of which property, I claim, is the factor that determines whether certain pronominalization processes may take place. A discussion of how a sentence element may gain topicality is also included. Section 5 contains a summary of my claims and a prospectus for future investigation into sentences in context.

Finally here, I want to make an important point about the data used in this investigation. From the standpoint of syntax, almost all sentences that are examined are grammatical in isolation. When they are put into the context of other sentences, we will be dealing with a different kind of 'grammaticality' that might best be termed <u>discourse appropriateness</u>. Thus, asterisks and question marks are used herein to designate inappropriate discourses, or sentences that are inappropriate within a specific discourse environment. Unless specifically noted, all marks of grammaticality judgments are to be interpreted in this way.

1. - Sentences and Context

The sentence has been the object of study in transformational generative grammar since Chomsky 1957. Until recently, most generative grammarians have been concerned with the syntactic processes which take place under an analysis of the node S. And, indeed, a great many syntactic processes or transformations have been discovered since 1957.

While English was the object of study of most of the early research using transformational theory, linguists of the Prague School (headed by Vilém Mathesius) investigated the syntactic properties of Slavic languages. These languages, which have a good deal of case marking, were found to have more freedom of word order than languages like English. It was noted, however, that within discourses the order of elements in a sentence appeared to be constrained. Thus scholars theorized that the normal or unmarked word order of a sentence in the context of other sentences followed (in these languages) not an order based on the grammatical relations between the elements of the sentence, but rather an order whereby elements that are known procede elements that are new. According to the theory of <u>functional sentence perspective</u>, then, if a sequence of sentences is considered as the communication of information, then the normal word order of a sentence is old information first, then new information, where old information means those elements mentioned in preceding sentences.

In comparing translations of Czech and English literature, it was found that certain correlations obtained, e.g., that an English passive sentence was often translated by a Czech OSV sentence and that a Czech OSV sentence was often translated by an English passive. Remembering that in Czech an initial word will be old information, Mathesius was led to the conclusion that English, too, had a basic word order based on information distribution. However, for an English

sentence to achieve a normal information distribution, changes in grammatical relations as well as word order must take place, due to the grammatical principles of English. Firbas (1964, 1966, 1971) has written at length on the interaction of this basic distribution of information and the syntactic constraints on word order in English. The approach Firbas has taken has been basically a descriptive one.

Given these observations, and given the fact that in the use of language, sentences are typically uttered or written in the context of other sentences, a proper question to be asked is: can sentence constructions or transformations in English be contextually conditioned? The answer to this question is, I believe, indisputably affirmative. To prove this, one need only select at random sentences from a book, a speech, or a transcribed conversation, then apply at random any subset of the applicable optional transformations to the deep structure of one sentence and read the resultant sentence in the context of the unchanged surrounding sentences. The result, much more often than not, will be not an ungrammatical sentence (as transformations do not produce ungrammatical sentences), but a felt inappropriateness of the sequence. Assuming that transformations maintain the propositional content of the original semantic structure, i.e., they do not change meaning, some other factor or factors must account for the oddness of certain sequences of sentences.

Kuno (1972), adopting some of Firbas' notions and adding some of his own, investigates some of these contextual factors. In this thesis, I will first review some of Kuno's observations. I will then expand the range of data Kuno investigates and propose what I believe to be a proper approach for the study of the contextual conditioning factors of and constraints on certain syntactic constructions and transformations.

2. Kuno's Position and Criticisms
2.1. Kuno's Functional Sentence Perspective
Kuno (1972:297) argues that:

...given appropriate contexts, that sentences such as

(6-1) Alexander kissed Mary.

can represent any of the following four meanings

(6-2) a. [theme]: 'Speaking of Alexander, he kissed Mary'
b. [contrast]: 'As for Alexander, he kissed Mary' as in Alexander kissed Mary, but Bill didn't.
c. [exhaustive listing]: 'It was Alexander who kissed Mary' as in Who kissed Mary? (Only) Alexander kissed Mary.
d. [neutral description]: 'It happened that Alexander kissed Mary' as in What happened next? Alexander kissed Mary.

Sentences of neutral description, according to Kuno, contain only new information. 'New information' does not refer only to words or phrases mentioned for the first time. Lexical items may be anaphoric (previously mentioned) and yet convey new information if '...the semantic relations of the [sentence element] with respect to the rest of the sentence is new.' (272, fn. 5). Neutral description sentences typically follow expressions like <u>Oh look!</u>, <u>What happened next?</u>, as in (1) and (2):

(1) What happened then? Alexander kissed Mary. (K6-4b)[1]
(2) Oh, look! Alexander is running. (K6-5b)

Thematic sentences, on the other hand, contain old, predictable information. Thus, sentences identical to the second sentences in (1) and (2) may have a thematic interpretation in a context in which an element is predictable, as in (3) and (4):

(3) What did Alexander do? Alexander kissed Mary. (K6-4a)
(4) What is Alexander doing? Alexander is running. (K6-5a)

The importance of the distinction between theme and neutral description is that, according to Kuno, certain sentence constructions may have only one or the other interpretation. For example, a thematic sentence the subject of which is the <u>theme</u> of the sentence, or 'what the sentence is about', allows left dislocation of the subject, e.g. (5):

(5) a. John is a genius.
    b. John, he's a genius. (K6-7)

However, in neutral description contexts, such dislocation is not allowed, e.g., (6):

(6) a. Oh, look! John is running.
    b. Oh, look! *John, he is running. (K6-9)

Note that in this context, even though the identity of John is known--John may be anaphoric or "up" in the minds of the speakers--the relationship of John to the sentence and to the preceding sentence is new.

Certain other constructions, according to Kuno, will not allow a thematic interpretation of their subjects, for example:

(7) a. {There was John} still standing in front of the door.
        {There he was   }
    b. *John, {there was him } still standing in front of
             {there he was }
       the door. (K6-10)

Sentences like those of (8) also cannot have a subject thematic interpretation:

(8) a. Round the bend came the train.

       b. Up jumped the rabbit.

       c. Standing there was my brother. (K6-12)

These sentences are claimed to present a whole event or state as new by talking about the coming into existence of something. These sentences will be discussed in section 4.2.1. below.

The notion of theme, or 'what a sentence is about', is central to the rest of Kuno's observations. Kuno presents two hypotheses having to do with the notion of theme and old information, the first of which is

(9) Hypothesis II. Backward pronominalization is possible in English only when the rightmost of two coreferential noun phrases represents old predictable information.. (302)

In support of this hypothesis, Kuno gives a set of conversational sequences (10) and (11).

(10) Speaker A: Tell me about John.

        Speaker B: Although I dislike him, I am still seeing John. (K7-5)

(11) Speaker A: Tell me about Mary.

        Speaker B:. Although she dislikes John, she is still seeing him.

                  #Although she dislikes him, she is still seeing John. (K7-6)[2]

where the second response in (11) is claimed to present new information, 'John', in a backward pronominalized sentence, hence in violation of Hypothesis II above.

As further proof of the validity of Hypothesis II, Kuno notes that indefinite noun phrases may not occur with postcedents:

(12) a. Before I could talk to him$_i$, the policeman$_i$ turned away from me.

       b. *Before I could talk to him$_i$, a policeman$_i$ turned away from me. (K7-14)

where (12b) is ungrammatical because indefinite noun phrases always present new unpredictable information (304). Thus (12b) is also in violation of Hypothesis II.

Kuno also presents another hypothesis,

(13) Hypothesis III. A noun phrase that represents the predictable theme of the sentence cannot be pronominalized intrasententially. (319)

Hypothesis III is a revision of a previous statement that the theme of a sentence cannot be pronominalized intrasententially. Kuno thus divides thematic sentences into those having unpredictable themes and those having predictable themes:

We have a predictable theme if in a given context one can
predict what the next sentence is going to be about. (308)

Thus, Kuno says that in response to (14a), the NPs 'John' of (14b)
are predictable themes, and hence the first occurrence of 'John' in
(14b) is properly pronominalized. (14c), by Hypothesis III, is
inappropriate, since the theme 'John' is in this context predictable.

(14) a. Will John do it?
 b. If he can John will do it.
 c. *If John can, he will do it.

Hypotheses II and III taken together require backward pronominalization
of predictable themes.
    I will present some other relevant data given by Kuno, because
I find disagreement on Kuno's judgments about these sentences. This
disagreement, I believe, is due in part to the fact that many of the
constructions Kuno is working with are infrequently used and tend to
be markers of a rather formal style. Infrequency of such constructions
alone would be expected to produce mixed judgments, but some explana-
tion of the data must be given for those speakers who accept Kuno's
judgments. Here then are some other examples of Hypotheses II and III
at work:

(15) What did John do for Mary?
 a. When he went to Boston, John took her out to
   dinner.
 b. *When John went to Boston, he took her out to
   dinner. (K7-18)

(15b) is judged in violation of Hypothesis III, since a predictable
theme, 'John', has been pronominalized intrasententially.

(16) Who did what for Mary?
 a. *When he went to Boston, John took her out to
   dinner.
 b. When John went to Boston, he took her out to
   dinner. (K7-19)

(16a) is in violation of Hypothesis II, because 'John' is new
unpredictable information.
    Finally, (17) and (18) are intended to point up the distinction
between predictable and unpredictable theme:

(17) Mary is a good friend of mine.
 a. Whenever I want to talk to her, Mary [predictable
   theme] comes to see me.[3]
 b. *Whenever I want to talk to Mary, she [predictable
   theme] comes to see me. (K8-7)

(18) Tom is a rather cold person. He avoids me when I
     need him.
     a. ?On the other hand, whenever I want to talk to
        her, Mary [unpredictable theme] comes to see
        me willingly.
     b. On the other hand, whenever I want to talk to
        Mary, she [unpredictable theme] comes to see
        me willingly. (K8-8)

(17b) is in violation of Hypothesis III, since predictable information
is pronominalized intrasententially: (18a), given only a '?' by
Kuno, should be a violation of Hypothesis II, since unpredictable
themes are taken by Kuno to carry new information.[4]   Kuno gives no
explanation of why (18a) receives only a '?' and not a '*' in section
4.1.2. I will provide an explanation for why (18a) seems to most
if not all speakers to be an appropriate sentence.
     Finally, Kuno comments that:

     Predictable themes appear in discourses when the same
     topic continues, and unpredictable themes appear when
     new topics are introduced. (308)

with no further comment on the term topic. 'I will have much to say
concerning this term in section 4.2.1.

2.2. Comments on Kuno
2.2.1. One of the difficulties in sorting out Kuno's distinctions is
that he does not say anything about the relationship between neutral
description sentences and thematic sentences containing unpredictable
themes. Looking again at (16), repeated here as (19):

     (19) Who did what for Mary?
           a. *When he went to Boston, John took her out to
              dinner.
           b. When John went to Boston, he took her out to
              dinner.

perhaps we could say that the response to (19) would require a theme,
i.e., it is expected that the response to question (19) would be
about someone. Consequently, although a thematic response is
expected, just what element will be thematic is new information.
Hence we might want to speak of a 'predictable unpredictable' theme.
Similarly, in (18) above, after two sentences the themes of which
are 'Tom', we find the next sentence begins with 'on the other hand'.
This, it could perhaps be argued, is semantically an introducer of
contrast, and hence the sentence containing it will also be about
someone.
     It should further be noted that the sentences of (8), like
(8c):

     (8) c. Standing there was my brother.

which Kuno claims cannot have a thematic subject, do not seem to be strictly neutral description sentences. (8c) would not answer questions like

(20) What happened then?

Rather, it could perhaps answer

(21) Speaker A: What did you see in front of the museum?
    Speaker B: Much to my surprise, standing there was my brother.[5]

Now we must ask whether there is a difference between the sequence in (21) and that in (16), i.e., why can't the phrase 'my brother' in (21) be treated as an unpredictable theme? Here, I can only see left dislocation as a possible test to decide thematic versus neutral description interpretation. Thus, while (22), corresponding to (16), allows left dislocation, (23), corresponding to (21), does not:

(22) Who did what for Mary?
    John, when he went to Boston, he took her out to dinner.
(23) What did you see in front of the museum?
    #My brother, standing there was him.

We still have to ask why the response to (21) can't be considered a thematic sentence with 'in front of the museum' as theme, e.g., we can perhaps get a left dislocation as in (23'):

(23') What did you see in front of the museum?
    ?In front of the museum, standing there was my brother.

Kuno's analysis leaves many questions open here.
    Finally, notice that left dislocation does not give any clue as to whether or not the theme of a sentence is predictable or not, since in (22) 'John' is, by Kuno's characterization, new information. But of course a left dislocated element can be old predictable information as in (24):

(24) How do you feel about gin?
    a. Gin, whenever it's offered, I'll always drink it.
    b. Whenever it's offered, I'll always drink gin.

(24b) with backward pronominalization verifies the predictability of the theme 'gin' by Hypotheses II and III.
2.2.2. In the previous subsection, I have tried to account for the existence of unpredictable themes by giving specific reasons from which one can draw the expectation that a following sentence will be thematic. Another issue which Kuno does not deal with at all is that certain contexts seem to <u>require</u> thematic sentences with certain elements barred from certain positions. Consequently, (25) seems odd with new

information in subject position and the theme in the by-phrase:

> (25) Tell me about Mary.
> ???John was shot by her yesterday.

Kuno does make the comment that

> (26) There is a hierarchy among various syntactic
> constituents within a sentence with respect to
> the ease with which they can be the theme of the
> sentence: The matrix subject has the first
> priority. (319)

Statement (26) is needed to account for the differences in judgment about (27):

> (27) a. *He$_i$ calmed me before Harry$_i$ did something rash.
> b. ?I calmed him$_i$ before Harry$_i$ did something rash.

where 'Harry' is the theme of the matrix sentence in both cases. The data of (25), however, indicate that there may be intersentential hierarchies involved also. We certainly want to ask why a theme cannot appear in a by-phrase of the passive, as in (25). This will be discussed in section 4.2.2.

2.2.3. Finally, with the exception of (17) and (18) above, Kuno's data consist almost entirely of question-answer sequences. It must be asked whether and how Kuno's hypotheses will fare with other kinds of sequences, i.e., in other types of discourse.

3. Discourse

I have so far been discussing the concept of sentences in the context of other sentences. In this study, the linguistic context of a sentence will be termed its discourse context. I define a discourse as a finite ordered sequence of sentences which bear semantic and pragmatic relevance to one another, in at least a loose manner. Thus, a sentence may be discourse-initial, discourse-medial, or discourse-final. Sentences that follow a particular sentence constitute that sentence's following discourse context. All sentences that precede a particular sentence constitute the previous discourse context of that sentence.

As was mentioned at the end of the last section, Kuno's data consist largely of question-answer sequences. This kind of discourse might be termed conversational discourse, a discourse involving two or more speakers. Kuno's data constitute a subtype of conversational discourse that we might term question-answer discourse.

Another kind of discourse can be distinguished, which I call expository or informative discourse. This type of discourse is a monologue and may be written or spoken. In its written form, we might expect Kuno's data to appear more frequently, since, as was mentioned above, data of this type are found in more formal styles of language. It is this kind of discourse, in its written form, which I have chosen as the object of study in this thesis. Written, expository

discourse is quite useful from two standpoints for a study of this kind. First, we can expect the sentences in such a discourse to bear more than a loose semantic relevance to one another, since the author is clearly trying to communicate organized thoughts and ideas to us. Second, the use of written discourse texts as data allows us to study prose which is well thought out, free from the sometimes biased self-introspection of many linguists, and from the variability of the moment--wherein an informant one minute judges a sentence grammatical or appropriate, and the next minute isn't sure. We here accept the texts as appropriate, and work from them.

While Kuno has made some very interesting observations about the contextual conditioning of backward pronominalization, it is difficult to apply his notions to expository discourse. For example, while questions seem to set up some expectation of what information or kinds of information will appear in a felicitous answer, we cannot assume that there is an implied question before each sentence in a descriptive discourse. Furthermore, I find that I don't have any competence to test the thematicity of a sentence in expository discourse by a potential left-dislocation test, since this construction usually occurs in conversational discourse and seems quite odd in a descriptive discourse.

To be fair to Kuno, his examples (17) and (18) of section 2.1 are expository discourses. So perhaps his notions can be extended. In the remainder of this thesis, I will examine some written descriptive discourse examples with a critical eye toward Kuno's observations and conclusions.

4. Discourse Phenomena
4.1. Pronominalization and Topicality
4.1.1. Intrasentential Pronominalization

In this section, I want to discuss Kuno's hypotheses about intrasentential pronominalization with respect to expository discourse. I repeat here for convenience Kuno's Hypotheses II and III.

(9) Hypothesis II. Backward proniminalization is possible for English only when the rightmost of the two coreferential noun phrases represents old, predictable information.

(13) Hypothesis III. A noun phrase that represents the predictable theme of the sentence cannot be pronominalized intrasententially.

Kuno asserts that a noun phrase is a predictable theme '...if in a given context, one can predict what the next sentence is going to be about' ('308), and further that predictable themes appear when topics are continued. I noted previously that in question-answer discourse, it was relatively easy to make predictions about the answer. This does not seem to be the case with descriptive discourse.

Before presenting some data, I will give my characterization of Kuno's undefined term topic. I take the term topic to be a property of discourse use. Thus I contrast Kuno's term theme, 'what a sentence

is about', with the notion of topic, 'what is being talked about in a discourse'. We may speak of an element as being a topic if it is discussed in two or more adjacent or near-adjacent sentences in a discourse. I will speak of the potential introduction of a topic as the first mention of a NP referring to that topic. If the NP is followed by other mentions of it in following discourse, then it may become an established topic. Elements will not be topics simply by being anaphoric. Elements may become established topics only if they occur in two or more near-adjacent sentences. I will give examples of what is and is not a topic presently.

A discourse then will contain many topics, which are presumably related to each other and to the discourse topic or topics, i.e., those elements or concepts that the discourse is about. Consider now the following passage (28) (Ferguson and Brunn 1969:96):[5]

(28) a. St. Benedict

b. The fame of his (St. Benedict's) holiness
attracted numbers of monks to his vicinity,
who begged him to be their leader.

c. About the year 520 he founded the famous monas-
tery of Monte Cassino, and some time later
wrote for the guidance of his monks the rule
which was to regulate monastic life for
centuries.

d. Wherever, the rule was adopted, it checked the
restless wandering and the dangerously
irregular asceticism of the monks.

e. It provided that the monk, after a probationary
period of a year...should take the three
fundamental vows of perpetual poverty, chastity,
and obedience;

Here, 'St. Benedict' is the discourse topic. In (28b) the NP 'monks' is mentioned and mentioned again in (28c), (28d) and (28e). 'Monks' is clearly being talked about in this discourse. It is a topic. Also, 'the rule written by St. Benedict' is a topic, first mentioned and potentially introduced in (28c) and again mentioned in (28d) and (28e).

Now, given that we have these topics, which, by definition, must continue in order to be called topics, sentence (28d) is in conflict with Kuno's Hypothesis III. In (28d) we appear to have a continued topic, 'St. Benedict's rule', yet the form of (28d), forward pronominal-ization, would under Kuno's criteria indicate that new information is being introduced in (28d). What then of the mention of 'the rule' in (28c)? Kuno speaks of predictable themes as appearing when topics are continued. But he gives no characterization of how a topic comes to be or how a topic is established.

...ve characterized the first mention of an NP as the potential introduction of a topic. However, for an NP to qualify as an established topic, it must be, I claim, in some sense adequately defined and described. This phrase, 'in some sense adequately defined and described', is meant to characterize a property of a phrase within a

discourse. I will use the term <u>topicality</u> to refer to this property
and also to a similar but distinct property of semantic or communica-
tive relevance or importance that a sentence element may possess in a
discourse. Topicality then refers to the likelihood of an element
to continue as a topic in following discourse. Note that this is <u>not</u>
the same concept as Kuno's predictable theme, for I am not concerned
here with what a sentence may be about, but rather with what element
or elements are likely to continue to be discussed, whether or not
they occur as the distinguishable theme of the following sentence
(if such a term can be adequately defined). It is then this property
of topicality or definition and relevance of an element which allows
the use of a backward pronominalized sentence (and also intersenten-
tial pronominalization--see section 4.1.3 below.)

Note here that I have ascribed two properties of a sentence
element in discourse to the term topicality. In the case of sentence
(7c), I claim that a reader may not know enough about 'the rule' from
(28c) in order to accept it in a backward pronominalized sentence.
If the rule which St. Benedict wrote had had a name, such as 'The
Monk's Rule', and if the reader could have been expected to have
previously known something about it, then we might well have gotten a
sequence like (29):

> (29) ...and sometime later wrote for the guidance of
> his monks The Monk's Rule. Wherever it was
> adopted this rule checked...

This example parallels Kuno's data much more closely. Note that Kuno
has used proper names in his discussion of predictable themes. Proper
names and generics immediately define and describe their denotata to
a reader. In (29), 'The Monk's Rule' is such a proper term. In
(28c), however, 'the rule...' is not.

The other aspect of topicality, that of semantic or communicative
relevance, is also a determining factor as to whether a sentence
element can be used in a backward pronominalized sentence. Semantic
or communicative relevance is dependent on the syntactic and semantic
frame in which an element is potentially introduced, and also whether
the element is being reintroduced (see section 4.1.3 for some concrete
examples of syntactic and semantic frames).

Returning to (28), I have found some speakers who would accept
a backward pronominalized sentence in place of (28d), i.e., (28d'):

> (28) d'. Wherever it was adopted, the rule checked the
> restless wandering and dangerously irregular
> asceticism of the monks.

I can offer two explanations for these speakers' acceptance of (28d').
The first explanation is that these readers find that (28c) has
adequately characterized the NP 'the rule' so that it is considered
a likely topic of following discourse. We have already seen that
there is no syntactic constraint against backward pronominalization,
as evidenced by the identical structure of (28c) and the first sentence
of (29). It is simply a difference of opinion as to whether the

potential introduction of the topic in (28c) is a real establishment
of the topic, i.e., whether (28c) has made the NP 'the rule' topical
or not. And this difference of opinion is exactly what we would
expect for non-generic, non-proper NPs potentially introduced in the
syntactic frame of (28c). Readers who accept either (28d) or (28d')
would, I claim, simply not be able to make a clear decision on whether
the topic has been adequately established, whether (28c) has given 'the
rule' a high enough degree of topicality. It is also possible that
(28d') is acceptable because the reader considers it the first sentence
of a new semantic or discourse paragraph. In this case, the remarks
in section 4.1.2 below apply.

In sum, I want to say that Kuno's hypotheses concerning the
conditions under which backward pronominalization may take place are
correct as regards information distribution, but that they follow from
a higher level consideration, i.e., that of previous establishment of
the topic of a sentence element in discourse. Establishment of a topic
means that the element is topical, it is a likely topic of the following
sentence. Thus, the use of a backward pronominalized sentence may be
a signal by the speaker/writer of his belief in the topicality of a
sentence element.

This talk about speaker's or writer's use of a construction is
strikingly reminiscent of Grice's (1975) maxims of conversation.[7] In
particular, I would propose that the felicitous use of a backward
pronominalized sentence is correlated with Grice's maxim of relation:
Be relevant. Felicitous use of a backward pronominalized sentence
hinges on the topicality of the NP, or in other words, the relevance
of the NP to the discourse. Thus, if (28d') had been used by the
authors, they would have conveyed that they considered 'the rule' as
adequately established or topical by (28c). The details of how to
felicitously establish a new topic are surely quite complex and cannot
be taken up here in full, but some aspects of establishment of new
topics will be taken up in section 4.2 below. It is clear, however,
that some notion of topicality must be a part of linguistic theory to
account for the use of backward pronominalized sentences.

4.1.2. Topic Set

There appears to be one very common counterexample to Kuno's
requirement that backward pronominalization take place only when the
theme is predictable. This occurs in sentences that are discourse-
or paragraph-initial or near discourse- or paragraph-initial. Consider
(30) (Ferguson and Brunn 1969:177):

(30) Hildebrand's reform program
    a. After the death of Henry III, a succession of
       reforming popes carried on the work, but no
       longer in cooperation with the emperor.
    b. During all this time, till he himself was
       elected pope as Gregory VII, the monk Hildebrand
       was the most active agent of reform at Rome,
       the power behind the papal throne.
    c. It was he who formulated most perfectly the
       program for reform and finally put it into
       effect.

Sentence (30b) is the counterexample to Kuno's Hypothesis II. Backward pronominalization here serves, I claim, to set a topic. 'Hildebrand' is, in fact, what the entire paragraph that follows (30b) is about.

Consider now (31) (Ferguson and Brunn 1969:69):

> (31) a. When Augustus ushered in the two centuries of
>   Roman peace, he introduced also an era of
>   unprecedented prosperity to Italy and the
>   provinces.
>   b. The wars which had devastated the empire were
>   ended.

(31a) is paragraph-initial. There is no mention of Augustus in this paragraph after (31a). I claim that if (31a) had been backward pronominalized, we would have expected more mention of Augustus.

Let us now return to Kuno's descriptive discourse example in (32):

> (32) Tom is a rather cold person. He avoids me when I
>   need him.
>   a. ?On the other hand, whenever I want to talk to
>   her, Mary comes to see me willingly.
>   b. On the other hand, whenever I want to talk to
>   Mary, she comes to see me willingly.

(32a) is supposed to be inappropriate because 'Mary' is not a continuous topic under Kuno's definition. However, in (30b), 'Hildebrand' is also not a continuous topic. I believe that the difference between these examples for speakers who do question (32a) has to do with position within the discourse. While (30a) does relate to previous discourse, it serves as a setting or transition sentence for what a composition teacher might term the topic sentence of the paragraph, i.e. (30b). (32a), as Kuno has it, occurs further away from the beginning of its discourse paragraph.

However, (32a) would not necessarily have to occur within the same paragraph. We could easily imagine an entire paragraph about Tom, ending with (33):

> (33) But all in all, Tom is a rather cold person. He
>   avoids me when I need him.

The next paragraph could, I claim, then begin with (32a), quite parallel to (30b) above. Here we would expect the discourse following (32a) to have 'Mary' as topic. Again we get a setting of a topic by paragraph-initial backward pronominalization.

I think we now have a good explanation for why (32a) in the context (32) is acceptable to many readers. It may be taken by the reader as a setting of a new topic. Since Kuno does not provide a following discourse context, the reader may, on encountering (32a), take it to be a setting for continued discussion of Mary. If Mary is never again mentioned after (32a), then (32a) would sound very odd, as in (32'):

(32') ??Tom is a rather cold person. He avoids me when
I need him. On the other hand, whenever I want
to talk to her, Mary comes to see me willingly.
But Tom's not like that. He shuns all contact
with people. He...

Similarly, I think that (28d') of the previous section may be put
into a semantic or discourse paragraph-initial frame by some readers...
It would thus be considered as a topic-setting statement.

Even more typical of the counterexamples to Kuno's hypothesis are
strictly discourse-initial sentences, in which there is no possible
topic shift. Examples of this type are frequently found in newspaper
editorials, e.g., (34) (St. Louis Post Dispatch 11/6/74):

(34) Headline: Self-Interest and Generosity
    a. A week before he goes to Rome at the head of
        the United States delegation to the World Food
        Congress, Secretary of Agriculture Earl Butz
        continues to defend a position at odds with the
        needs of poor people and with the interests of
        our own country.
    b. That his opposition to the establishment of govern-
        ment held food reserves does not reflect the
        prevailing American sentiment becomes more
        apparent as the time for decision approaches.

The rest of the article goes on to talk about Butz and the food
conference. Here, the sentence is truly used to set the topic of the
editorial.

I began this section stating that sentences like (30b) and (34a)
were counterexamples to Kuno's hypothesis that backward pronominaliza-
tion required a continuous topic. However, the notion of continuous
topic, I believe, is still involved in the use of these sentences. I
claim that for backward pronominalized sentences to be used appropriately
in discourse initial position, the NP that is pronominalized must be
continued as a topic further in the discourse. That is, (30b) would
be inappropriate if 'Hildebrand' were not referred to further in the
paragraph. Similarly, (34a) would be inappropriate if Earl Butz were
not again mentioned. Hence, these sentences predict a continuing
topic.[8]

It still might be asked why these sentences should signal that
the backward pronominalized NP will be talked about in what follows.
If we accept the conclusion drawn in the previous section that back-
ward pronominalization under normal use signals that the NP has
attained topicality and is hence part of what is involved in 'being
relevant', then the use of a discourse initial backward pronominalized
sentence might be considered a flouting of the maxim of relevance.
The purpose of the flouting of the maxim here is precisely to implicate
that the NP is to be taken as the topic or a topic of the discourse.
The speaker/writer can expect the hearer/reader to be able to make
this inference.

4.1.3. · Intersentential Pronominalization

There is an interesting parallel between backward pronominali-
zation intrasententially and simple pronominalization across sentence
boundaries. Mere anaphoricity, as any composition teacher would be
quick to point out, does not constitute a sufficient condition for
pronominalization. There must of course be a contextually unambiguous
antecedent NP for the pronominalization to be considered appropriate.
However, even when a referent may be unambiguously determined, we
may still find that pronominalization sounds odd. Consider (35)
(Ferguson and Brunn 1969:54):

(35) a. The devastating struggle with Carthage and
the final victory, which made Rome the
strongest power in the Mediterranean world,
wrought great changes both in internal
politics of the republic and in her relations
with other states.
b. The conflict between the democratic and aristo-
cratic parties had been thrust into the back-
ground by the stress of war.
c. The plebians had already gained sufficient voice
in government to satisfy their most pressing
demands and, while the state was in danger,
were willing to entrust the conduct of affairs
to the more experienced senatorial class,
which now included many of the richer plebians
who had gained admission to the Senate by way
of public office.
d. The Senate, indeed, had gained almost complete
control of policy, especially in foreign affairs,
for it was a continuing body, and its members
were more thoroughly conversant with the
complicated problems of state than the yearly
magistrates or the occasional popular assembly
could be.

Sentence (35d) must have the full NP 'Senate'. (35d'):

(35) d'. *Indeed it had gained almost complete control...

with 'Senate' pronominalized would be completely unacceptable in
context (35). My claim here is that NPs may not be pronominalized
across sentence boundaries if they are not topical in the discourse.
Note the position and the semantic function of the potential antecedent
in (35c): the object of a preposition in a relative clause modifying
the object of a relative clause. Semantically as well as syntacti-
cally, 'Senate' in (35c) is at best a qualifier of a qualifier. It
could hardly become established as a topic from this position.

While 'Senate' in (35c) is quite deeply embedded and is clearly
not a theme in (35c), note that a sentence element need not be a
theme in Kuno's sense to be pronominalized, e.g. (36) (Ferguson and
Brunn 1969:148):

(36) a. The home of the Northmen was in the three
Scandinavian countries of Denmark, Norway
and Sweden..

b. There, cut off by the sea...they had retained
their pagan religion...

Note that the phrase 'the three Scandinavian countries of...' in (36a).
is new information. In (36b), 'they' is surely the theme by Kuno's
criteria, but nonetheless we find both 'Northmen' and 'Scandinavian
countries' pronominalized. Both are topics, the 'Northmen' is the
discourse topic here, and 'Scandinavian countries' apparently is
adequately established in (36a).

While we have found that noun phrases must attain a high degree
of topicality before they can be referred to by pronouns, it is also
the case that a noun phrase may lose topicality. Intervening sentences
that shift discourse subtopics and intorduce new topical elements may
well destroy the topicality of an NP. Thus consider the passage in
(37) (Ferguson and Brunn 1969):

(37) a. ...

b. So far as Hannibal's own part of this plan was
concerned, his hopes were realized. In one
battle after another he defeated the Romans,
finally wiping out almost the entire Roman army
at Cannae in 216 B.C.

c. But Rome's Italian allies failed to live up to
his expectations.

d. They remained stubbornly loyal to Rome.

e. During the next few years the Roman army, under
the leadership of Quintus Fabius, surnamed
Cunctator (the Delayer), adopted the exasperating
policy of refusing open battle, so that Hannibal
was forced to waste his strength in futile
maneuvers.

f. He could neither capture the city of Rome nor
crush the elusive Roman army...

(37e) is the sentence of interest. 'Hannibal' is not pronominali-
zable within this context, for a shift in topic takes place in (37c)
and (37d). 'Hannibal' becomes detopical. The so that-clause in
(37e) reintroduces 'Hannibal' as topical, and thus pronominalization
in (37f) is proper. Note again that the syntactic position of
Hannibal in the so that-clause, i.e., subject position, plays a
large role in the gaining or rather regaining of topicality. Had
the so that-clause been (37e'), then (37f) would not be appropriate,
since in the genitive, 'Hannibal' has not gained any topicality.

(37) e'. ...so that Hannibal's army lost strength in
futile maneuvers.

In this section, I have not been concerned with sequences such
as (38):

(38) John$_i$ and Bob$_j$ came to town. *He$_i$ needed a shave,
and he$_j$ wanted to get a haircut.

which are inappropriate because the discourse referents can not be
unambiguously determined. I feel this general restriction also follows
from Gricean maxims, specifically the maxim 'Avoid obscurity of
expression'. I believe that the restriction against pronominalization
in (35d) and (37e) follows from the maxim of relevancy cited in the
previous sections. Intersentential pronominalization is possible only
when the NPs in question are topical, i.e. immediately relevant to the
discourse. Pronominalization of any other NPs is in violation of this
maxim.

4.1.4. Pronominal Topic Set

On the simple pronominal level, there is an interesting parallel
to the flouting of the maxim of relation shown in section 4.1.2.
Consider (39) (Crane 1930) which is (short) story-initial:

(39) None of them knew the color of the sky. Their
eyes glanced level, and were fastened upon the
waves that swept toward them.

(39) contains the first two sentences of Stephen Crane's short story
'The Open Boat.' The topic of this short story is four men: the cook,
the oiler, the correspondent, and the injured captain. These characters
are the referent of the pronoun 'them' and 'their in (39), and they
are identified in succeeding paragraphs of the short story.

We must again assume that the referent of the pronominal 'them'
and 'their' will continue to be talked about, for otherwise the author
would be writing irrationally. As the case stands, the author has
flouted the maxim of relation for stylistic effect, and thus set the
topic of the discourse as the yet to be identified postcedents of the
pronoun 'them'. This whole stylistic effect would be destroyed if the
referents of the pronouns in (39) had never been identified and not
been further talked about. Indeed, the discourse would have been
judged inappropriate. Thus, discourse-initial pronominalization, just
as discourse-initial backward pronominalization, signals that a topic
has been set.

4.1.5. Summary

In these four sections on pronominalization, I have shown that
we need a notion of topic or what is being talked about, in order to
deal with the facts of intersentential and intrasentential pronomin-
alization. We may speak of an element as being a topic if it is
under discussion in at least two adjacent or near adjacent sentences
of related discourse. While being discussed, a topic may become an
established topic. An established topic has attained communicative
importance or topicality. However, a topic may lose its topicality
and have to be reestablished.

A discourse, then, is a sequence of sentences with semantic
coherence, a relationship that obtains between topics and subtopics.
Certain topics of a discourse may be pronominalized if they are of

current relevance or topical. I have further suggested that felicitous pronominalization intra- and intersententially is related to the Gricean maxim of relation. A flouting of this maxim accounts for our understanding of pronouns and of backward pronominalized sentences in discourse and paragraph-initial position.

4.2. Topic Shift
4.2.1. Preposing and Restrictions on Preposing

In discourse, topics are constantly changing, new topics are being introduced and old topics are reintroduced. With respect to this, the Praguian notion of the 'basic distribution' of information from old to new is often realized by certain English constructions.

Consider (40) (Ferguson and Brunn 1969:49):

(40) a. The majority of the Italian people were evidently, descended from tribes of mixed ethnic origin who had drifted down from the north across the Alps in successive waves during the second millenium before Christ.

b. Of these the most important for Roman history were the kindred Latin peoples who settled the fertile plain of Latium on the western coast south of the Tiber...

c. They were already well established when the neighboring district of Tuscany to the north of the Tiber was conquered by the Etruscans sometime prior to 800 B.C.

d. The Etruscans were a seafaring people of mysterious origin.

e. Their language, which is not Indo-European, still baffles scholars...

f. With them came the first elements of the highly developed civilization of the eastern Mediterranean, including the political form of the city-state.

g. Their industrial and artistic products...

This passage presents us with a number of interesting discourse phenomena and syntactic correlates. Sentence (40f) is an example of the preposing of a prep-NP constituent and subject-verb inversion. This preposing construction is one of a number of constructions which, I claim, can fill two communicative functions. Langacker (1974) proposes that fronting rules (rules that move some constituent C to clause initial position) make that constituent more prominent, i.e., such rules highlight the objective content of a sentence (that part of the sentence which excludes illocutionary force, tense, aspect, modality, topic, focus, emphasis, negation, indication of speaker attitude). Now, while it is true that such fronting rules may make objective content more prominent than, for example, speaker attitude, as in (41):

(41) Lobster I hope my cat will eat.

I cannot see any such correlate in (40f). It is not the case that
the prep-NP constituent is moved over any non-objective content.
Rather, I want to say that such preposing can also be used to
deemphasize the importance of certain sentence elements, allowing new
topics to be introduced, here the subtopic of Etruscan civilization,
which is potentially introduced in (40f), and continued in the
appositive relative in (40f) and in sentence (40g).

Such preposing and inverstion for topic shift is characteristic
of a number of root transformation constructions (Emonds 1970), e.g.,
PP substitution as in (40f) and (42), directional adverb preposing as
in (43), and participle preposing as in (44):

(42) In each hallway (hangs, has long stood) a large
poster of Lenin.
(43) Down the street rooled the baby carriage.
(44) Speaking at today's luncheon will be our local
congressman.

These are sentences that, according to Kuno (1972), present 'the whole
event or state as new (299)'. But note that (40f) is 'grounded' in
the old topic, 'the Etruscans'. I think it would be better to say
that these constructions are used primarily to shift from one topic
to another.

Note that inversion is not a necessary property of these topic
shift sentences. Hooper and Thompson (1973) claim that the root-
transformed sentences (42), (43), and (44) occur only in environments
that are asserted. Thus, (42) and (43), according to them, are odd
as complements of factive verbs:

(45) ??It is remarkable that in each hallway hangs a
large poster of Lenin.
(46) ??It is too bad that down the street rooled the
baby carriage.

Note that preposed, but non-inverted, sentences corresponding to (42)
and (43), i.e., (47) and (48) respectively, do not seem to fit the
factive contexts either:

(47) In each hallway a large poster of Lenin hangs.
(48) Down the street the baby carriage rolled.
(49) ??It is remarkable that in each hallway a large
poster of Lenin hangs.
(50) ??It is too bad that down the street the baby
carriage rolled.

All of these sentences may be used to shift the topic. The reason
that they sound odd as complements of factive verbs is that we are
trying to say something about an NP at the same time we are first
introducing it. But if we are saying something about an NP, then it
has already become a topic. Thus, there is a conflict.

Hence, I conclude that preposing in general may be used to get
the old topic out of the way so that a new topic may begin to be
introduced. This general consideration holds for most preposed

clauses with which I am familiar. Note the preposing of the purpose clause in (51) (Ferguson and Brunn 1969:85):

(51) a. ...
    b. The unity of the church was a vital issue.
    c. To preserve that unity, one side of the argument or the other (Constantine did not care which) must be established as orthodox and those who would not accept it of their own free will must be forced to do so by the state.

While the conjunction in (51c) seems to block the purpose clause from occupying the end position of the sentence, note that the sequence in (51') is also quite bad.

(51') b. The unity of the church was a vital issue.
    c. One side or the other must be established as orthodox (in order) to preserve that unity.
    d. ???Those who would not accept it of their own free will must be forced to do so by the state.

The purpose clause at the end of (51'c) effectively prevents 'one side or the other' from gaining enough topicality for pronominalization to take place in (51'd).

By way of contrast, consider sentence (40c). Here, the *when*-clause can *not* be preposed to (52) within the context of (40).

(52) When the neighboring district of Tuscany to the north of the Tiber was conquered by the Etruscans sometime prior to 800 B.C., they were already well established.

The *when*-clause in (40c) contains new information, and serves to introduce the new topic 'the Etruscans'. The following sentences, (40d) and (40e) show that the topic 'Etruscans' has been continued. Note that had (40d) continued 'the Latins' as a topic, as in (53):

(53) Thus we conclude that the Latins must have come to Italy well before 1000 B.C.

then either (52) or (40c) would have been appropriate, since topic shift would not take place.

4.2.2. A Constraint on the Position of Topical Elements

While it has been shown above that topical material often occurs sentence initially, I have not previously discussed any positions that do not allow the occurrence of topical elements. I want to claim here that the NP of the *by*-phrase of the passive cannot contain a topical element, and is further often used as the position in which potential topics are introduced. This statement predicts, then, that sequences such as (54) will not occur:

(54) *Bill was touring Columbus. The whole city was seen
     by him in less than a day.

In contrast to (54), we do get by-phrases that introduce new topics,
e.g. (55) (Ferguson and Brunn 1969:150):

(55) a: Here (Wessex) they (the Danish) were finally
     checked by the skillful and courageous leader-
     ship of the young Alfred (871-900), who
     succeeded his elder brother as king of Wessex
     in the midst of the invasion.
b. Seven years later 'the army', as the Saxons
     called the Danish host, again invaded Wessex and
     was again repulsed.
c. Later Alfred reconquered London and part of Mercia
     from the Danes.

where 'Alfred' becomes the topic of this paragraph.
   A similar constraint occurs interclausally. So, an example
parallel to (54) above would be (56):

(56) ???Though my friend Bill started touring Columbus
     early in the morning, the whole city wasn't seen
     by him in a day.

I have not found any sentences in which a NP which is topic of the
sentence occurs in the by-phrase of the passive main clause which
follows a subordinate clause of the schema:

$$_S(\ _S(\ NP_i\ V...)\ ...V_{pass}\ \underline{by}\ NP_i)$$

in any of my research.
   Nor have I found any sentences in which a deleted element of a
subordinate clause occurs as the NP of a by-phrase. Consider (57)
(Ferguson and Brunn 1969:177):

(57) Small and unprepossessing in appearance, he [Gregory]
     yet commanded respect by his integrity and burning
     zeal that threatened to consume his frail body.

Here, I think we would want to say that the first phrase 'small and
unprepossessing in appearance' is a reduced although-clause, the
evidence for this claim being the correlative yet in the main clause.
When we do get sentences of this form, we seem to get by-phrases
containing new information, e.g. (58) (Ferguson and Brunn 1969:142):

(58) While returning through the Pyrenees, the rear guard
     of the Frankish army, led by a noble named Hroud-
     land, was cut off and destroyed by Basque mountaineers
     in the pass of Roncesvalles.

Note that it is not necessary that topical elements appear in subject position. If this were the case, then there would not be a constraint barring topical information from appearing in by-phrases, but rather a restriction on where topical information must appear. In (59) (Ferguson and Brunn 1969:21) the topic 'Hittites' may be continued by a genitive:

(59) a. Save for some cryptic references in the Old Testament and in Egyptian sources, the Hittites were virtually unknown to history until the early yeras of this century, when archaeological excavations brought to light the ruins of their cities and thousands of clay tablets$_i$...

b. Through these$_i$, it has been possible to reconstruct the outlines of their history.

c. They were a warlike people...

Thus, topicality may continue outside of subject position. This may also be illustrated interclausally. Consider (60):

(60) a. Nixon told his generals that they had one more chance.

b. So they tried again in Vietnam.

c. But $\emptyset$ having failed there, Nixon summarily fired them.

c'. But $\emptyset$ having failed there, suieide was their only alternative.

c". *But $\emptyset$ having failed there, other lands were ravaged by them.

In (60c), the topical element is in object position. In (60c'), the topical element is a genitive. However, the topical element in the passive by-phrase in (60c") results in a bad sentence. Thus, I conclude that the passive by-phrase prohibits continued topics, and further, may be used to introduce elements which become topics.

4.2.3. Funny Clefts

The cleft sentence is often used to illustrate differences in old and new information, e.g., in the question-answer sequence in (61)

(61) Q: Who hit Sue?
A: It was John who/that hit Sue.

The information in the that/who-clause is usually said to be 'presupposed', with new information appearing in the clefted position. We can see that trying to add new information (such as an appositive relative clause) to the presupposed proposition in the who/that-clause seems quite odd. (62) could not be an answer to (61):

(62) ???It was John that hit Sue, who is a really beautiful girl.

I have found another type of cleft sentence in which the that-clause contains new information which may serve to allow a shift in topic. Consider (63) (from J. Susann—_Once is Not Enough_)

(63) a. But the weekends January spent with her father in New York, she only saw a handsome man who lived to please her.
b. It was because of these weekends that January discouraged all attempts at any "buddy-buddy" relationships with the girls at school.
c. Having a buddy-buddy meant holiday dinners at their homes and occasional weekend "sleepovers" —on a reciprocal basis.
d. And January had no intentions of sharing any of her weekends with her father.

In this example, the old information is found in the clefted position. The new information contained, in the that-clause may indeed become topical, as evidenced by the pronoun their in (63c) referring to the 'girls at school' of (63b). And although (63d) returns to the main topic, 'January', it could have felicitously contained more information about 'the girls at school' as a subtopic.

5. Summary and a Prospectus for Further Investigation
5.1. Summary
I have shown here that a number of syntactic constructions and restrictions on syntactic constructions may be explained by viewing discourse as a communicative act in which a speaker may talk about different things, or, in my terms, a speaker may move from one topic to another. I have attempted to show that backward pronominalization and intersentential pronominalization depend crucially on the speaker's having established a topic. To be an established topic, a sentence element must gain a high degree of topicality within a discourse. Topicality is a property of an element in discourse, which refers to the adequate description of that element and to its communicative relevance to the discourse.

I have shown that Kuno's (1972) statement of the conditions on backward pronominalization is not well-grounded, since the basis of his argument rests on an undefined notion of the term topic. I have presented a definition of topic, i.e., 'what is being talked about', and have tried to demonstrate some ways in which topics may be introduced and shifted. The shifting of topics has been shown to correlate with specific sentence constructions.

What I hope has emerged from this thesis is that the notion topic(s) of a discourse must be made a part of linguistic theory in order to explain syntactic structure in context. And beyond that, an adequate definition of what linguistic mechanisms may be employed to establish a topic need to be defined, or we will be left with descriptive terms, such as Kuno's predictable theme. We need to investigate the communicative properties of sentences and sentence elements, i.e., what speakers or writers do with linguistic entities. I have suggested one such property, topicality.

5.2. Looking Ahead

I view this thesis as only a pilot study into the realm of the communicative properties of linguistic entities. I believe that an exhaustive treatment of these properties will lead to an explanation of why sentences in context are structured the way they are. I will suggest in this section several factors which I believe must be taken, into account in such a study.

First, I believe that the genre of discourse will be a parameter. I have used the terms 'conversational discourse', 'question-answer discourse', 'expository descriptive discourse', 'argumentative discourse'. These terms need refinement and definition. Also, I think it is safe to say that part of the definition of 'type of discourse' will be a notion of discourse structure, i.e., the communicative function of the particular sentences within the discourse and their interrelationships.

Second, the role of shared information between speaker and hearer or writer and reader will need to be pinned down. I have tried to avoid this complication in this study, but much of what I have argued for here, especially which are the topical elements in a discourse, becomes harder to determine when two speakers share a great deal of knowledge. A transcribed conversation between intimates can be almost incomprehensible to an outsider. Validating a theory of communicative properties of sentences and sentence elements is much more difficult when much of a conversation is unspoken, yet implicitly communicated and understood.

Thirdly, some way of testing the reality of the proposed communicative properties is needed. Clark and Haviland (1975) have in fact proposed that speakers may employ a comprehension strategy based on the division of a discourse into new and old information. This strategy is presumably testable by psycholinguistic techniques.

Finally, when moving from the sentential level to the discourse level, a great deal of imagination on the part of the investigator is needed. Linguistic theory has seen many changes and will see many more. But this should not deter the investigator from taking a stand on an issue, for only by having a starting point can a theory be refined and advanced.

Footnotes

*This is a revision of my 1975 Ohio State M.A. Thesis. I owe a great deal of thanks to Robert Jeffers, who acted as my adviser for this thesis, whose encouragement spurred me on to finish it, and whose critical comments have helped me clarify my thoughts and my prose; and to Arnold Zwicky whose substantive and editorial comments have been of great help toward this revision; and to Olga Garnica, who also served on my thesis committee.

[1] I cite Kuno's (1972) numbering after example sentences taken directly from his article.

[2] Sentences from Kuno are presented with Kuno's characterization of grammaticality (*, ?, etc.). The response to sentence(11) may well be

appropriate for some speakers. In general, Kuno has not provided nearly enough linguistic or extralinguistic context for his data to be well understood.

[3]Kuno notes that (17a) would be better with pronominalization in both clauses. This potential for both clauses to be pronominalized is a general source of problems in evaluating Kuno's data. I link the conditions on intersentential pronominalization with backward pronominalization in 4.1.3.

[4]I give some specific ways in which one might predict that an unpredictable theme might occur in section 2.2.1.

[5]For those speakers who find the response in (21) awkward, see my comment in section 3 on the seemingly implicit presumption by Kuno that questions can be asked before all sentences.

[6]Many of the examples used in this thesis are taken from Ferguson and Brunn (1969), A Survey of European Civilization, Vol. 1, a test used in a freshman course in Western Civilization. I have chosen this book because it is written entirely in what I have termed expository discourse. The book is highly structured and factually oriented. It contains a great variety of declarative sentence types and represents what I believe is informative descriptive discourse, i.e., the authors are not presenting any kind of critical analysis with the aim of convincing their reader of some point or points, as I try to do in this thesis. My selection of genre of this sort is not meant to imply that the arguments given herein are applicable only to informative expository discourse. I have selected this work because it does not presume prior knowledge of any of its content by the reader (other than, of course, a knowledge of the English language and the shared Weltanschauung of Enlgish speakers). Hence we will not have to deal as much with an author's implicit assumptions about his readership, as I do in writing this thesis. Argumentative descriptive discourse, in which this thesis is written, often requires that the speaker have prior knowledge of the subjects to be discussed. For this study, I choose not to take this additional factor into consideration, although it must be treated in an extension of my theory (see 5).

[7]Grice (1975) has argued that '...there are very many inferences and arguments, expressed in natural language and not in terms of formal devices, which are...recognizably valid.' He argues that there are general maxims governing rational conversation, and that a 'flouting' of any of these conversational maxims will give rise to a conversational implicature. That is, a speaker may violate a conversational maxim with the expectation that his hearer will be able to 'work out' the reason why the speaker has violated it. Grice gives an example of flouting the maxim of relation: 'Be relevant'. Suppose B, in response to A's inquiry about how a friend C is doing at a new job in a bank, should reply, 'Oh quite well, I think; he likes his colleagues and he hasn't been to prison yet'. In uttering that phrase, B has indeed violated a conversational maxim and '...A must regard (B's) irrelevance as only apparent if and only if (B) supposes (A) to think that C is potentially dishonest.' Hence, B has here implicated that C is dishonest.

[8]Kuno (1972) in the last footnote in his article does state that initial backward pronominalized sentences do occur. He does not give an explanation. Further, his example is:

> (a) In one of his campaign speeches, Nixon expressed his desire to reunite the country.

I have specifically avoided giving examples of backward pronominalization of genitives as in (a). I don't know quite how to characterize the problem, but perhaps some examples may show that these genitives are of a different nature than the examples given in this section. First, consider that a near paraphrase of (a) can be gotten without the genitive pronoun at all, e.g. (b):

> (b) In a campaign speech, Nixon expressed his desire to reunite the country.

A more telling example would be (c):

> (c) Tom is a rather cold person. He avoids me when I need him. On the other hand, whenever (her) time permits, Mary comes to see me willingly.

I find this sentence more acceptable than (32a) above. Again the genitive pronoun is not critical to the expression of the content of the sentence. Thus, I believe that it must be considered as less central to the issues at hand.

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A Re-Analysis of NEG-RAISING in English

Jay M. Pollack

Contents

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Jay M. Pollack

1. Introduction.

A rule of NEG-RAISING (also called NEG-TRANSPORATION, NOT-TRANSPORATION and NOT-HOPPING) was proposed originally in Fillmore (1963) to account for the similarity in meaning of (1a) and (1b).

(1) a. John thinks Sally hasn't left.
    b. John doesn't think Sally has left.

Sentence (1b) is ambiguous. One of its meanings is the negation of (2).

(2) John thinks Sally has left.

while the other meaning is the same as that of (1a). It was claimed that the deep structure of one of the readings of (1b) is the deep structure (1a) and that the not is raised from the complement clause to the main clause.

Since its original proposal, the rule has been used in several places as part of arguments in many different types of analyses. However, NEG-RAISING itself has never been sufficiently justified for one to be able to assume its existence, as many people have. This paper, in addition to reviewing the published syntactic arguments for NEG-RAISING and the problems they raise, will suggest that the rule would be more trouble than it is worth (part 2). After a brief look at the semantic and illocutionary factors involved (part 3), an alternative framework, namely, the one developed in Jackendoff (1972), will be adopted and a semantic interpretation rule of NEG-ASSOCIATION will be proposed to replace NEG-RAISING (part 4). Then the new framework and rule will be tested on the data which originally motivated the transformation (part 5), after which is a summary of the results of this paper (part 6).

2. The Syntactic Evidence and Its Problems.
2.1. Until
2.1.I. The word until seems to have the following selectional restrictions on it: it may appear in a sentence only with (a) a durative verb (compare (3a) and (3b))

(3) a. Mary slept until noon.
    b. *Mary woke up until noon.

(b) with a plural subject, giving a punctual verb a durative sense (compare (4a) and (4b)).

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(4) a. Guests arrived until 5 o'clock.
    b. *The Brazilian ambassador arrived until 5 o'clock.

or (c) with a negative (Compare (5a) and (5b)).

(5) a. I didn't get my present until Thursday.
    b. *I got my present until Thursday.

Now consider examples (6)-(8)

(6) *I think the trial will finish until next month.
(7) I think the trial won't finish until next month.
(8) I don't think the trial will finish until next month.

If sentence (8) were merely the negation of (6), then it would be ungrammatical, like (6) is. However, since (8) is grammatical, the argument goes, it must have come from (7) by NEG-RAISING, thereby satisfying the requirement that <u>until</u> co-occur with a negative in the same sentence.

2.1.2. The above data were first noticed by Klima (1964). He also found sentences like the following:

(9) a. She is too weak to have another child until 1978.
    b. Bill is afraid to leave until his mother comes.
    c. I doubt he will arrive until next week.
    d. My diet forbids me to eat until mealtime.
    e. Scarcely anybody expected him to resign until
        next year.

None of these examples contains an overt negative anywhere in the sentence, yet they permit a construction with <u>until</u>. To handle these cases, Klima proposed a rule of NEG-ABSORPTION which, instead of raising a negative, would delete the lower negative, if there were a not or an 'inherently negative constituent' (into which class would fall <u>forbid</u>, <u>too</u>, <u>afraid</u>, <u>doubt</u>, <u>scarcely</u>) in the main sentence. Thus (8) would have a structure something like (10) and NEG$_2$ would absorb NEG$_1$, giving the surface structure of (8).

(10) I NEG$_2$ think [the trial NEG$_1$ will finish until next
       week.]

This rule presents a problem for a theory in which transformations are meaning-preserving. Lindholm (1969) points out that sentence (7), which has the same meaning as (8), has a different underlying structure, namely, like (10), but without NEG. Thus, two synonymous sentences differ in that one, (7), has one NEG and the other, (8), has two NEGs on a more underlying level of representation. This would imply that NEG-ABSORPTION changes meaning.
    There is another serious problem, as pointed out in Jackendoff (1971), for sentences that have a surface negative:

(11) Bill is afraid not to leave.
(12) Ali is too clever not to win.

If (11) and (12) have undergone NEG-ABSORPTION, then they must have
started with two negatives in the auxiliary position in the lower
sentence, which means that the base rules must be complicated, sacri-
ficing a generalization about negation for an explanation of <u>until</u>.

2.1.3. If, instead of NEG-ABSORPTION, we try breaking down the
inherently negative lexical items into more abstract semantic elements
containing overt negatives in the lower sentence, as in (13),

(13) a. <u>so...that...not</u> → <u>too</u>
      b. <u>so afraid that...not</u> → <u>afraid</u>
      c. <u>tend to believe...not</u> → <u>doubt</u>
      d. <u>order...not</u> → <u>doubt</u>
      e. <u>almost no</u> → <u>scarcely any</u>

then the sentences in (9) would satisfy the selectional restriction
for <u>until</u> in deep structure and lexical insertion rules would apply
later to give the surface items. This solution would not require two
negatives to be generated in one simplex sentence by the base rules.
    But even this solution cannot explain the ungrammaticality of
(14a) and (14b).

(14) a. *I don't doubt she will come until tomorrow.
      b. *Bill isn't afraid to leave until his mother comes.

Sentence (14a), which, by this proposal, would have a negative in the
lower sentence with <u>until</u>, should be all right. If it is suggested that
the negative in the main clause causes the lexical insertion rule which
forms <u>doubt</u> to block, then sentence (15a) would also be prohibited,
which is obviously not the case.

(15) a. I don't doubt she will come.
      b. Bill isn't afraid to leave.

Calling <u>don't doubt</u> another special lexical item is an even more ad
hoc solution and doesn't even seem plausible for the <u>not afraid</u> case
in (14b)-(14b).

2.1.4. Selectional restrictions are generally agreed these days (cf.
McCawley 1968, Jackendoff 1972:ch. 1) to be semantic well-formedness
conditions, rather than syntactic, as was supposed in Chomsky (1965).
If, as Jackendoff (1972) claims, surface structure contributes to the
semantic representation of a sentence, then a syntactic rule of NEG-
RAISING is not needed to account for sentences (6)-(15). Section 5.1
will demonstrate how this is done.
    The <u>until</u> data, then, is not compelling evidence for the existence
of the syntactic rule.

2.2. Tag questions

2.2.1. R. Lakoff (1969) discusses NEG-RAISING and tag questions. Tag questions are usually formed containing opposite polarity from the main sentence with respect to negativity, as in the following examples:

(16) a. Joan is coming, isn't she?
        b. Joan isn't coming, is she?

whereas tags with matching polarity are either 'ungrammatical or quite different in meaning, generally sarcastic'.

(17) a. Joan has left, has she?'
        b. *Joan hasn't left, hasn't she?

Tags are usually permitted only on the top sentence:

(18) a. Yogi hopes the Mets will win, doesn't he?
        b. *Yogi hopes the Mets will win, won't they?

But under certain circumstances, they are permitted on the complement sentence:

(19) I suppose the Phillies won't win, will they?
(20) *I suppose the Phillies won't win, don't I?
(21) *I don't suppose the Phillies will win, do I?

Lakoff says that the tag is formed from the lower sentence because suppose is being used as a performative[1] and for that reason, (20) and (21) are out, since performatives may not be questioned or negated. Now consider (22) and (23):

(22) *I don't suppose the Phillies will win, won't they?
(23) I don't suppose the Phillies will win, will they?

In these sentences, suppose is used performatively, so the tag is formed from the embedded sentence. In (22), opposite polarity produces a bad sentence and (23) is acceptable, even though the tag matches in polarity and the performative seems to be negated. Lakoff claims that the not originated in the lower sentence and was moved by NEG-RAISING, so that when the tag is formed, the polarity will be opposite and the performative is not negated in deep structure. The apparent oddness of (23) is explained by deriving it from (19).

2.2.2. Jackendoff (1971) has two objections to this account. The first is that the verbs suppose, guess, imagine, and suspect, which would work in the examples (19) and (23) do not undergo NEG-RAISING in the following examples.

(24) Steve $\left\{ \begin{array}{l} \text{supposed} \\ \text{imagined} \\ \text{guessed} \\ \text{suspected} \end{array} \right\}$ that the Phillies hadn't won.

$$(25) \text{ Steve didn't } \begin{Bmatrix} \text{suppose} \\ \text{imagine} \\ \text{guess} \\ \text{suspect} \end{Bmatrix} \text{ that the Phillies had won.}$$

There are many speakers for whom the sentences in (25) are not para-
phrases of those in (24), so NEG-RAISING cannot be at work here (in a
theory where transformations are meaning-preserving).

Secondly, for most NEG-RAISING verbs, the model (19) and (23) is
fine, but for <u>think</u> and <u>believe</u>, we get:

(26) a. I don't think they'll win, will they?
     b. I don't believe they'll win, will they?

These should have come from the very much worse (27)

(27) a. *I think they won't win, will they?
     b.?*I believe they won't win, will they?

Since NEG-RAISING is optional, these last two ought to be good, but for
some reason, they aren't.

These problems put a question on the whole tag-question argument,
and they raise doubts as to whether tag questions are really that simple
a matter at all. (See sections 3.2.4 and 5.2 for some discussion).
Even if independent evidence shows that NEG-RAISING is indeed a trans-
formational rule, how can these examples be explained?

2.3 Parentheticals
2.3.1. Ross (1973) notices that the class of verbs which can appear
as final-position negative parentheticals is the same as the class
that undergoes NEG-RAISING, as demonstrated in (28)

(28) a. We're not in Lompoc yet, I don't think.
     b. *We haven't reached a conclusion, we didn't claim.

Since, as Ross claims, negative parentheticals, unlike positive ones,
may only occur after negative sentences as in (29),

(29) a. *Harvey has eleven toes, I don't think.
     b. The fiscal year had (not) been encouraging, they
         realized.

Ross proposes that NEG-RAISING be split into two parts, NEG-COPYING,
while optionally copies a negative from an embedded sentence to the
upper sentence whose main verb is <u>think</u>, <u>guess</u>, <u>believe</u>, etc. and NEG-
DELETION which deletes the lower NEG when a copy has been made.

2.3.2. There have been other cases in the literature where movement
rules have been claimed to be really a copying rule plus a deletion
rule (for example, Perlmutter 1972). The question has been raised
as to whether all movement rules might not be reanalyzed in this way.
If this were to be the case, then the constraints mentioned in Ross
(1967) which apply to chopping rules would really be constraints on

deletions. Neubauer (1970) claims that some deletion rules violate Ross's constraints, but his examples are not compelling. In the case of NEG-DELETION, this would never come up anyway, since the original NEG-RAISING rule was not an unbounded movement rule.

There are still problems with the copy-plus-delete analysis, however. In general, the deletion rules would all have to mention the same environments as their partner copying rules and must obligatorily[2] apply to delete the original constituent after it is copied. Thus NEG-DELETION is obligatory, providing that the complement structure necessary for NEG-COPYING has not been disturbed by the intervening (in Ross's analysis) rule SLIFTING, which preposes the embedded sentence. That these same conditions should apply to all these deletion rules seems questionable.

There is an additional problem for NEG-DELETION. Most of these deletion-of-a-copy rules will not find their structural descriptions met unless the copying rule has just applied. But Ross notes that sentences with two NEGs can exist without the copying rule. In these cases NEG-DELETION must not apply, even though its structural description is satisfied. Thus (30a) must be prevented from becoming (30b)

(30) a. I NEG believe [we NEG will have a recession.]
b. I don't believe we will have a recession.

This is the same problem encountered by NEG-ABSORPTION (see section 2.1.2), to which NEG-DELETION bears a strong resemblance.

Jackendoff's (1972) discussion of an alternative treatment of parentheticals will be brought up in section 5.3.

2.4. The late rules
2.4.1. Lindholm (1969) briefly mentions sentences like

(31) I don't think John loves Marsha anymore, but she doesn't realize it yet.

The it preasumably refers to the clause John doesn't love Marsha anymore and is inserted by a rule of SENTENCE-PRONOMINALIZATION. For this pronominalization-under-identity rule to have applied, the first part of (31) must have, at some point in the derivation, contained the phrase John doesn't love Marsha anymore in order for the identity to have obtained between it and the same phrase in the second conjunct. After SENTENCE-PRONOMINALIZATION applies, NEG-RAISING lifts the negative in the first conjunct.

2.4.2. Observe the following phenomenon:

(32) a. He's coming and I can guess why he's coming.
b. He's coming and I can guess why.

Sentence (32b) comes from (32a) by a rule, described in Ross (1969), called SLUICING, which deletes all of the last clause except the question word (and a preposed preposition, optionally) when it is an embedded question and identical to another part of the sentence (or of

a previous sentence). The sentences in (33) show that the not of why...not may also optionally be undeleted, although why not is obviously wrong where there was no original negative, as in (33d).

(33) a. He's not coming and I can guess why he's not coming.
b. He's not coming and I can guess why.
c. He's not coming and I can guess why not.
d. *He's coming and I can guess why not.

Sentence (34) shows that SLUICING may also delete under identity with an embedded sentence.

(34) I know he's not coming and I can guess why not.

But now consider (35), where there is no surface not in the embedded sentence:

(35) I don't think he's coming and I can guess why not.

The why not is apparently a sluiced form of why he's not coming. This suggests that the first part of the sentence contained the phrase he's not coming at the point when SLUICING applied, otherwise there wouldn't be any identity to allow SLUICING.
Notice that in sentence (36),

(36) Mary doesn't think he's coming and I can guess why not.

the why not can refer to the main verb (i.e. SLUICING might have applied to I can guess why Mary doesn't think that...), but this reading doesn't make sense in (35), where the not supposedly originates in the lower sentence and NEG-RAISING takes place after SLUICING.

2.4.3. In the following sentences

(37) a. *The Phillies will win and the Mets won't win either.
b. The Phillies won't win and the Mets won't win either.
c. The Phillies won't win and neither will the Mets.

it is seen that for either to appear, there must be a negative (or an implied negative) in both clauses. And for neither to appear, in addition to negativity in both conjuncts, the VP parts of the conjuncts must be identical (cf. Klima 1964), since the rule of VP DELETION (defended in Ross 1969), which deleted a VP on identity to a VP in another conjunct, as in (38),

(38) The Phillies will win and the Mets won't

would accompany the neither-fronting. Thus (37b) is an earlier form of (37c). Now consider (39)

(39) I don't think the Phillies will win and neither will the Mets.

At the point in the derivation where the _neither_ is to be fronted, the two conjuncts must be identical and negative. A deeper structure for (39) might be (40).

(40) I think the Phillies won't win and the Mets won't win, too.

This implies that _too_, which appears in positive conjunctions, changes to _either_ in negative cases and that the change to a fronted _neither_ includes VP DELETION (and its requisite identity of the conjuncts) at some point. Even if these details are not exactly right, the argument is the same. The _not_ must have originally been in the embedded sentence and NEG-RAISING applies after the conditions for _neither_ are met.
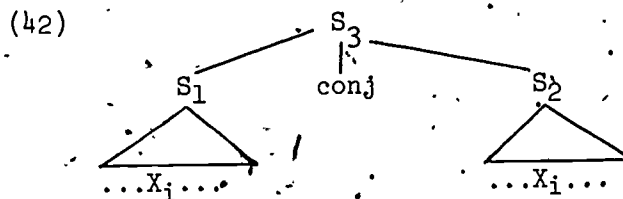
2.5. The ordering paradox

2.5.1. What the three rules discussed in section 2.4 have in common is the following: They all apply to conjoined structures; and the deletions or anaphora that occur as a result of their application all take place (optionally) under identity between the deleted material and some other part of the sentence. If there is no rule of NEG-RAISING, the 'identity' under which these deletions would occur must be modified. See section 2.5.4. for a discussion of this possibility.

2.5.2. Without a redefinition of 'identity', a previously unnoticed problem arises. Lakoff (1970) claims that NEG-RAISING is cyclic, as seen with sentences of the type (41).
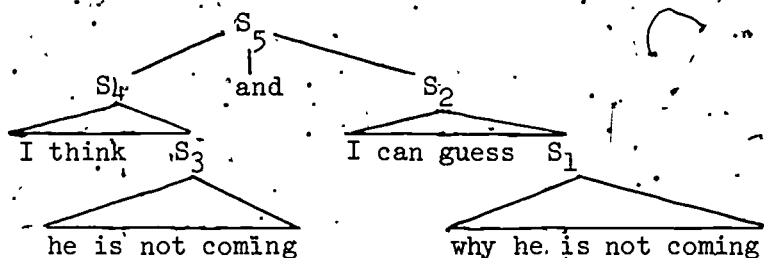
(41) a. I think Cliff believes Susan doesn't love him.
      b. I think Cliff doesn't believe Susan loves him.
      c. I don't think Cliff believes that Susan loves him.

But consider the example sentences in section 2.4. The structure of these sentences is (very generalized) like (42).

(42)

$$S_3$$

$$S_1 \quad conj \quad S_2$$

$$\ldots X_i \ldots \qquad \ldots X_i \ldots$$

If NEG-RAISING is cyclic as suggested, it would apply on the S_1 and S_2 cycles before the S_3 cycle. However, the examples in section 2.4 show that NEG-RAISING must follow the three rules, all of which would not apply until the S_3 cycle is begun and all S_1 and S_2 cycle rules have finished. (For example in sentence (35), the structure would be (43).

(43)

If NEG-RAISING is cyclic, it should apply on the S_4 cycle and SLUICING should apply on the S_5 cycle. But we have seen that NEG-RAISING must follow SLUICING on the S_5 cycle.

2.5.3. Having NEG-RAISING apply on the S_5 cycle means one of two things: (i) NEG-RAISING is not following the principle of strict cyclicity (cf. Chomsky 1973), which states essentially that 'rules cannot in effect return to earlier stages of the cycle after the derivation has moved to larger, more inclusive domains' (p. 243); or (ii) NEG-RAISING is a post-cyclic rule, which means that it need not follow the strict cyclicity principle.

2.5.3.1. But there are problems with both of these alternatives. Even though the sentences in (41) are consistent with a post-cyclic NEG-RAISING rule. (ii) cannot be the case for the following reasons.
Consider the following pairs of sentences:

(44) a. Both Mutt and Jeff think that this theory won't last until Thursday.
      b. Both Mutt and Jeff don't think that this theory will last until Thursday.
      c. Neither Mutt nor Jeff thinks that they theory will last until Thursday.

In the derivation (44a) to (44b) to (44c) NEG-RAISING must precede the rule that incorporates the NEG into the both...and to give neither... nor. However in (45),

(45) a. I think that both Mutt and Jeff will not give LSA papers this year.
      b. I think that neither Mutt nor Jeff will give LSA papers this year.
      c. I don't think that either Mutt or Jeff will give LSA papers this year.
      d. I don't think that both Mutt and Jeff will give LSA papers this year.

the rule incorporating the NEG must precede NEG-RAISING in order to get from (45a) to (45b) to (45c), If NEG-RAISING applied first to (45a), then (45d), which is not synonymous to it, would result.
The fact that two rules must apply in both orders is the usual argument for the cyclicity of the rules.
Also consider the fact that in (41), if NEG-RAISING works post-

cyclically, then it should move the negative in an all-at-once movement. But for the rule to work at all, the correct lexical items must be present in all the correct places. This would mean that the rule was subject to a Boolean combination of the lexical items which allow it to operate. This type of rule government has been disfavored, even by its original proponent (G. Lakoff 1970b, Preface) in favor of global constraints. Thus, a post-cyclic NEG-RAISING rule would have to be much more complicated in order to be able to iterate. Therefore, NEG-RAISING is cyclic.

2.5.3.2. If it is cyclic, we can first of all consider the possibility of its being highest-trigger cyclic. This runs into the same problem just given above: it must iterate.

It might be claimed that NEG-RAISING could be both highest-trigger cyclic and iterative, i.e., that it moved the negative up one sentence at a time (checking for the appropriate environment on each cycle), but that it only applied on the trigger cycle and repeated itself until it reached the trigger cycle.

But this means that the rule would be applying to a clause subordinate to the main clause of that cycle. Jackendoff (1972: ch. 9) goes through some examples of the following type to show what would happen if rules could iterate like this.

Suppose we have a sentence like (46)

(46) Anita said that Ruth passed the pipe to Bonnie.

On the first cycle, PASSIVE applies giving (47).

(47) Anita said that the pipe was passed to Bonnie by Ruth.

On the following cycle, PASSIVE's structural description is met again. A NP may often be passivized from a PP directly following the verb as in The bed was slept in by Kilroy. If PASSIVE applies again, the result is (48)

(48) *Anita said that Bonnie was been passed to by the pipe by Ruth.

which is obviously an ungrammatical sentence. So there are good reasons why transformations must not be allowed to iterate. This is the motivation behind the strict cyclicity principle.

If the NEG-RAISING rule is successive cyclic, having it follow SLUICING in (35) also violates the strict cyclicity principle. Also in this case, there is the problem of how to prevent NEG-RAISING from applying on the S_4 cycle, which comes first. If the claim is made that SLUICING, VP DELETION or SENTENCE PRONOMINALIZATION are post-cyclic, then an ordering paradox exists. Notice that having non-extrinsically ordered rules will not help here, since even most people who do not accept ordered rules accept the notion of the cycle--and a cyclic rule which must follow a post-cyclic (or at least higher-cyclic) rule will still produce a paradox.

Faced with these obstacles, the condition on identity must be changed.

2.5.4. If we can redefine the 'identity' under which the anaphora rules work, then we can allow NEG-RAISING to apply first and then let the rules apply under our newly defined identity. This has been proposed by Grinder and Postal (1971), where they say 'grammars must allow certain transformations to apply at one point in a derivation to some phrase marker PM_i, subject to a semantic identity condition statable only at a different stage of the derivation on the phrase marker PM_j, where PM_i and PM_j are non-contiguous. The link between these two stages is the notion of <u>corresponding constituent</u>...and has been described... as a Global Derivational Constraint'.

Specifically in this case, the identity condition on SLUICING and the others will be something like (49).

> (49) Two conjuncts which differ only in that the first has had a negative raised out of it by an application of NEG-RAISING while the second conjunct retains the negative will be considered identical for the purpose of the rule.[3]

So, NEG-RAISING will be cyclic and precede all of these rules, but will not affect the identity under which the anaphora is created.

Compared with some of the derivational constraints that have appeared in the literature, (49) is not that unusual (assuming that the modifications mentioned in footnote 3 and any others that might be discovered can be implemented without too much trouble), but then there will be no say to prevent sentence (50).

> (50) *Bill didn't believe that John would come until tomorrow and I believed it, too.

G. Lakoff (1970a: footnote 5) specifically deals with this sentence and says that it is prevented by the fact that SENTENCE-PRONOMINALIZATION may not occur in this case because the two conjuncts are not identical. NEG-RAISING has applied in the first but not the second, so there is a <u>not</u> in the second conjunct not present in the first. But this is just the condition described in (49). In order for sentence (31) to be generated, condition (49) is necessary. So the condition must be modified somehow to exclude (50). There may be a way to do this, but it would most likely complicate the condition to the point where it looks much more unwieldy and ad hoc than before.

2.5.5. To sum up this section, proponents of a NEG-RAISING transformation are faced with either an ordering paradox or a fairly complicated global condition on identity for the anaphora rules.

2.6. Summary.

In this section, I have presented the published syntactic arguments for the rule of NEG-RAISING and the problems they create. None of the

arguments is free of troubles, which makes the rule highly suspect,
based on the existing syntactic evidence. In addition, the ordering
paradox or its alternative is a serious complication the analysis must
face.

After I have attempted to formulate the process as a semantic
interpretation rule, I shall return in section 5 to each of the sets
of data mentioned here to see how they would be handled in the Inter-
pretive Semantics framework I am using. It will be seen that in some
cases, the interpretive rules have fewer troubles, although in other
cases there are the same problems as in the (largely) Generative
Semantics approach used so far.

3. The Semantic and Illocutionary Problems Involved.
3.1. Predicates which allow NEG-RAISING
3.1.1. It is well known that NEG-RAISING cannot apply in every sentence
with a complement clause. The specific predicates which allow it are few
in number. G. Lakoff (1970b) refers to NEG-RAISING as a minor rule.
The predicates which undergo the rule fall into three separate syntactic
classes:

(51) think, believe, suppose, expect, imagine, guess,
suspect, reckon, see[4], anticipate, predict?,
fancy?, figure?
(52) want, plan on, intend, wish, feel like, choose,
contemplate, be supposed to, mean?[5].
(53) seem, appear, be likely, be probable?, look like,
figure to.

3.1.2. The question has been raised whether these predicates form
natural semantic classes or disjunctions of classes. G. Lakoff (1970a)
claims that they don't, due to the fact that some people don't have all
of these as NEG-RAISING verbs. He also says that if there were semantic
classes, they would be cross-language classes. Since hoffen in German
is a NEG-RAISING verb, while hope in English isn't, this falsifies the
claim that there is a semantic class, Lakoff says. Therefore the rule
is governed by predicates marked for it, whether it is a syntactic or
semantic rule.[6]

Nevertheless, simply marking the individual verbs as undergoing
the rule or not is a very arbitrary method and makes the claim that
these predicates are all learned as exceptions to the usual case (i.e.,
NEG-RAISING is not allowed). Intuitively this seems to be wrong. It
would be very convenient to say that one can predict from the meaning
of a verb whether or not it will allow NEG-RAISING.

Some things can already be said about the types of predicates that
are or are not in these classes. Kiparsky and Kiparsky (1970) note
that factive verbs may not undergo NEG-RAISING. G. Lakoff (1970a)
attempts to explain this with an idea from Dwight Bolinger that the
farther away the negative is moved from the verb it negates, the more
uncertainty there is concerning the assertion. For example, (54a)
and (54b):

(54). a. Susan thought Marilyn hadn't left.
   b. Susan didn't think Marilyn had left.

For a factive, there is a presupposition that the complement is true, so the subject of the sentence could not be uncertain about it. Horn (1971) suggests this be extended to include implicative verbs (cf. Karttunen 1971). Thus, the substitution of realize in (54a) and (54b) results in non-synonymy.

These explanations seem reasonable in the absence of anything better, so it seems quite more likely that the classes of NEG-RAISING verbs are natural classes. Individual speakers may allow or disallow some members of the classes, but those are just individual variations. As a result, the fact that someone might not have NEG-RAISING for anticipate is an accident; the fact that they don't have it for realize or even claim is not an accident.

3.1.3. In conjunction with Bolinger's comment above, Lakoff mentions that there is nothing in the theory which predicts that the more certain assertion is when the negation is nearer the verb it negates. It could just as easily be the other way around. It has been suggested to me (Arnold Zwicky, personal communication) that there may be a perceptual factor involved, in that it might be harder to associate a negative with a verb if they are separated. This would claim that the farther away the negative moves, the less the certainty of the assertion, which is what happens.

If it is not a perceptual matter, then the fact remains that (54a) and (54b) are not exactly synonymous. In a theory where transformations preserve meaning, this lack of synonymy implies different deep structures. Therefore for sentences like (54b) the rule is obligatory and sensitive to some semantic information. Lakoff, who notices this problem, makes no suggestions as to what information the rule should be sensitive to and I don't see either how to mark a sentence as undergoing NEG-RAISING (without resorting to an ad hoc feature which is only present for NEG-RAISING verbs). Neither do I have any way of indicating in an Interpretive Semantics framework how strong a negative is. This makes Zwicky's solution more pleasing, in that it is compatible with either framework.

When better accounts of actual meanings of words are given, this may enable a more general statement of what kinds of verbs allow NEG-RAISING to be made. Until then, there are only vague ideas as to the characteristics of the semantic classes involved. See Horn (1975) for some additional discussion.

3.2. Illocutionary factors.
3.2.1. Lindholm (1969) notices that the verb believe, normally a NEG-RAISING verb, does not undergo the rule in some of its uses. He distinguishes two senses, believe it and believe so and notes that NEG-RAISING only applies to believe so, as in (55).

(55) a. Bill believes that Betty won't come and I don't believe so, either.
   b. *Bill believes that Betty won't come and I don't believe it either.

He tries to set up two different underlying predicates for the two senses of believe, one being have the opinion that S, the other being accept the claim that S: Only the have the opinion predicate would be marked for NEG-RAISING.

3.2.2. Kimball (1970) puts this observation into a much larger perspective. He distinguishes two types of utterances; expressive and reportive. Roughly, expressives are expressions of states of mind, reportives are assertions. Some examples will help to illustrate.

The sentence 'It hurts' can be used as an expression of pain, much like a groan might. On the other hand, the same sentence can be used to assert that pain is felt. In the expressive sense (the first case), it does not deal with the truth value of any proposition. In the second case, the reportive sense, the sentence could be used as an answer to a question, 'Does it hurt?'. In other words, it is asserting the truth or falsity of a proposition.

For another example, take sentence (56).

(56) I think this milk is spoiled.

Sentence (56) can be uttered as the response to two different questions (57a) and (57b).

(57)   a.   How's the milk doing?
       b.   What do you think about the milk?

As the answer to (57a), (56) makes a medged assertion about the milk, so it is expressive. As the answer to (57b), (56) is an assertion about what the speaker thinks, hence it is reportive. Notice that (56) can be answered in two ways each responding to one of the senses.

(58)   a.   Well, it isn't; we just got it. [response to expressive]
       b.   No, you don't; you just told Mary that it is fine. [response to reportive]

It can be seen that as an expressive (56) makes an assertion about the milk; as a reportive, it makes an assertion about the speaker's having a belief towards some proposition.

Since an expressive I believe... makes no assertion about the speaker, it cannot be questioned or negated. They may make expressive sentences seem like performative sentences (Austin 1962). Performatives must occur in present tense and in first person. But the following examples show that expressives may appear in past tense or in other persons.

(59)   a.   Jerry believes there will be a recession.
       b.   I thought we could keep our clothes on for this.

The answers to these sentences in their expressive and reportive senses, respectively, would be (60a) and (60b).

(60)   a.   No, there won't; no, we can't.
       b.   No, he doesn't; no you didn't.

So expressives are not as restricted as performatives.

This expressive-reportive distinction conditions the choice of the pronoun so or it, as in (61a) and (61b).

> (61) a. He says Nixon has resigned, but I don't believe it. [reportive].
>
> b. He says Nixon has resigned, but I don't believe so. [expressive]

3.2.3. Kimball claims that only expressive sentences may undergo NEG-RAISING. This would explain Lindholm's facts about believe so vs. believe it. Furthermore, Kimball says that the expressive quality cannot reside in the individual lexical items themselves, but must be a quality of the whole sentence. If this were not so, then each of the NEG-RAISING verbs would have to be marked as ambiguous, with only one of the meanings allowing NEG-RAISING. If an important generalization is not to be lost, we must say that all of these expressive verbs must have some semantic characteristics in common.

Herein lies the problem. How is the expressive character of a sentence to be represented formally? This point will be taken up again shortly.

3.2.4. The expressive-reportive classification is capable of explaining several other phenomena.

As is well known, all English modal verbs have two meanings, root and espitemic. For instance may:

> (62) He may eat his dinner. [root meaning = permission]
> [epistemic meaning = possibility]

Most of the modals (can, must, might, will, should, etc.), used epistemically, denote some kind of possibility or probability; thus the sentences they are in have some kind of truth value. Therefore they must be reportive. So, no expressive sentence may contain an epistemic model.

Furthermore, since the predicates used in sentences with NEG-RAISING are stative, they cannot take root modals, either. This means that the presence of any modal verb in a sentence will block NEG-RAISING. And this is so; compare (63) with (64) and (65)

> (63) a. She believes that he doesn't cheat on her.
> b. = She doesn't believe that he cheats on her.
> (64) a. She can believe that he doesn't cheat on her.
> b. ≠ She cannot believe that he cheats on her.
> (65) a. She may believe that he doesn't cheat on her.
> b. ≠ She may not believe that he cheats on her.

It also seems that expressiveness may have something to do in tag questions. R. Lakoff (1969) claims that the ungrammaticality of sentence (66) is due to the fact that suppose is being used as a performative and performatives may not be questioned (or tag-questioned).

> (66) *I suppose the Phillies will win the pennant, don't I?

She claims that in these performative cases, and only in these, the tag is formed from the complement sentence, viz. (67).

(67) I suppose the Phillies won't win, will they?

She generalizes this to all normal cases, in which she claims the tags are formed one sentence down from an abstract performative. Her explanation for why (68) has the tag formed after NEG-RAISING,

(68) Steve doesn't suppose the Phillies will win, does he?

whereas from (67) the tag-formation precedes NEG-RAISING, is that both tag-formation and NEG-RAISING are cyclic rules and in (67) and (68) tag-formation is applying on different cycles.

But Kimball shows that tag-questions cannot be based on performatives, using sentences like (69).

(69) a. I imagine they'll win, won't they?
     b. I think they'll win, won't they?
     c. I believe they'll win, won't they?

where think, imagine and believe cannot be considered as performatives. These sentences, while not performative, are expressive. It seems that the tag is formed on the sentence that is asserted. In (68) the main clause is asserted, so the tag is based on it; and in (67) the complement is asserted, so the tag is based on the complement.

Hooper (1974) discusses the cases where tags may be formed on a complement clause. She distinguishes classes of verbs which allow this; the classes of hers which are of interest are the weak assertive verbs and the semi-factive verbs. The weak assertives are the group listed above in (51) as NEG-RAISING verbs. The semi-factives, which do not allow NEG-RAISING, are shown in (70) and (71).

(70) know, notice, see, observe, realize, recall, etc.
(71) a. I know you've been at the cookies again, haven't you?
     b. I notice the refrigerator is leaking, isn't it?
     c. I realize he's just eaten 42 eggs, hasn't he?
     d. I recall she was a lumberjack then, wasn't she?

Hooper (13) adds the condition for complement tags that it must be a 'speaker assertion'. All of the sentences in (71) will be bad if I is replaced by Harry or if the main clause is put into past tense. In addition, some other members of the semi-factive class, discover and find out, do not allow complement tags because they cannot be used in first person present assertions. This is the case as with the NEG-RAISING verbs. Notice that the sentences in (72) are bad.

(72) a. *Steve doesn't suppose the Phillies will win, will they?
     b. *I believed the Flyers were winning, weren't they?

What this suggests is the semi-factives, like the NEG-RAISING verbs, may be used in both expressive and reportive sentences. Hooper's assertive/

non-assertive distinctions are important, but they crosscut the expressive/reportive distinction rather than replace it. Complement tags can be formed only in expressive sentences which contain these two classes of verbs, the semi-factives being of no further interest to us here.

The foregoing answers one of Jackendoff's complaints to the tag argument given in section 2. He claimed that verbs like suppose, guess and others, which allow NEG-RAISING in frames like (67), do not allow NEG-RAISING (for many speakers) in sentences like (73).

(73) a. Steve didn't guess that the Phillies would win.
        b. Steve guessed that the Phillies wouldn't win.

Obviously, for people who feel that (73a) and (73b) are not synonymous, guess is not being used expressively there. If it were, then NEG-RAISING would be allowed and the sentences would mean the same thing. For some speakers, (73a) and (73b) do share a reading, and in that case, guess is being used expressively.

I also claim that the anaphora rules discussed in section 2.4 are sensitive to the expressive-reportive distinction. Compare (74a) and (74b):

(74) a. I believe she is coming and I can guess why.
        b. Barbara regrets she is coming and I can guess why.

In (74a), the why has the preferred reading why she is coming, although the reading why I believe... is possible. In (74b) the reading why Barbara regrets... is strongly preferred to why she is coming. This seems to parallel the tag-question case somewhat. In the preferably expressive (74a), the complement is what is asserted, so it is more likely to be what the sluiced clause refers to. (74b) must be reportive, and the sluiced clause refers again to what is asserted, the main clause. Note that the possible reading of (74a) as why I believe... exists because I believe may also be reportive. I would claim therefore, that the anaphora rules may use embedded clauses as antecedents only in cases where the clause is what is asserted. The number of verbs which allow this is larger than the number which allow complement tags (see Hooper and Thompson (1973) for more discussion), but it is possible only when the verbs are being used in an expressive sentence. So it seems like the bifurcation of sentences into expressive and reportive may have effects in several areas of the grammar.

3.2.5. By saying that only expressive sentences undergo NEG-RAISING, predictions are made about the sense of some sentences. Thus, if a sentence with a NEG-RAISING verb fails to undergo NEG-RAISING, the prediction is that the sentence is not an expressive one. Likewise, if a sentence fails to allow a tag on the complement clause, the claim is that it is not an expresive sentence. We will see examples like this in section 5.

Some interesting facts discovered by Clinkenbeard (1969) need explaining. The following sentence with believe has undergone PASSIVE and is not ambiguous.

(75) That Hildy is coming is not believed by Joel.

Kiparsky and Kiparsky (1970) explain sentences like this by the fact
that the complement sentence is in subject position and in this position
it tends more towards being presupposed. This must mean that (75) is
reportive, which explains the non-ambiguity, since NEG-RAISING could
not have applied.

However, if EXTRAPOSITION applies, the complement is no longer
presupposed and the sentence may be expressive (i.e., NEG-RAISING may
apply). RAISING may also be applicable. Notice the sentences in (76).

   (76) a. It is not believed by Joel that Hildy is coming.
          b. Hildy is not believed by Joel to be coming.

The predicates seem and appear cannot be used reportively, so their
complements must be asserted. Therefore subject complements with are
not allowed (cf. (77)).

   (77) a. *That Amy is not home seems.
          b. *That Izzy has closed the store appears.

These sentences are acceptable if EXTRAPOSITION and RAISING have applied.
Just why the subject complement sentences may not be expressive is
not clear to me. Hooper (1974) has some discussion of this, but the
matter is far from settled. See also section 4.3.4. for more on some
of these sentences.

3.3. Formalization

As mentioned earlier, there is little in the way of formalization
for the difference between expressive and reportive sentences. Kimball
mentions some mechanisms in a Generative Semantics framework that won't
word. In particular, the theory of exceptions is unequipped to
distinguish between expressive and reportive believe by means of a
mark on the lexical item. This solution again suggests that it is a
completely arbitrary choice of verbs which would be so marked and it
makes no claims about the semantic nature of the verbs; it would just
be a change that believe as opposed to realize has two lexical entries,
one of which is marked for NEG-RAISING.

Kimball says that the class of NEG-RAISING verbs is semantically
defined as the class which may be used expressively. We have seen that
the class which may be used expressively is larger than that. The
semantic classes of Hooper and Thompson do not solve the problem, but
just give it a new name, although they do show that a semantic answer
is probably the right one, contra Lakoff. There is still no mechanism
in the theory which will allow one to predict a verb's behavior with
respect to NEG-RAISING from its semantic content.

It is not obvious to me how this could be done in the Interpretive
Semantics system described in the next section, either. A few ideas
will be suggested in section 4.2.6. In the meantime, I will merely
refer to an expressive sentence without actually indicating a formalism,
in the absence of a good one. I would hope that this inexplicitness
has no significance for the rest of the discussion, and will not affect
any of the results I obtain.

4. An Alternative Approach.

In this section I will describe the general theoretical framework within which I am working towards a description of the data. The grammar I am using is basically that described in Jackendoff (1972). I will provide a brief sketch of it, with special emphasis to the modal structure, which is the part concerned with negation in general. I will then attempt to formulate a semantic interpretation rule which I call NEG-ASSOCIATION to replace NEG-RAISING. The question of how this rule contributes to the semantic representation of a sentence will be more fully discussed in section 5.

4.1. Interpretive Semantics[7]

4.1.1. In the first works on generative grammar, the derivation of the meaning of a sentence from its syntactic structure was not dealt with. It was not until Katz and Fodor (1963) that generative grammarians began to look at the problem of how to relate meaning and form. Katz and Fodor developed the idea of projection rules which contribute to the semantic representation of a sentence, that part which is not traceable to the lexical items themselves, but instead arises from how they are combined syntactically. Each phrase structure rule and transformation would have with it an associated projection rule which would explain how the syntactic rule affects the meaning of a sentence which uses it in its derivation.

Katz and Postal (1964) attempted to show that none of the transformations change the meaning of the sentence, hence they need not have any projection rules associated with them. From this, they proposed that all necessary semantic information was present in the deep structure.

The logical result of extending this proposal is to claim that there is no level of deep structure separate from the semantic representation, and that the base rules actually generate the semantic structure of the sentence. This claim has been made (at least implicitly) in several places (e.g. G. Lakoff 1971, McCawley 1968) in some form or other. This was the framework adopted in section 2 of this paper.

On the other hand, if it could be shown that the semantic representation of a sentence must be determined from more than one level of representation, then the deep structure would not contribute the entire meaning. There could be semantic interpretation rules operating on the surface structure (or some other level) to add to the meaning of a sentence. This is the approach taken by Chomsky (1971) and Jackendoff (1972) among others. Jackendoff, in particular, has a fairly complex idea of semantic representation, for which he develops several kinds of semantic interpretation rules (described below).

The overall intent of this type of framework is to show that if rules of semantic interpretation can be formulated properly, their properties and the properties of the semantic representations they derive can be used to account for [many] semantic phenomena, leaving the syntactic component as free of semantic intervention as it was in Syntactic Structures (Jackendoff 1972: Preface).

4.1.2. Jackendoff mentions four aspects of semantic interpretation, which, while related in some ways, are reasonably independent of each other.[8]

First is the _functional structure_, which is read from the deep
structure of the sentence. Each verb can be considered a semantic
function with various noun phrases as arguments. The lexical entries
for verbs will have them broken down into subfunctions like CAUSE or
BECOME or directional functions. The projection rules will insert the
NP's as arguments into the functions and generate a functional structure
for a sentence. A system of 'thematic relations' developed in Gruber
(1965) is utilized to explain various syntactic and semantic phenomena
in a more satisfying manner than can be done with traditional grammatical
relations alone or with case relations à la Fillmore (1968).

Another element of the representation is coreference relations
among noun phrases in the sentences. A _table of coreference_ is set up,
containing an entry for each pair of NP's in the sentence with the mark
'coreferential' or 'noncoreferential'. This information is claimed to
be of a different nature from the functional structure, so it is
represented as a separate part of the semantic representation.

Another contributor to meaning is _focus and presupposition_, where
focus and presupposition can very loosely be characterized as the new
information and the old information a sentence contains. If a sentence
receives a different focus by way of contrastive stress, the functional
structure is still the same. Focus and presupposition can be largely
read from the surface structure.

The fourth element of semantic representation is the _modal
structure_, which is another hierarchical structure. This is the structure
that explains 'the conditions under which a sentence purports to correspond
to situations in the real world' (Jackendoff (1972: 3). This element
of semantic interpretation will be discussed in greater detail below.

Once these separate elements have been assembled for a sentence,
there has to be a way to determine whether there is a meaning that can
be drawn from them. This is done by means of _well-formedness conditions_
on semantic interpretation, which specify which sentences do not have
sensical meanings. One such example is _selectional restrictions_, which
are applied only after the entire reading has been formed.

It is at this point where the shading between linguistic and extra-
linguistic knowledge takes place. So (78) is out because of linguistic
knowledge (or is it?), but (79) is rejected only on the basis of a
mathematical theorem.

(78) Yesterday I discovered an odd integer divisible by two.
(79) Yesterday I discovered the highest prime number.

In this area there are obviously many details to be worked out
(such as the formal nature of selectional restrictions, for instance) but
these are difficult problems in anybody's theory and they are beyond the
scope of this study.

Since selectional restrictions are assigned to semantic repre-
sentations, the process of lexical insertion is simplified. _Complex
symbols_ expressing the selectional restrictions, as used in Chomsky (1965),
are not necessary. Lexical insertion will be free under category symbols.

Another obvious well-formedness condition is that if two noun
phrases are marked coreferential they must be able to represent the same
individual; hence (80) is unacceptable.

(80) *My mother respects himself.

The only possible referent for _himself_ is _my mother_ but since the two NP's have different genders they cannot be coreferential, so (80) violates this well-formedness condition and is rejected.

There are several other well-formedness conditions on semantic representations. These allow the transformations and the semantic interpretation rules to operate without complex conditions on their application, since the sentences with anomalous readings can be weeded out at the end of the derivation.

4.1.3. Basically the syntactic component is the same as Chomsky (1965) with the difference in lexical insertion noted above. Jackendoff assumes an extended version of Chomsky''s (1970) Lexicalist Hypothesis. Node labels are represented as being composed of distinctive features. Transformations may not change node labels or perform derivational morphology. This Lexicalist position excludes lexical decomposition (see section 2.1.3). Derivational morphology is handled by redundancy rules in the lexicon (cf. Jackendoff 1975b).

Jackendoff also claims that the best solutions to a problem should increase the information content of the lexicon as little as possible. He eschews the use of exception features where a difference in syntactic behavior is related to the meaning of the items in question, since in that case, the rule need only refer to the meaning of the item to see how it behaves.

This is hard to formalize, since meanings are not really at a sufficiently clear stage of expression. Jackendoff (24) says, 'it seems perfectly adequate to provisionally adopt an arbitrary feature, if we have clear intuitions about when this feature is present, and if it is fully understood that it has no life independent of the complete reading in which it is embedded.'

This will be done in our discussion of modals and NEG-ASSOCIATION verbs below. While (at this level of formalization) it seems no less arbitrary than exception features, it is claimed, at least, that the items so marked are not learned as exceptions to rules, but that their syntactic and semantic behaviors will be readily predictable from their meanings when a truly adequate formulation of meaning is given.

4.2. Modal Structure
4.2.1. In sentence (81) there are two possible readings.

(81) Todd is looking for a groupie.

On one reading, there is a specific groupie Todd is looking for; on the other, he will take any old groupie. In other words, _a groupie may_ be either specific or nonspecific. There is a similar ambiguity in sentences with the following verbs.

(82) look for, want, intend, ask for, hunt for, hope for, etc.

Normally noun phrases are interpreted as specific. In sentences with one of the verbs in (82) in them, certain noun phrases have the option

of being read as nonspecific. Jackendoff uses the following terminology (which I adopt here). A verb in this class may introduce the possibilities of nonspecifity on noun phrases within a certain portion of the sentence. This portion of the sentence is called the scope of the verb (with regard to specificity). Thus, a given noun phrase in a given sentence is in a verb's scope if nonspecifity is a possibility. The NP is within the scope even if it is interpreted as specific. If it is specific, the NP is said to be not dependent on the verb; if the NP is non-specific, it is dependent on the verb. The scope of a verb is invariant through all readings.

The verbs in (82) contain in their lexical entries a modal operator called UNREALIZED. The modal condition on UNREALIZED says that a noun phrase which is dependent on UNREALIZED will have a specific referent only when the unrealized situation comes to happen. For example, in the nonspecific reading (81), there will be a specific groupie to point to only when Todd finds one. (81) would be broken down in functional structure as TRY (TODD, FIND (TODD, GROUPIE)). Each modal operator has its own modal condition.

4.2.2. There needs to be a rule which will determine which noun phrases are dependent on which modal operators. This is the rule (from Jackendoff 1972: 292):

(83) (Modal Projection rule)
Given a lexical item A, whose semantic representation contains a modal operator M, if a NP is within the scope of A, it is optionally (with degree of preference d_M) dependent on M in the modal structure, that is, subject to C_M. If a NP is outside the scope of M, it is not dependent on M.

Several things need to be explained here. The first is the degree of preference d_M. The optionality of the dependence of a noun phrase on a modal operator varies sometimes from modal to modal or from speaker to speaker. The d_M is a fudge factor to handle this variation, in the absence of a more detailed account.

The C_M is the modal condition associated with the modal operator. For the operator UNREALIZED, we saw above that the condition states that a NP dependent on it will have a referent when the unrealized situation comes about. Other modal operators will have different conditions, as we will see.

Some other modal operators, samples of lexical items bearing them and their modal conditions are given below:

(84) a. FUTURE: will
b. C_{FUTURE}: a NP is claimed to have a referent sometime in the future
(85) a. POSSIBLE: possible, likely, may
b. $C_{POSSIBLE}$: the existence of a referent is possible (strength varies with lexical item)
(86) a. NEGATIVE: no, not, never, neither, nothing, doubt, seldom, afraid, too, dissuade, etc.
b. $C_{NEGATIVE}$: there is no identifiable referent

(87) a. MULTIPLE: <u>some</u>, <u>all</u>, <u>each</u>, <u>many</u>, <u>five</u>, <u>three</u>, etc.

      b. $C_{MULTIPLE}$: there is a distinct referent corresponding to each member of the set being quantified.

      c. Five of the boys told me <u>a story</u>. (not dependent: one story; dependent: five stories)

(88) a. WH: <u>wh-</u> (questions.)

      b. C_{WH}: the identification of a referent depends on the answer to the question.

Notice that some of the operators have a degree of preference that leans towards obligatory application of the modal condition, for example NEGATIVE. In (89) it is hard to get the specific reading for <u>a cigarette</u>.

(89) Libby couldn't find a cigarette.

But with contrastive stress a specific reading is possible. Compare (90a) and (90b).

(90) a. I didn't see many of the celebrities there.

      b. I didn't see mány of the celebrities there.

For an ambiguous sentence like (81), the two readings will have identical functional structures but will differ in modal structures. Jackendoff uses parentheses to indicate dependence. Hence the two readings of (81) will have modal structures like (91a) and (91b)

(91) a. UNREALIZED (a groupie)   [non-specific]

      b. UNREALIZED ( )   [specific]

I will omit NP's that are not dependent on any modals.

4.2.3. Modals can also affect clauses. For instance:

(92) a. Todd wants to meet a groupie.

      b. Todd will meet a grpupie.

      c. It is possible that Todd will meet a groupie.

      d. Todd doesn't have a wife.

      e. Four of the band members met a groupie.

In each of these sentences, the truth conditions on the clauses in the scope of the modals are also subject to the modal condition. In (92a) <u>Todd meets a groupie</u> is true if the unrealized situation comes about. (92b) claims that <u>Todd meets a groupie</u> will be true in the future. (92c) says that it is possible. (92d) says that the truth conditions for <u>Todd has a wife</u> are not met. (92e) says that there could either have been one meeting or four meetings.

Note that while the modal conditions for NP's are usually optional, the conditions for S's are usually obligatory. (Jackendoff 1972 discusses this (p. 312-314) to an extent. The question is beyond this paper.)

4.2.4. Still to be discussed is the notion of the scope of a modal. The 'scope of a modal operator is 'that portion of the sentence within which the modal operator' may affect claims about the identifiability of referents' (Jackendoff 1972: 292).

In order for the rule to work, it must have a knowledge of which NP's (and S's) are within the scope of which modals. Jackendoff says this can be determined usually (though not always) from the syntactic structure. He says there are three types of syntactic scope, each predictable from the syntactic properties of the lexical item bearing the modal. For verbs and other items which are capable of strictly subcategorizing NP's or S's (such as adjectives like possible), the scope of the modal operator is one of the NP's subcategorized by the lexical item bearing it. This is called Type I scope. So, the object but not the subject of want will be in the scope of UNREALIZED, for example. For possible, the complement clause will be within the scope of POSSIBLE.

For auxiliary verbs, the scope of the modal (POSSIBLE in the case of may or might, FUTURE in the case of will) is all the material commanded by the modal. For the purpose of allowing S's to be in the scope of the modal, Jackendoff extended the notion of command to include the dominating S node. This is called Type II scope.

For determiners (quantifiers and numbers) plus the particle not, the scope is all the material to the right which is commanded by the lexical item (the dominating S node is to be included in this). This is Type III scope.

Further, the scope for verbs is claimed to be read off the deep structure; for auxiliary verbs and determiners, the scope is determined at surface structure. This is shown by the fact that, for instance, PASSIVE does not affect the scope of verbs since (93) can still have a nonspecific reading (i.e. an expert is still dependent on UNREALIZED), whereas PASSIVE changes the preferably nonspecific many in (94a) to specific.

(93) An expert is needed by this committee.
(94) a. The teacher didn't pass many of the students.
b. Many of the students weren't passed by the teacher.

Whereas many was within the scope of NEGATIVE in deep structure, it is outside of it in surface structure. Corresponding to the nonspecific reading in the passive would be (95).

(95) Not many of the students were passed by the teacher.

The best way to avoid this scope-changing is to read the scope for negatives and quantifiers from the surface structure. Jackendoff gives more examples to show that it is not just PASSIVE that affects this change. Keeping the order of the operators stright requires a global constraint in Generative Semantics, so it can't be stated as constraints on individual transformations.

In Jackendoff (1975a), a new modal operator IMAGE is introduced. This operator is present in those lexical items which have to do with images like painting, picture, image and in verbs of mental-image like believe, think, suppose, etc. A NP is within the scope of IMAGE if its location is within an image-containing object. Location refers to the thematic relations mentioned earlier. To illustrate, consider (96a) and (96b):

(96) a.   Unicorns exist only in Africa.   [non-image]
         b.   Unicorns exist only in pictures.   [image]

In both these sentences locations are expressed for unicorns. But whereas in (96a) they are real unicorns, in (96b) the location is in an image-containing object, so unicorns is dependent on IMAGE. The modal condition for IMAGE says that the referent is an image. In most cases, pragmatic conditions will force the NP in IMAGE's scope to be dependent on it since, for example, real unicorns cannot exist in pictures. In a case like (97), some red paint might not be dependent on IMAGE since real red paint can exist in a picture.

(97) In that picture, there is some red paint.

If some red paint is dependent on IMAGE, then we are talking about a picture of some red paint. But usually, NP's must be dependent on IMAGE if they are within the scope. Also S's are very likely to be dependent on IMAGE due to pragmatic conditions; hence in (98a) and (98b), there may be real red paint on the image-arm so red paint and the whole S would not be dependent on IMAGE, but a real cast cannot be located in a painting so everything must be dependent on IMAGE in (98b).

(98) a.   In that painting there is red paint on Frank's arm.
         b.   In that painting there is a cast on Frank's arm.

The important thing to note is that even though the scope of IMAGE is semantically determined (which weakens the theory, since all the others are syntactically determined), it is still a relatively easy matter to decide whether a NP or a S is within the scope of the modal. In particular, in the case of the believe class of verbs, since they strictly subcategorize their complement Ss, the scope is determined at the level of deep structure.

4.2.5. There appear to be interactions between the various parts of the semantic representation. This is to be expected. I would like to discuss one such interaction which affects the modal NEGATIVE, among others. Consider the following:

(99) a.   Howard didn't kill an ant.
         b.   Howard didn't see Alex kill an ant.

In (99a), there is a strong preference for reading an ant as non-specific (i.e. dependent on NEGATIVE), and the sentence Howard killed an ant is almost obligatorily dependent on NEGATIVE. But consider (99b). The main clause Howard saw... is obligatorily dependent on the modal, but this is not so for the complement clause. There is a reading, which is not too hard to get, in which Alex killed an ant but Howard didn't see it. In this case, an ant must also be not dependent on the modal since if Alex did kill an ant, it must be a specific ant.

It is important to see that the negative sometimes only makes a claim about the clause where it is syntactically located. (99b) definitely says that there was no act of seeing Alex kill an ant taking

place, but it really doesn't say anything one way or the other about whether an act of killing took place.

The particular verb which intervenes can determine what the changes are that the subordinate clause will be dependent on NEGATIVE. For instance, factive verbs like realize or regret tend to be strong blocks against dependence.

> (100) a. I didn't realize that Richard married a Yugoslavian.
> b. I don't regret that the people elected a woman.

In both of these cases, the embedded clauses and the indefinite NPs are almost obligatorily read as not dependent on NEGATIVE (i.e., the NP is specific).

On the other hand, an implicative verb, when negated, implies the negation of its complement, so it represents no block to dependence at all, as seen in (101).

> (101) a. I didn't manage to win a prize.
> b. Harry didn't happen to meet a hooker.

In these sentences, the complements are negative and the NPs are non-specific.

Some of the cases in between are harder to decide. The particular class that is of interest here are the verbs containing the modal IMAGE (henceforth IMAGE-verbs). In a sentence like (102) it is claimed that an image of John killing a man doesn't exist.

> (102) I didn't say that John killed a man.

There certainly is the possibility of a man and kill being not dependent on NEGATIVE. This is as opposed to (102) where kill and a man are definitely dependent on NEGATIVE.

> (103) I said that John didn't kill a man.

The IMAGE-verb blocks the obligatory dependence on NEGATIVE in (102).

Note that any and some items of weaker negative polarity like lift a finger seemingly may appear in the scope of a negative, without actually being dependent on the NEGATIVE modal, unlike until.

> (104) a. I didn't realize that Harry had killed anyone.
> b. Harry didn't kill anyone.

In (104b), for any referent you pick, you may claim that Harry didn't kill him. No such claim can be made in (104a). Hence anyone appears to not be dependent on NEGATIVE in (104a). It is within the scope of the not, however, so anyone is possible. Until in a similar position would be ungrammatical.

This appears to be a problem for Jackendoff, who claims (1972, section 8.3) that any must be dependent on the NEGATIVE to appear. This seems intuitively correct to me, but then (104a) is unexplained. Perhaps when this blocking phenomenon is better understood, the problem can be cleared up.

This blocking is important because I claim that <u>until</u>, the tag question interpretation rule, and the VP-Anaphora rules require a sentence's absolute dependence on NEGATIVE to qualify as being negated, as will be seen in section 5.

It might also be noted here that blocking occurs with other modals of Type II and Type III scope. For instance,

> (105) a. Seven people think John ate an apple. [MULTIPLE]
>   b. Jerry might believe that Richard erased a tape. [POSSIBLE]
>   c. Jeb will say that Richard promised him a sum of money. [FUTURE]

In each of these cases, there are clear readings where the final NP is specific and where the embedded sentences are definitely not dependent on the modals, yet, if the verb is right, the embedded sentence will be dependent on the modal:

> (106) a. Seven people will manage to get a high grade.
>   b. Jerry might happen to show up at the OSU-Michigan game.
>   c. Sherry will remember to feed the cat.

If the sentence is expressive, this blocking will not occur. In the case of expressive sentences with a main clause NEGATIVE, NEG-ASSOCIATION will apply and the complement sentence will be dependent on NEGATIVE. MULTIPLE, POSSIBLE and FUTURE cannot appear in the main clause of expressive sentences (recall section 3.2.4), so blocking will always be possible in those cases, although it will not always occur.

I don't really know how to explain when or how specific IMAGE-verbs used reportively will block dependence of the lower clause on NEGATIVE. For now, we can note that it does occur and it will be indicated simply by the removal of items from among NEGATIVE's dependents in a sentence.

4.2.6. One additional point might be briefly made. Jackendoff suggests that the modal structure is where the illocutionary force of a sentence might be indicated. His discussion of the WH modal in questions provides some interesting descriptions and a logical next step might be to include imperatives, declaratives, performatives and so on, all in the modal structure somehow. For instance, just as <u>an artichoke</u> is non-specific in a WH question, it is non-specific in an imperative, cf. (107).

> (107) a. Who ate an artichoke?
>   b. Eat an artichoke.

Much more research needs to be done on this matter, obviously.

I mention this matter here because the illocutionary force of the sentence is an important factor, as we have seen, in the NEG-ASSOCIATION process and it would be nice to be able to include the relevant information on illocutionary force (however that is done) into a part of the machinery which already has independent evidence for its existence.

4.3.   Formulation of the NEG-ASSOCIATION rule

4.3.1.   We are now ready to attempt one formulation of a semantic interpretation rule to replace NEG-RAISING. Before I attempt to do that I must repeat the disclaimer raised in section 3.3, namely that I am unable to specify formally what the conditions are which allow the rule to operate. Obviously, there is a restriction in terms of which specific predicates can undergo the rule, but there also must be an expressive force to the sentence. This expressive force may eventually find its description in the modal structure, as suggested in section 4.2.6, but I cannot do it within the limits of this paper. For the purposes of formulating the rule, I will refer to the notion of a NEG-ASSOCIATION verb: a verb (or a predicate like likely) which allows NEG-ASSOCIATION.   This characteristic is to be indicated in the lexical entry, eventually as part of the semantic content, but for now as an arbitrary-looking feature (recall the lack of significance of this fudge, as mentioned in section 4.1.3.). I will not discuss the nature of these verbs or the nature of the expressiveness any further, but will assume that both must be present for the rule to operate.

4.3.2.   As a first approximation, we might suggest that NEG-ASSOCIATION replaces the items dependent on NEGATIVE (call them its dependents). The modal structure of (108) without NEG-ASSOCIATION is (109).

> (108)   I don't think Ellen ate the pretzels.
> (109)   NEGATIVE (think), ate IMAGE (Ellen, ate, the pretzels).

Now, suppose we were to say that NEG-ASSOCIATION replaces the dependents of NEGATIVE with those of IMAGE. This would give (110).

> (110)   NEGATIVE (Ellen, ate, the pretzels) IMAGE (Ellen, ate, the pretzels)

But this is not the correct modal dependence structure for the sentence. In particular, it says that Ellen and the pretzels are dependent on NEGATIVE, which would claim that there are no referents for them. But definite NPs cannot be dependent on modals (except IMAGE) since they are already specific.[9]   This is a pragmatic conflict, and the sentence with a definite NP dependent on NEGATIVE should be rejected. Therefore NEG-ASSOCIATION must work some other way.

4.3.2.   A better idea seems to be that NEG-ASSOCIATION removes material from dependence on NEGATIVE. However, there are still several alternatives. For instance, since the sentence (111) is the sentence that (108) is synonymous with, if NEG-ASSOCIATION applies we might suggest that the modal structure be changed from (109) to (112), with the embedded subject considered to be to the left of the not (i.e. not dependent on it).

> (111)   I think that Ellen didn't eat the pretzels.
> (112)   NEGATIVE (ate) IMAGE (Ellen, ate, the pretzels).

In other words, by this formulation, NEG ASSOCIATION would remove from dependence on NEGATIVE all elements preceding the IMAGE verb. However,

there are examples which show that this rule would produce the wrong
results.

Consider (113a), with a modal structure of (113b).

> (113) a. I don't think that many people saw Rhoda tonight.
>   b. NEGATIVE (think, many, saw), IMAGE (many people,
>   saw, Rhoda), MULTIPLE (people, saw).

If NEG-ASSOCIATION applies as we have formulated it, the modal structure
will be (114b), which corresponds to the sentence (114a).

> (114) a. I think that many people didn't see Rhoda tonight.
>   b. NEGATIVE (saw), IMAGE (many people, saw, Rhoda),
>   MULTIPLE (people, saw).

But (114a) and (113a) are not synonymous. (113a) is synonymous with
(115a), which has the modal structure (115b).

> (115) a. I think that not many people saw Rhoda tonight.
>   b. NEGATIVE (many, saw), IMAGE (many people, saw,
>   Rhoda), MULTIPLE (people, saw).

This suggests that the subject of the embedded clause is still
dependent on NEGATIVE after NEG-ASSOCIATION. This would mean that an
indefinite subject would be read as nonspecific.

> (116) I don't believe that a man is coming.

If (116) is read so that NEG-ASSOCIATION has applied, a man will have
no referent (i.e., it will be nonspecific, dependent on NEGATIVE). If
it is read so that a man has a specific referent, then the sentence
is reportive and NEG-ASSOCIATION has not taken place. This is what
the formulation of NEG-ASSOCIATION should predict. If the rule doesn't
apply, the IMAGE-verb blocks the dependence of the lower sentences on
NEGATIVE, just as if the verb were not a NEG-ASSOCIATION verb.
The formalization of the rule is this:

> (117) NEG-ASSOCIATION (obligatory)
>   Given a modal structure as follows: NEGATIVE (X_1,
> X_2,...,$\underline{A}$,Y_1,Y_2,...), $\underline{A}$(W_1,W_2,...), M_1(N_1,N_2,...),
> M_2(...),...where $\underline{A}$ is a NEG-ASSOCIATION verb, where
> Y_1,Y_2,... may equal W_1,W_2,... and where the sentence
>   is expressive, change the modal structure to:
>   NEGATIVE (Y_1,Y_2...), $\underline{A}$(W_1,W_2,...), M_1(N_1,N_2...),...

4.3.4. Notice that the rule as stated now is obligatory. If the rule
does not apply, then the sentence is not expressive. Conversely if
a sentence which meets the structural description of the rule, like
(116) for instance, is claimed to be expressive then NEG-ASSOCIATION
must have taken place. Let's look again at the passives in section
3.2.5.

Remember that a passive sentence like (118b) is not ambiguous.
like its active counterpart (117a).

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(118) a. Joel doesn't believe that Hildy is coming.
b. That Hildy is coming is not believed by Joel.

The modal structures of these sentences before NEG-ASSOCIATION are (119a) and (119b), respectively.

(119) a. NEGATIVE (believe, coming), IMAGE (Hildy, coming)
b. NEGATIVE (believe), IMAGE (Hildy, coming)

As we mentioned in section 3.2.5; (118b) is not expressive, so NEG-ASSOCIATION is not allowed and (118b) will be unambiguous. The difference in modal structure is due to the fact that NEGATIVE's dependent are determined at the surface structure (because not has Type III scope) and IMAGE's are determined at deep structure. PASSIVE removes the complement sentence from dependence on NEGATIVE, but not from dependence on IMAGE. The fact that the complement in (118b) is not dependent on NEGATIVE may lead strength to the idea that it is presupposed.

If EXTRAPOSITION applies to (118b), we get (120), which also has the modal structure (119a).

(120) It is not believed by Joel and Hildy is coming.

NEG-ASSOCIATION is possible here, and, as expected, (120) is ambiguous. Further, RAISING may now apply to give (121), and its modal structure is again (119a).

(121) Hildy is not believed by Joel to be coming.

In these cases, when NEG-ASSOCIATION applies the resulting scope will be (122).

(122) NEGATIVE (coming), IMAGE (Hildy, coming)

Notice that by this account, PASSIVE and RAISING can change meaning, since PASSIVE puts Joel into the scope of not, and RAISING removes Hildy from not's scope. If either of these two NP's had been indefinite, a meaning change could result.

(123) a. A man doesn't think I'm coming.
b. ?That I'm coming is not thought by a man.

In (123a), a man is specific, but in (123b) it is preferably non-specific. Also compare (124a) and (124b):

(124) a. It is not thought by Joel that a girl is coming today.
b. A girl is not thought by Joel to be coming today.
c. ??It is thought by Joel that not a girl is coming today.
d. It is thought by Joel that a girl is not coming today.

In (124b) <u>a girl</u> is preferably specific, whereas this is the weaker reading in (124a). This changing of meaning does not affect the ambiguity possibilities of the sentence; once you remember that the result of NEG-ASSOCIATION on (124a) gives a sentence like (124c) and not (124d).

4.3.5. The NEG-ASSOCIATION rule also says that if there is anything between <u>not</u> and the NEG-ASSOCIATION verb, it is excluded from dependence on NEGATIVE after the rule applies. In (125), NEG-ASSOCIATION must be applying.

> (125) Scarcely anybody thinks she is not coming until tomorrow.

since <u>until</u> is acceptable. A paraphrase for <u>scarcely anybody</u> here would be <u>almost not anybody</u>, with an overt negative with <u>anybody</u> in its scope. After NEG-ASSOCIATION applies, the paraphrase of (125) would be (126).

> (126) Almost anybody thinks she is not coming until tomorrow.

In this case, <u>anybody</u> is read as a universal quantifier, which is the correct reading for the sentence. Jackendoff (1972: section 8.3), following Vendler (1967), says that <u>any</u> presents the hearer with a choice of referent. In a sentence like (127a) the claim is made that whatever thing you choose, John didn't see it.

> (127) a. John didn't see anything.
> b. Anybody can add two and two.

In (127b), whatever person you choose, they can add two and two. Thus, each meaning of <u>any</u> is captured by this account. The correct meanings for (125) and (126) can be generated with NEG-ASSOCIATION and Vendler's characterization of <u>any</u>, which Jackendoff (1972: 339) says has no equivalent in the predicate calculus.

4.4. Summary.

This has been a brief explication of the general framework I am using and of the alternative to a NEG-RAISING transformation, the semantic interpretation rule of NEG-ASSOCIATION. In the next section, this framework ans this rule will be tested on the data given in section 1, to see if it can correctly provide an explanation for the data that NEG-RAISING was created to explain.

5. Another Look at the Data.

In this section, I would like to show how the semantic interpretation rule of NEG-ASSOCIATION interacts with the rest of the interpretive rules to construct semantic representations for sentences. In particular, I would like to consider the data given in section 2 as evidence for the syntactic transformation, to see how they may be taken into account in the interpretive framework.

5.1. until

5.1.1. The lexical expression <u>until</u>, along with the idiomatic <u>lift</u> <u>a finger</u>, <u>in years</u> and other negative polarity items have a selectional restriction on them which requires a negative[10] in the same sentence with them. Since selectional restrictions are considered to be semantic in nature, in a Generative Semantics framework, this requires the NEG to be a clause-mate of the <u>until</u> in the deep (i.e. semantic) structure of the sentence. In an Interpretive Semantics framework, the selectional restrictions, as well-formedness conditions on semantic interpretations, are not checked until the complete semantic representation is formed. In this case, it will be after the NEG-ASSOCIATION rule has operated.

Consider the following examples, repeated from section 2.1.1.

(128) a. *I think the trial will finish until next month.
    b. I don't think the trial will finish until next month.
    c. I think the trial won't finish until next month.

To form the modal structure the modal projection rule will be applied to each of the modal-carrying words, <u>think</u>, <u>will</u> and <u>not</u>. The NPs <u>the trial</u> and <u>next month</u> are both definite, so they cannot be dependent on FUTURE, although they can be dependent on IMAGE, and the embedded sentence will be dependent on IMAGE and FUTURE; thus, (129) is the modal structure of (128a).

(129) IMAGE (the trial, finish, next month), FUTURE (finish)

The selectional restriction on <u>until</u> will be considered to be satisfied if the sentence containing <u>until</u> is obligatorily dependent on NEGATIVE. Since this is not the case in (129), the selectional restriction is violated and (128a) is bad.

For (128b), the same things will be dependent on FUTURE and IMAGE. Under the reportive reading where no NEG-ASSOCIATION applies, the IMAGE verb blocks the lower sentence from definitely being dependent on NEGATIVE, so the entire modal structure for (128b) will be (130).

(130). IMAGE (the trial, finish, next month), FUTURE (finish), NEGATIVE (think).

Reportively, (128b) is the negation of (128a), so the selectional restriction is not met and the sentence is again out. If the main verb in (128b) were a non-NEG-ASSOCIATION verb, this would be the only choice, but for <u>think</u> we can apply NEG-ASSOCIATION to (128b) to get (128c). The modal structure is based on (128c) is (131).

(131) IMAGE (the trial, finish, next month) FUTURE (finish) NEGATIVE (finish)

In this reading of (128b), the embedded sentence is dependent on NEGATIVE, so the selectional restriction is satisfied and (128b) has a good reading. Notice that (128c), which is synonymous with the

good reading of (128b), also has the modal structure (131).

5.1.2. Consider next the sentences with the 'inherently negative constituents' which inspired Klima to suggest NEG-ABSORPTION. They are repeated here.

(132) a. She is too weak to have another child until 1978.
b. Bill is afraid to leave until his mother comes.
c. I doubt he will arrive until next month.
d. My diet forbids me to eat until mealtime.
e. Scarcely anybody expected him to resign until next year.

Of these (132c) and (132d), with the NEGATIVE modal contained in a verb, are easier to handle. The scope of a modal contained in a verb is determined at deep structure and it consists of one of the NP's subcategorized by the verb. In these two cases, the complement sentence is in the scope of the modal. The deep structures will be something like (133a)-(133b).

(133) a. I doubt [he will arrive until next week],
b. My diet forbids [I eat until mealtime].[11]

and the modal structures will be, respectively.

(134) a. NEGATIVE (arrive) FUTURE (arrive)
b. NEGATIVE (eat)

Since the NPs are definite, they will not be dependent on NEGATIVE. From these dependence relationships, we can see that the embedded sentences are dependent on NEGATIVE, and the selectional restrictions on until are satisfied.
For (132a) and (132b), even though too and afraid are not verbs, they do strictly subcategorize a complement clause, and so the complement clauses will be within the scope of the modal. Indefinite noun phrases in the complement clause may be not dependent on NEGATIVE, as in (135a) and (135b),

(135) a. Sally is too shy to go out with a friend.
b. Bill is afraid to propose to an actress.

where the NPs a friend and an actress have possible specific readings (i.e. not dependent on NEGATIVE), but the complement sentences themselves are still dependent, (i.e. Sally is not going out and Bill is not proposing). The modal structures for (132a) and (132b) are in (136).

(136) a. NEGATIVE (have)
b. NEGATIVE (leave)

These modal structures also satisfy the selectional restriction on until.

Sentence (132e) has a NEGATIVE in <u>scarcely</u>. This undergoes NEG-ASSOCIATION to place the embedded sentence dependent on NEGATIVE, to satisfy <u>until</u>.

Some people think a similar sentence with a non-NEG-ASSOCIATION verb is grammatical. See section 5.1.4. for a discussion of these type of sentences.

5.1.3. The alternative to NEG-ABSORPTION was lexical decomposition of the inherently negative constituents into parts which contained an overt negative. Since this is not allowed in a strictly lexicalist grammar, it would be nice to be able to explain the data without resorting to it. The original sentences in (132) have already been taken care of without the aid of lexical decomposition.

Next consider (137a) and (137b), the sentences which lexical decompsoition could not forbid.

(137) a. *I don't doubt she will come until tomorrow.
b. *Bill isn't afraid to leave until his mother comes.

In the present system, the verbs <u>come</u> and <u>leave</u> (i.e. their sentences) will be dependent on two NEGATIVES each, one coming from the <u>not</u>, the other from <u>doubt</u> or <u>afraid</u>.[12] The two negatives cancel each other out[13] and the embedded sentence gets a reading which is dependent on no negatives, and so the selectional restriction is violated.

Sentences similar to (137), but without <u>until</u>, will have perfectly acceptable readings, as will the sentences in (138) which gave NEG-ABSORPTION the problem of having to generate two negatives in the lower auxiliary.

(138) a. Bill is afraid not to leave.
b. Ali is too clever not to win.

5.1.4. Lindholm (1969) mentions some very puzzling sentences which are grammatical for some speakers.

(139) a. I didn't realize that I had to do it until tomorrow.
b. I realized that I didn't have to do it until tomorrow.
(140) a. I didn't claim that I would finish the paper until Friday.
b. I claimed that I wouldn't finish the paper until Friday.
(141) a. It isn't clear that he'll leave until next week.
b. It is clear that he won't leave until next week.
(142) a. I can't believe that he would take the test until he's ready.
b. I can bleieve that he wouldn't take the test until he's ready.

The (a) sentences are not paraphrases of the (b) sentences, to this cannot be NEG-RAISING/NEG-ASSOCIATION in operation. In particular, how can the (a) sentences satisfy the selectional restrictions on

until) (Also in this category are some sentences mentioned in section 5.1.2, like Scarcely anybody says he will come until tomorrow.)

A possible solution in this framework would be this: In these sentences, the not definitely includes the complement sentences in its scope. I have claimed, however, in section 4.2.6 that the presence of certain verbs (realize, claim, clear, can't believe all qualify as members of this set) would sometimes block the embedded sentence from dependence on NEGATIVE. These sentences would seem to be cases where the dependence is not blocked. There must be some cases where the complement is dependent on NEGATIVE, as we have seen (cf. (131), so (139)=(142) are not entirely unexpected. Notice that all of the complement sentences are dependent on FUTURE also. This may be a factor, especially where the tenses of the sentences are considered. In particular, (139a) gets a different meaning if tomorrow is replaced by yesterday, where the until phrase modifies I don't realize. I cannot go into all the problems these sentences present, but they may find some partial explanation here as relaxations of the blocking, for whatever reason.

5.1.5. To sum up the results of this section, all of the examples from section 2.1 have been accounted for without the use of the transformations NEG-RAISING, NEG-ABSORPTION and without lexical decomposition.

5.2. Tag questions
5.2.1. The transformational account of tag-questions is based on the rule first developed in Klima (1964). The tag consists of the first part of the auxiliary (do appears if there is only a tense marker in the auxiliary) and a pronominal copy of the subject from the main sentence. In addition, the tag has opposite polarity from the main sentence with respect to negativity.

This rule generates only 'normal' tags. If the tag is considered to be sarcastic or otherwise different from the normal meaning of a tag question, a matching polarity tag may appear.

In an interpretive framework, either a positive tag or a negative tag may appear, and the matching or non-matching of polarities will affect the meaning and/or the illocutionary force of the sentence. The intonation of the tag (rising or falling) will also have to be taken into account for the entire reading.

5.2.2. With respect to the data, the two approaches seem equally capable of explaining what is happening. There will have to be some principles, presumably relating to illocutionary force, that describe the conditions under which the complement clause may be the basis for the tag (see section 3.2.4.). The crucial sentence (repeated from section 2) is (143),

(143) I don't suppose the Phillies will win, will they?

which R. Lakoff accounted for with her (cyclic) NEG-RAISING, but it can be just as easily explained by the use of NEG-ASSOCIATION. If NEG-ASSOCIATION were not operating (i.e. the main sentence is reportive),

the modal projection rule would operate to give the modal structure (144):

(144) a. NEGATIVE (suppose) IMAGE (the Phillies, win) FUTURE (win)
b. NEGATIVE (win) IMAGE (the Phillies, win) FUTURE (win)

In this case the complement sentence would be blocked from dependence in negation by the IMAGE-containing verb suppose used reportively. Thus the complement sentence would be positive, and a positive tag should produce a different meaning for the sentence. This is what would happen if suppose in (143) were replaced by say or claim or some other non-NEG-ASSOCIATION verb.

However, the fact that the tag is formed on the complement means that (143) must be expressive. Therefore NEG-ASSOCIATION must apply if it can. But, for NEG-ASSOCIATION verbs like suppose, NEG-ASSOCIATION will apply giving (144b). The complement sentence cannot be blocked from dependence on NEGATIVE because the sentence is expressive. The complement sentence is negated, so a positive tag will give the desired reading, which is the same as (145) (which also has the modal structure (144b).

(145) I suppose the Phillies won't win, will they?

The sentences in (146)

(146) a. I don't think they'll win, will they?
b. I don't believe they'll win, will they?

which by NEG-RAISING would have come from the bad (147a) and (147b)

(147) a. *I think they won't win, will they?
b. ?*I believe they won't win, will they?

were problems in the Generative Semantics framework and remain so here. The fact that (146a) and (146b) are bad would suggest that think and believe are not being used expressively in these sentences. It is not clear to me whether this is so. Perhaps, as the semantic and/or illocutionary conditions for the occurrence of embedded sentence tags become worked out, the problem may receive an answer which would be compatible with either the Generative or Interpretive approach.

5.3. Parentheticals
5.3.1. The Generative Semantics treatment of parentheticals, as described in section 2.3, was provided by Ross (1973). In that paper Ross mentions some of the problems his solution can't handle. For instance, there is no explanation of why most verbs cannot appear as negative parentheticals, since presumably the lifted S could appear as a complement under many negated verbs. The example (148a) may not undergo SLIFTING to give (148b), even if negation is present in the lower sentence.

(148) a. I don't claim Wallace will be elected.
     b. *Wallace will (not) be elected, I don't claim.

The one neat result (relevant to this discussion) that Ross gets
is an explanation of why the NEG-RAISING verbs can appear as negative
parentheticals and only with negated complements. In this case, the
source of (149) must be (150a), and not (150b), in underlying structure.

(149) This guy is not corrupt, I don't think.
(150) a. I think this guy is not corrupt.
      b. I don't think this guy is corrupt.

The NEG in (150b) is copied, the embedded sentence undergoes SLIFTING,
and the original NEG is deleted, giving (149). If the NEG originates
in the upper sentence, then the verb could be presume, insist,
confess or many others, and SLIFTING would produce a sentence like
(149). Since these other verbs are all bad in this case, saying
that the NEG originates in the lower sentence says that only the
NEG-RAISING verbs will be able to appear. But this still doesn't
explain why (150b) should be bad as a source for (149).

5.3.2. Jackendoff (1972: section 3.1.2) treats parentheticals like
sentence adverbs. He generates them directly where they appear on the
surface--as opposed to Ross, who uses SLIFTING to put the parentheticals
at the end and a rule called NICHING (which also applies to sentence
adverbs) to move the parenthetical to where it appears. While I
don't want to compare the two overall systems, I would like to demon-
strate that via NEG-ASSOCIATION, it can be explained how it is
possible for the verbs which may undergo that rule to appear as
negative parentheticals.

The semantic interpretation for parentheticals is by his projection
rule $P_{SPEAKER}$ for speaker-oriented adverbs, which embeds the sentence
as an argument in the function generated in the semantic representa-
tion of the adverb. For example, in (151) the functional structure
PREFER (the voters, Rhodes) becomes the argument in the function
EVIDENT (X) giving the funcational structure (152).

(151) Evidently, the voters prefer Rhodes.
(152) EVIDENT (PREFER (THE VOTERS, RHODES))

A parenthetical can also be considered as a one-place predicate,
for example, THINK (I,X). So (153a) gets the functional structure
(153b) by inserting the reading of the main sentence as the argument
in the parenthetical:

(153) a. The voters prefer Rhodes, I think.
      b. THINK (I, PREFER (THE VOTERS, RHODES))

Notice that (153b) has the same functional structure as would be
generated for (154).

(154) I think the voters prefer Rhodes.

So .even though (153a) and (154) were generated syntactically in different ways, they receive identical functional structures.

Notice, however, that the difference in syntactic generation results in a different modal structure; in (153a) the sentence <u>the voters prefer Rhodes</u> is outside the scope of <u>think</u>, so it cannot be dependent on IMAGE. This is shown by the lack of an opaque reading in (155). Only the contradictory transparent reading exists.

(155) *The voters prefer Rhodes, he thinks, but they don't.

Thus, for the sentences (156a) and (156b) the modal structures will be (157a) and (157b).

(156) a. The voters don't like Gilligan, I don't think.
b. I don't think the voters like Gilligan.
(157) a. NEGATIVE (like), NEGATIVE (think), IMAGE ( ).
b. NEGATIVE (think, like), IMAGE (the voters, like, Gilligan)

If NEG-ASSOCIATION applies to (157a), the modal structure is (158).

(158) NEGATIVE (like), NEGATIVE ( ) think ( )

This is the same as the modal structure for (159).

(159) The voters don't like Gilligan, I think.

If the verb was not a NEG-ASSOCIATION verb, we would have no way of eliminating the extra negative from the semantic representation of (156a). But by NEG-ASSOCIATION we can explain why (159) and (156a) are synonymous.

This account also explains the fact that the negative parentheticals which do occur never have the power to negate the main sentence by themselves. What is unexplained is why a sentence, like (160) could not exist where the negative in the parenthetical would remain, since there is no NEG-ASSOCIATION verb present.

(160) *The voters prefer Gilligan, I don't presume.

So while a complete explanation of parentheticals is still far away, the interpretive theory can account for the same things the NEG-COPYING plus NEG-DELETION scheme can, without the troubles that analysis entails.

5.4. The late rules
5.4.1. In an Interpretive Semantics framework, no transformation may refer to the purely semantic notion of coreference. Therefore all rules which are deletion under identity are disallowed. This includes the rules of SENTENCE-PRONOMINALIZATION, SLUICING, and VP DELETION. The interpretive grammar would have anaphora or empty nodes (symbolized by Δ) generated in the deep structure, i.e. lexical insertion on a node is optional. If any empty node remains uninterpreted at the end of the derivation, the sentence is rejected as ill-formed. Rules

of VP-Anaphora interpretation (cf. Jackendoff, 1972: ch. 6) would fill in the semantic reading for the empty nodes or the anaphora it, do so and so on. Providing details of the exact forms of the rules would be too lengthy for this paper. For the purposes of this discussion, I will assume that there are rules that can be worked out along the lines Akmajian (1970) and Jackendoff suggest. In any event, it will be seen that the rule of NEG-ASSOCIATION must precede the rules for VP-Anaphora.

5.4.2. Compare (161a) and (161b) (sentence (161a) is from setion 2.4.1):

(161) a. I don't think John loves Marsha anymore, but she doesn't realize it yet.
b. I don't claim John loves Marsha, but she believes it.

In (161a) it clearly refers to John doesn't love Marsha anymore but the it in (161b) cannot mean this, but only John loves Marsha. This must be explained.

I would claim that the verb claim blocks the lower sentence from dependence on the modal NEGATIVE (as discussed in section 4.2.6) so that the modal structure can only be (162).

(162) NEGATIVE (claim, anyone), IMAGE (John, Marsha, love)

In other words John loves Marsha is not dependent on NEGATIVE, so the VP-Anaphora rule would not interpret a negative in the reading of it.

In developing the modal structure for (161a), think would also block the dependence of the lower sentence on NEGATIVE if there were no NEG-ASSOCIATION (i.e. if the sentence were reportive). But if NEG-ASSOCIATION applies to (163) then there is nothing to block the complement sentence from being dependent on NEGATIVE.

(163) NEGATIVE (think, love, anymore), IMAGE (John, love, Marsha) NEG (realize)

The modal structure is (164) which has love dependent on NEGATIVE, as we want for the interpretation of it by the VP-Anaphora rule.

(164) NEGATIVE (love, anymore), IMAGE (John, love, Marsha), NEGATIVE (realize)

The second conjunct in functional structure will be, before and after VP-Anaphora:

(165) a. REALIZE (SHE, IT)
b. REALIZE (SHE, LOVE (JOHN, MARSHA))

The modal structure will change from empty to (166).

(166) NEGATIVE (realize)

The conference table will also be correctly filled in by the operation of the rule. The VP-Anaphora rule copies all parts of the semantic representation from the first conjunct to the second.

5.4.3. Next consider (167), repeated from section 2.

(167) He's coming and I can guess why.

The functional structure of the second conjunct will be roughly (168) before the VP-Anaphora rule, and after the rule applies, it will be (169)

(168) CAN (I, GUESS (I, WHY(Δ)))
(169) CAN (I, GUESS (I, WHY (COME (HE))))

This is how the rule works as the counterpart of SLUICING. Perhaps WHY will be broken down further in the functional structure, but there will still be an argument open, into which the functional structure of the referent of the empty nodes will be inserted.

For (170), the before and after functional structures in the second conjunct are also (168) and (169),

(170) He's not coming and I can guess why.

but in addition, the VP-Anaphora rule will create the entry in the modal structure for the second conjunct (171) which corresponds to the modal dependence in the first conjunct.

(171) NEGATIVE (come)

Sentence (172), will also have a similar functional structure change,

(172) He's not coming and I can guess why not.

but, instead of starting with an empty second conjunct modal structure, there will be a NEGATIVE (Δ) which is filled in by the operation of the VP-Anaphora rule. Sentence (173)

(173) *He's coming and I can guess why not.

will never have the Δ replaced in the modal structure, because there is nothing dependent on NEGATIVE in the first conjunct for the VP-Anaphora rule to copy. The Δ will be uninterpreted at the end of the derivation and the sentence will be rejected as having an incomplete modal structure, just as elements which have uninterpreted empty nodes in functional structure are disqualified.

The crucial example in section 2.4.2, repeated here as (174a), can be compared with a similar sentence with claim, (174b);

(174) a. I don't think he's coming and I can guess why not.
      b. ?I don't claim he's coming and I can guess why not.

Reportive claim would block the sentence he's coming from being dependent on NEGATIVE for (174b),

but NEG-ASSOCIATION may apply on (174a) to remove think from the scope of not. Hence the why not may refer to he's not coming in (174a) but not in (174b) and the application of the VP-Anaphora rule will be similar to that discussed above for (172). This assumes, as mentioned in 3.2.4, that VP-Anaphora rules may refer to an embedded clause only in expressive cases. If NEG-ASSOCIATION does not apply, then (174a) and (174b) have similar readings. There is a possibility of reading the why not as why I don't claim... which accounts for the somewhat awkward sentence (174b).

The important thing to remember is that NEG-ASSOCIATION precedes VP-Anaphora.

5.4.4. The problem of neither-tags is discussed quite thoroughly in Jackendoff (1972: sec. 8.7). Basically the approach is the one I used, in the previous two sections. The VP-Anaphora rule, which is obviously at work here, must carry over all parts of the semantic interpretation, including the modal structure. In the case of neither, the two conjuncts must not only be identical, but must be dependent on NEGATIVE. Thus (175) is out

(175.) The Phillies will win and neither will the Mets.

because the modal structure for the second conjunct contains NEGATIVE (Δ), which doesn't get altered by the VP-Anaphora rule; the Δ remains uninterpreted and the sentence is rejected.

Notice the difference between (176a) and (176b).

(176) a. I don't think the Phillies will win and neither will the Mets.
b. *I don't claim the Phillies will win and neither will the Mets.

In the reportive case (176b), the lower sentence may not be dependent on NEGATIVE, because of the IMAGE-verb blocking it. But with NEG-ASSOCIATION in the expressive (176a), the think is removed from the scope of not, and VP-Anaphora can work to give a correct interpretation of the second conjunct. In (176b) the neither requires a parallel negative in the first conjunct, which, since NEG-ASSOCIATION is not allowed, must be in I don't claim... The lack of parallelism in the auxiliaries results in a bad sentence. The good version would be (177).

(177) I don't claim the Phillies will win and neither do the Mets.

Once again, NEG-ASSOCIATION must precede the VP-Anaphora rule.

5.5. care and even
5.5.1. Horn (1971) uses the existence of the NEG-RAISING rule to distinguish between the lexical items bother and care. He claims that both of these verbs are negative polarity items, [13] as shown in (178).

(178) a. I don't care to watch.
   b. *I care to watch.
   c. Sly didn't bother to show up.
   d. *Sly bothered to show up.

He then claims that, while bother doesn't undergo NEG-RAISING because it is an implicative verb (cf. Karttunen 1971), care can undergo NEG-RAISING, as in a sentence like (178a), where the negative semantically is associated with watch.

 There are problems with this analysis of care. First of all, if (178a) is derived by the optional rule of NEG-RAISING, then its source, (179), should also be grammatical, which it isn't.

   (179) *I care not to watch.

 Horn suggests that possibly wish or want is present in deep structure and if NEG-RAISING occurs, a care-insertion rule takes place optionally. But this proposal has some serious difficulties, which Horn (125) readily admits. For instance, care is considered to be an implicative verb by some, and an 'inference inviter' by others. Thus (180a) strictly implies (180b) for some, while for others there is a strongly invited inference

   (180) a. Harry didn't care to eat dinner.
      b. Harry didn't eat dinner.

that (180b) is true. This could not happen with wish or want.

 Alternatively, we could claim that NEG-RAISING is obligatory for care. This would not be sufficient, however. The negative incorporation into indefinites must be blocked if it removes the negative from care.

   (181) a. I don't want (wish, care) to see anybody today.
      b. I want (with, *care) to see nobody today.

Thus, the negative polarity must not only block rules which move a negative from care, but must force rules that move the negative to a position commanding care (in this case NEG-RAISING). This is a highly suspicious set of constraints.

 It might be easier to claim that just as bother, as an implicative, presents no block against its complement's dependency on NEGATIVE, care also presents no block, although for some people it is not an implicative. This eliminates any need for tricks like the above, and neither NEG-RAISING nor NEG-ASSOCIATION is needed to explain (179a).

 A sentence like (182), which Horn claims requires NEG-RAISING, can be explained easily.

   (182) Until midnight, I didn't care to leave until 2 a.m.

The lower until is satisfied by the NEGATIVE in its sentence, and the restriction on until midnight can be satisfied by noticing that didn't care is a stative predicate, as opposed to didn't bother. Sentence (182) with bother for care is ungrammatical.

So NEG-RAISING explains nothing unless a lot of other complicated restraints are added, and it looks like the same data without it.

5.5.2. In the same paper, Horn claims that NEG-RAISING can occur over the adverb even, which in his grammar is a higher predicate. His analysis of the meaning and presupposition which accompany also, even and only explain (he claims) why even allows NEG-RAISING and only and also don't.

Horn (132) states, 'Even, unlike also, permits NEG-RAISING. But the only semantic difference between also—which shares the assertion and non-uniqueness presupposition given [earlier]—and even is the negative expectation presupposed by the latter. And it is just this expectation which places even squarely among the NEG-RAISING verbs of expectation of [the class believe, think, etc.]'.

Assuming that this can be considered as an explanation for even's behavior, even and also have several other differences in behavior, both syntactic and semantic, and the same thing goes for even and only.

In an Interpretive Semantics grammar, even and only will not be higher predicates, but we still must explain why (183a) and (183b) are not synonymous like (184a) and (184b) are.

(183) a. Only Paul didn't want to reunite the band.
b. Not only Paul wanted to reunite the band.
(184) a. Even Ringo didn't want to reunite the band.
b. Not even Ringo wanted to reunite the band.

First of all, we will not derive these pairs of sentences from similar underlying structures. In each case, the not will be present in the deep structure just where it occurs on the surface. (See Jackendoff 1972: Chapter 8 for some discussion on this). I cannot go into the details here of how the readings of the not and even or only are put into the sentence. Jackendoff (1972) discusses that in his chapter on focus and presupposition. But the details are not important to this discussion. What matters is that the word only contains a modal operator of some kind. To see this, note that only can allow any in its scope, where even cannot.

(185) a. Only Frank saw anything.
b. *Even Frank saw anything.

This means that the modal scope structures of (183a) and (183b) will be different, since in (183b) only will be within the scope of not, but this will not be the case for (183a). This difference in modal scope relationships will be the explanation for the difference in meaning between the two sentences.

In (184a) and (184b), there is no difference in the scope relationship, since even does not contain a modal. Therefore it would make more sense for (184a) and (184b) to have the same reading.

This does not explain everything about the differences between these two sentences, of course. But it is a good place to start, and it suggests that there might be an easier way of accounting for the facts than to allow an adverb into the class of items which govern a rule, a class which contains no other such items.

For the difference between even and also, Horn gives no minimal pairs. For one thing, the places where also can appear are fewer than those where even can appear. Specifically, after a negative, also usually sounds bad.

> (186) a. *Not also John is coming.
> b. ??All the troops didn't also bomb the village.
> c. *My brother never also heard of Bob Dylan.

In these sentences, even sounds much better.

This syntactic difference between also and even will also be reflected in the lack of syonymy between (187a) and (187b), since (187b) is not just different in meaning, but is ungrammatical.

> (187) a. Also George didn't want to reunite the band.
> b. *Not also George wanted to reunite the band.

So, in (188a) NEG-ASSOCIATION would put the also right into the scope of the not, as in (188b).

> (188) a. I don't believe also George wanted to reunite the band.
> b. *I believe not also George wanted to reunite the band.
> c. I believe also George didn't want to reunite the band.

NEG-ASSOCIATION in (188a) would give a reading of (188b), not (188c). Since (188b) is bad, (188a) is not ambiguous, but has only the reading without NEG-ASSOCIATION.

Horn mentions too as a variant of also in sentence (189) (= Horn's (25a)).

> (189) Abe doesn't believe that Santa too will get here until midnight.

If too is considered as a variant of also, then the restrictions on not also seem to be more probably syntactic. Too doesn't appear in negative environments. In those cases it is supplemented by either, and (190) with either for too is a grammatical sentence.

> (190) a. Abe doesn't believe that Santa either will get here until midnight.
> b. Abe believes that not Santa either will get here until midnight.
> c. Abe believes that Santa too will not get here until midnight.

(190b), with NEG-ASSOCIATION, sounds much better than the same sentence with also. And in a synonymous sentence with the not next to the verb like (190c) too may appear, since it is not in the scope of the negative.

So, there is evidence that the difference between <u>even</u> and <u>also</u> may be syntactic, which accounts for the differences in their behavior which Horn notices. The data can be given some sort of explanation in either framework.

5.6. Ordering of the rule.

5.6.1. It has been shown that in order for sentences (161a), (174a) and (176a) to receive their correct interpretations, NEG-ASSOCIATION must operate before the rule of VP-Anaphora. In addition, for sentence (143) to be interpreted correctly, NEG-ASSOCIATION must precede the rule which interprets tag questions. So far as I know, this creates no problems in the ordering of the rules.

There are some sentences which might suggest that other orderings are necessary. For example, in (191) it appears that, since the <u>why not</u>

   (191) Steve doesn't think that the Phillies will win and
      . I can guess why not.

refers to <u>Steve doesn't think that</u>..., of NEG-ASSOCIATION would apply, it would follow the VP-Anaphora rule. But I claim this could not happen. If the <u>why not</u> indeed refers to <u>Steve</u>..., then the first clause is reportive and NEG-ASSOCIATION could not have occurred in the sentence. On the other hand, if NEG-ASSOCIATION does take place, it will precede VP-Anaphora and the <u>why not</u> will refer to <u>why the Phillies won't win</u>. So there is no ordering problem there.

Another possibility is the following type of sentence from R. Lakoff (1969)

   (192) Steve doesn't think the Phillies will win, does he?

Since the tag is formed from the main sentence, it would seem that the tag-interpretation rule must <u>precede</u> NEG-ASSOCIATION, contrary to what we saw above, if NEG-ASSOCIATION indeed applies to this sentence. In fact, Lakoff claims that the NEG-RAISING transformation does apply in this sentence, and she avoids the ordering paradox between the two rules by making them cyclic.

But again, I would claim, this is not the case. I maintain that sentence (192) may not undergo NEG-ASSOCIATION, and therefore is not ambiguous.

The evidence that NEG-ASSOCIATION may not apply is given in the fact that the main clause is the one from which the tag is formed. Since, by the discussion in section 3.2.4, we decided that if <u>think</u> was being used expressively (which is required for NEG-ASSOCIATION to operate), it cannot be questioned. But the tag here would qualify as a questioning of <u>think</u>, so it must be reportive. Hence, NEG-ASSOCIATION does not apply to (192) and it need never follow the tag-interpretation rule.

5.6.2. There remains the question of the rule's having to iterate, i.e., to apply to its own output. In cases like the following,

(193) a. I don't believe Archie wants Edith to know about this.

　ᵇb. I believe Archie doesn't want Edith to know about this.

　c. I believe Archie wants Edith not to know about this.

with either a transformation pulling the negative up, or a semantic interpretation rule moving the negative down, at first glance, it seems to make no difference whether the negative is moved in one jump or two. The transformaiton case was discussed in section 2.5.3.2, where it was decided that the rule must work one sentence at a time.

The interpretive rule may not move the negative downward in the semantic interpretation in one move for the exact same reason the transformation can't do it all at once. At each step the proper semantic/ expressive forces must be present. G. Lakoff (1970a) spoke of such a rule as being anti-cyclic since it would have to apply on each cycle, moving downward. But, the option of being an all-at-once iterative rule is much more feasible in the case of an interpretive rule.

Consider the kinds of interpretive rules proposed in Jackendoff (1972). All of them help to build up the semantic interpretation. None of the rule actually replaces any part of representation that already existed (except for dummy elements) like the X in the functional or modal structure which is substituted for by the VP-Anaphora rule). The one that Jackendoff uses that could possibly have that effect, the rule for coreference, is specifically constrained to prevent it from marking any pairs which have already been marked. Other then that, there are no other rules which it would even make sense to apply to their own outputs. This contrasts greatly with syntactic rules, which are often movements of one type or another and which could conceivably go in ways to counteract each other (or themselves) if not constrained somehow by conditions like strict cyclicity mentioned above.

So even though the idea of an iterative semantic interpretation rule is new, there is no technical reason for excluding it, nor is there an intuitive reason.

6. Conclusions

This paper has been an attempt to take a closer look at a rule that has never had proper justification, even though it has had fairly wide acceptance. Since so many analyses have made use of the syntactic rule of NEG-RAISING, i felt it deserved some justification for its existence.

As the published evidence for the rule is reviewed it is seen that none of the arguments is without holes. In addition it was seen that the rule creates an ordering paradox, in that it must be both cyclic and post-cyclic. In the face of this obstacle, another approach was tried.

A too brief survey was made at the semantic properties of the predicates which allow the rule. It is hoped that in the future, some much more adequate way of representing meaning can be found, so that perhaps the quality of allowing NEG-RAISING will follow from the meaning of the predicates alone, rather than having to mark them all, arbitrarily for the rule, a scheme which makes absolutely no claims about any

semantic characteristics the predicates may share.

.Kimball's observation that only expressive sentences may undergo the rule was looked at. It seems to be a correct generalization. Kimball, in his paper, claims that the classification may have wider uses than just for NEG-RAISING; for instance, in the distribution of it and so as pro-sentences. While the prospects of explaining different syntactic phenomena by using the distinction between expressive and reportive sentences seem encouraging, a formalism for representing the difference is still unavailable.

Having run into so many problems with a syntactic transformation, I made an attempt to describe the process using a rule of semantic interpretation called NEG-ASSOCIATION. The theoretical framework, that of Jackendoff (1972), was adopted.

It was noticed that certain verbs block their complement sentences from dependence on certain modals. This may eventually lead to a redefinition of the scopes of these modals, but in the meantime, the blocking was merely noted for its effect on some semantic rules and certain selectional restrictions.

After the rule of NEG-ASSOCIATION was formulated, the data were reexamined in the new framework and with the aid of the verb rule. In every case, the new approach was able to explain the data at least as well as a NEG-RAISING rule could, and in some cases, there seemed to be a better account of the facts.

While this paper cannot and does not attempt to justify the entire, Interpretive Semantics framework it does aim to show that some of the problems which were claimed to be unsolvable in this framework (cf. G. Lakoff 1970a: fn. 4) can be handled without any more effort than Generative Semantics takes, and that new issues can be raised just as easily in one framework as in another. As long as a theory continues to provide new data to be explained, new questions to be answered, then it is a worthwhile channel for research. My intent here is to show that Interpretive Semantics is at least that, if not a lot more.

Footnotes

*This is a revised version of my M.A. thesis, originally submitted in 1974. I would like to mention three people for their assistance on this paper. First is Ray Jackendoff, whose ideological influence has been very large, both directly and indirectly. His work has inspired me to try to approach this grammatical problem from the angle I used. Secondly, my adviser, Arnold Zwicky, has instilled in me the rigor and professionalism I needed to keep from becoming more over-zealous than I did. Finally, my wife, Caren, has put up more than her share of the bother with this thesis. To these three, thanks a lot.

[1]This claim will be discussed further in section 3.2.4.

[2]This is not always true. It could be claimed that TOPICALIZATION can occur without the deletion, giving LEFT DISLOCATION. But most movement rules do not have copying counterparts.

[3]NEG-RAISING is not the only rule whose application would some-times be ignored for identity purposes. Note also (i) with RAISING,

mentioned by Ross (1969).

> (i) Fred seems to be doing away with somebody but he won't
> say whom.

and (ii), the well-known example of the type from G. Lakoff (1966) involving RAISING and PASSIVE:

> (ii) Sue is believed by everybody to be pregnant, but she
> denies it.

[4]As in I don't see the Phillies winning the pennant.

[5]As in I don't mean for you to be insulted.

[6]Lakoff uses this as a basis for a claim that a semantic interpretation rule could not do the job, since it would have to be governed and hence the entire theory of exceptions and minor rules would have to be duplicated in semantics.

[7]A more detailed discussion of the issues raised in section 4.1.1. is given in Jackendoff (1972: ch. 1).

[8]All of the claims made for structures in this section are backed up in various places in Jackendoff (1972).

[9]There are some exceptions, cases where NPs marked with the are not specific--as in Claire wants to meet the man of her dreams, where the definite NP may still be nonspecific. These exceptions are not relevant to this discussion, however.

[10]Until, it will be remembered, can also be satisfied with a durative verb. This will not be considered here.

[11]See Jackendoff (1972: ch. 7, fn. 3) for a justification of this structure.

[12]The verb doubt does not necessarily block dependence of a complement sentence from NEGATIVE. If it does, then the not refers only to doubt and (137a) will be grammatical (e.g., as read with heavy stress on don't).

[13]Baker (1970) claims that this 'cancelling out' of two negatives must be accomplished by means of logical entailment. I do not know what the implications are of including something like that in the semantic component of a grammar or even whether it is compatible with this system, if indeed he is correct.

[14]This discussion ignores the factive homonyms of care and bother, as does Horn.

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Toward a Definition of the Ideophone in Bantu

Marion R. Johnson

1. The class of items known as 'ideophones' has presented a special
puzzle to linguists interested in a number of African languages,
including in particular the Bantu languages. Although a few theorists
have attempted to deal with these items in terms of the formal features
of their class (most notably, Samarin (1965, 1967, 1970, 1971) and
Fortune (1962)), no definition has yet gained wide acceptance and
consequently, no set of language-independent criteria has been
established for the identification and investigation of ideophones.
The purpose of the present paper is to propose such a definition for
the grammatical class ideophone, and to indicate the directions of
research which would follow from such a definition. I will support
my proposal with data from the Zulu language. The primary source for
phonetic information about Zulu will be Doke (1926); for morphological
and syntactic information, Beuchat (1966) and Doke (1955).

Ideophones in the Bantu languages are a class of items comparable
to the English word kerplop in the sentences below.

    (1) The stone went: kerplop!, into the pool.
    (2) The stone fell, kerplop!, into the pool.

In English, as in Bantu, it is freely possible to derive verbs and
nouns from ideophones, to yield sentences like:

    (3) The stone kerplopped into the pool.
    (4) We heard the kerplop of the stone into the pool.

The current literature on words of this type suggests that they exhibit
with remarkable consistency a number of recurrent structural features
across a very diverse range of language families (cf. Welmers (1973)
on African ideophones in general; Newman (1968) on Tera and Hausa;
Diffloth (1972) on Korean). For example, ideophones are frequently
introduced by a pause. They describe with vivid clarity and eloquence
the perceptual qualities of objects and events. They demonstrate a
general antipathy toward negation and question-formation. They are
characterized formally by the total absence of inflection and by a
freedom in their phonotactic construction not shared by any other
class of items in a language. Moreover, there are restrictions on
the appropriateness of ideophones in different social contexts which
are peculiar to them and not to any other lexical class. For example,
there is no social context in which it is appropriate to use standard
English but inappropriate to use items from the categories Noun, Verb,

Infinitive, and so on. The use of ideophones, however, can be so restricted. In English, the introduction of an ideophone seems to introduce a 'diminutive' sense to a person's speaking style. As a result, ideophones are more acceptable in baby talk, children's stories, highly informal conversation, and so on, than, for example, in a scientific discourse. In other languages, including the Bantu group, where ideophones are more highly developed as a class, their occurrence is correspondingly more frequent and more general. Yet the acceptability of their use still varies with context and style. Concerning the use of ideophones in Yao, Whiteley (1966;154) has commented: 'Ideophones occur in all types of speech, particularly in folk-tales, but there appears to be a personal factor in their use. Some people use them very frequently, others hardly at all, but it is my impression that women tend to use them generally more often than men'. Clearly, there is an important area for sociolinguistic research here, involving both inter- and intra-cultural variation in language attitudes and language use.

Characteristics such as those just described have made it possible for the identification of ideophones to proceed on a fairly intuitive basis. One definition that is frequently cited, however, is that presented by Clement Doke. Doke offers a basically semantic criterion for ideophones, but not one that could be applied with any systematic rigor. His definition is as follows:

> An ideophone is a word, often onomatopoeic, which describes a predicative, qualificative or adverb in respect to manner, colour, sound, smell, action, state, intensity, etc. (Doke and Mofokeng (1957:337))

In a series of recent articles, Samarin has repeatedly urged Bantuists to develop a more rigorous analytical approach, based on the formal properties of this class of words. The present paper is in part a response to those urgings, because I agree with Samarin that ideophones deserve serious attention as a unique and significant grammatical phenomenon. However, I differ with his position that ideophones are specifically a morphological class, defined on a language-specific basis. The claim I want to defend is that ideophones are a lexical class characterized by the absence of morphological structure, and this absence of morphology is the primary peculiarity of the class. The unusual phonological properties of the class are a consequence of this lack of morphological structure, but not themselves a defining property of the class. My definition is as follows:

> Ideophones are a class of lexical items in which semantic representation of perceptual qualities are mapped directly onto phonological strings, without passing through the morphological component of the grammar.

It is important to emphasize that the foregoing is intended as a definitional, and not a descriptive, statement. Therefore, it does not necessarily include all that has hitherto been referred to as

'ideophones'. On the contrary, this is an attempt to delimit the
relevant members of the class. Note, for example, that it would
include the item kerplop in sentences (1) and (2) above, but exclude
the verb kerplopped in (3) and the noun kerplop in (4). My point is
that the formal properties of a verb kerplop can be exhaustively
described within the terms of its own category, the presence of sound
symbolism being a relatively rare but by no means unacceptable feature
of a verb. However, the term kerplop in (1) and (2) requires us to
set up a separate grammatical category to account for its syntactic
behaviour. This point is crucial, because the lack of a formal
definition in the past has led to some confusion over the identifica-
tion of ideophones, and this in turn has led to confusion over the
properties of the class.

In the next section of this paper, I will attempt to defend the
definition I have just proposed with the morphological and syntactic
facts about ideophones in Zulu. I will then add some comments on the
semantics of the class, and the kinds of semantic questions involved.

2. Descriptive grammars of Bantu languages have usually treated
ideophones as a subcategory of adverbs. Doke adopts this approach
for Zulu, treating ideophones as a more or less separate word class,
but including them with adverbs in the general category 'Descriptive'.
Morphological processes, however, argue against such an alignment.
Derivationally, Zulu adverbs are close to nouns, whereas its ideophones
are closer to verbs. The three types of simple adverb formation in
Zulu (as presented in Doke (1955:118)) all involve nominal stems as
the base of the derivation. In some cases, the adverb does not differ
in morphological shape from the corresponding noun (it differs, of
course, syntactically). For example:

> (5) izolo 'tomorrow', ubusuku[1] 'night', impela 'truth, truly'

In other cases, the initial vowel of the noun is absent from the
adverbial form. For example:

> (6) intambana 'afternoon' vs. ntambana 'in the afternoon'
>   ukuqala 'the beginning' vs. kuqala 'first, long ago'

Finally, adverbs can be derived from nouns (or adjective stems) by
means of certain suffixes (e.g. -ini) or prefixes (e.g. ka-). For
example:

> (7) isibaya 'the kraal' vs. esibayeni 'in the kraal'
>   isihle 'goodness, benevolence' vs. kahle 'well,
>   beautifully, carefully, gently'
>   (cf. -hle (adj. stem) 'good, beautiful, pretty')

(The glosses above were taken from Scholar's Zulu Dictionary, not
from Doke's material.)

In contrast to the above, derivational processes most often move
ideophones into the grammatical category Verb (and vice versa).[2] When
a verb is derived, either the neuter suffix (-k-) is added to mark an

intransitive verb, or the applied suffix (-1-) is used to mark a
transitive one. For example (data from Voeltz (1971:149)):3

(8)	Ideophone	+Neuter	+Applied
	petu 'turn inside out'	petuka	petula
	khumu 'come off'	khumuka	khumula

Ideophones also do not resemble adverbs in their typical syntactic
environments. Adverbs occur as adjuncts of independent main verbs.
The adverb specifies the manner, place, time, or instrument of an
activity expressed in the main verb, as in the following examples:

(9) Bahame kahle. 'They journeyed well.'
(10) Sifike ekuseni. 'We arrived this morning.'
(11) Impi izohambe ngendlela enye. 'The army will travel
     by another route.'

In a sentence containing a verb and an adverb, it is possible for either
the verb or the adverb to be the semantic focus of the assertion. Focus
on the verb is marked by incorporation of the prefix -ya-; without -ya-,
the adverb is understood as the focus (and the verb can cliticize to
the adverb, with accompanying stress subordination). These facts give
rise to minimal sentence pairs such as the following (data from
Beuchat (1966:19)):

(12) Abantwana bacula esikoleni.
      children they-sing at-school
      'The children sing at school (and nowhere else).'
      (i.e. Where the children sing is at school.)
(13) Abantwana bayacula esikoleni.
      children they-ya-sing at-school
      'The children sing at school (among other occupations).'
      (i.e. What the children do at school is sing.)

In contrast to adverbs, ideophones co-occur with only two types of
verbs: either the verb ukuthi, which Doke glosses as 'to express, to
act, to demonstrate, to manifest'; or a verb whose meaning closely
parallels that of the ideophone (this verb may be cognate with the
ideophone; often the ideophone is more specific in meaning than the
verb).4 For example:

(14) Leli-tende liyabakuza, lithi baku-baku.
      this-tent it-ya-blow-about, it-thi IDEO (tossing)
      'This tent is being blown about.'
      (lit.: This tent is blowing about, it's going:
      baku-baku.).
(15) kumhlophe, qwa. 'It is snow white.'
      it-white, IDEO (snow white)

In sentences like (14), the focus marker -ya- is never attached to
the verb -thi; the ideophone is always (for obvious reasons), the
semantic focus.5 On the other hand, -thi may not cliticize to the
ideophone. The ideophone is always intonationally as well as

syntactically isolated. Note that in sentences like (15), the ideo-
phone recapitulates the assertion already made by the verb, but with
greater eloquence and force.

The foregoing shows convincingly that ideophones cannot be subsumed
under the category Adverb. A second possibility is that ideophones
belong in the morphological category Verb. This claim is made in
Voeltz (1971); Voeltz argues that ideophones are a subset of the
category Verb, with a feature +IDEO which is assigned on essentially
phonological grounds. Voeltz's approach leads him to compare the
construction with the verb _ukuthi_ plus an ideophone with another
construction in which an inflected form of _ukuthi_ is followed by an
infinitive.[6] Some examples of this second construction are:

.(16) Sithe ukuhlala phansi. 'We just sat down a while.'
       we-_thi_ to-sit-down a-while
 (17) Umfana wathi ukubuka. 'The boy merely looked.'
       boy   he-pst-_thi_ to-look
 (18) Ubuso bakhe buthi ukuqhamuka. 'Her face just appears.'
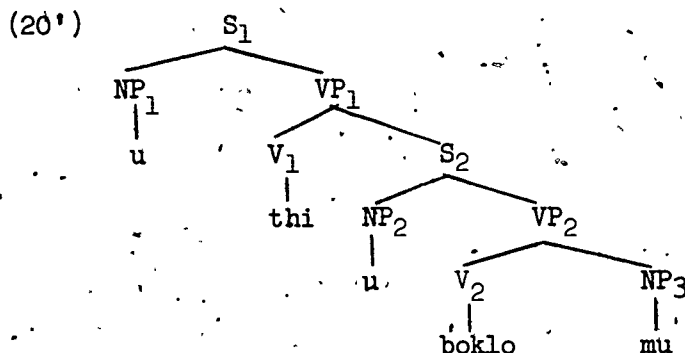   face her   it-_thi_ to-appear

A major problem with this approach is that Voeltz does not establish
that the meaning of -_thi_ when followed by an infinitive is comparable
to its meaning with an ideophone. Example sentences like those above
suggest that -_thi_ describes some restriction on the activity referred
to by the infinitive (what this restriction is, I leave to another
study). But this meaning is completely inappropriate to many ideophone
constructions, especially when the ideophone describes some (possibly
inherent) state. Compare (19) with (16)-(18).

(19) Kubomvu, kuthe _klebu_.[7] 'It is bright red.'
      it-red, it-_the_ IDEO (bright red)

Given this difference in the semantics of the two constructions, it
is not at all clear why they should be syntactically equated.

-- Voeltz's proposal also runs into trouble in the lack of independent
motivation for the derivational rules required to generate the correct
surface sentences from his underlying representations. Voeltz's deep
structure analysis for the sentence given as (20) is reproduced below
as (20').

(20) W-a-mu-thi _boklo_. (he-pst-him-_thi_ IDEO)
      'He hit him in the back.'

(20')

```
              S₁
            /    \
         NP₁      VP₁
          |      /   \
          u    V₁     S₂
               |     /   \
              thi  NP₂    VP₂
                    |    /    \
                    u   V₂     NP₃
                        |       |
                      boklo    mu
```

(20) is derived from (20') by the operation of two rules. The first, Equi-NP Deletion, deletes NP₂; and the second, 'Object Incorporation', takes NP₃ and (by-passing V₂ because it is marked with the feature +IDEO) attaches it to the next higher verb (V_1).

The way in which Voeltz has Equi-NP Deletion operating in this context has no parallel in other Zulu constructions. In (20'), the rule must delete, not a full noun phrase, but a nominal concord which is normally attached to the verb. In all other double verb construc-tions, this concord is retained on the second verb. For example:

> (21) Abafana bake babone izinyamazane.
> boys   they-ke they-see game
> 'The boys sometimes see game.'[8]

Even when an embedded verb is an infinitive, it cannot be argued that Equi-NP Deletion wipes out the subject-concord slot, since this slot is still occupied by the 'unmarked' form uku-. For example (sentence from Voeltz (1971:142)):

> (22) Abatwana bafuna ukudlala.
> children they-want to-play.
> 'The children want to play.'

The fact that uku- rather than ba- appears as the prefix on the subordinate verb in (22) needs to be handled within a theory of concordial marking. But it seems quite implausible to suppose that Equi-NP Deletion has operated on this element at any point in the derivation of (22).

Voeltz's rule of Object Incorporation is equally ad hoc, because its application must be triggered by the feature +IDEO. This means only that +IDEO can function as a diacritic for a rule whose rationale is otherwise unexplained. In particular, this analysis, while in effect imputing inflections to ideophones at some abstract level of representation, provides no satisfactory account of the fact that these inflections cannot appear on the surface.

My claim in this paper is that these inflections are impossible because ideophones do not belong to any morphological category to which affixation processes can apply. Ideophones are semantic primes given direct phonological/phonetic realization. They can be entered directly into the logical representation of a sentence because nothing in the morphosyntactic derivation of the sentence is allowed to affect them,
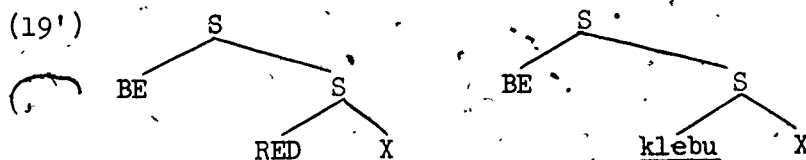
and because in some (as yet mysterious) way, the phonetic representation is the semantic representation; there is no intervening abstract semantic structure to which phonologically distinct but semantically synonymous realizations could be assigned.

The reason for short-circuiting the morphosyntax in this way is to preserve this intrinsic sound-meaning relationship with which ideophones are exclusively constructed. Lexical items which pass through the morphosyntactic component of a grammar are subject to morphophonemic alternation, to fast speech reductions, to phonetic modification based on syntactically-derived intonation, and so on—all of which tend to obscure whatever direct sound-meaning correspondence may have been present in the base form of a lexical item. According to my analysis, ideophones originate right in the logical structure, where they function as simple predicates. In most cases, the ideophone predicate will be contained in a construction destined to become a verb phrase. When lexical insertion takes place, the ideophone will find itself sharing a node with other predicates. Since ideophones are not allowed to combine morphologically with any other semantic units, the stem -thi will be used to lexicalize whatever shares the ideophone node.
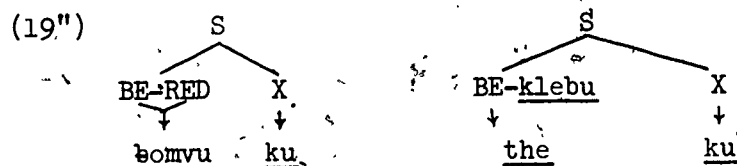
An example will help to clarify my meaning. The tree representations given below are intended as approximate and simplified structures only, but they will illustrate the general point.

Ideophones can occur in a variety of constructions, including the semantic categories of states, actions, inchoative states, action-states, and so on. An example of an ideophone in a stative construction was given in (19), and is repeated below. (19') is intended to represent the underlying structure of the two parts of (19).

(19) Kubomvu, kuthe klebu.
      'It is bright red.'

(19')

BE   S   BE   S
      RED   X   klebu   X

In (19"), Predicate Raising has applied, forming a derived structure to which lexical insertion can apply (in the manner indicated by the arrows).

(19")

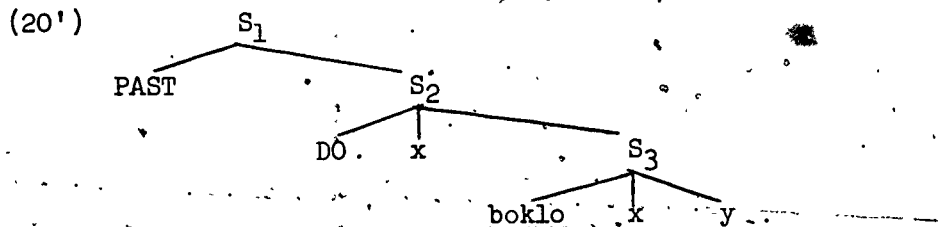BE-RED   X   BE-klebu   X
  bomvu ku   the   ku

Only superficial ordering rules need apply to the derived structures in (19") to yield the surface sentences.

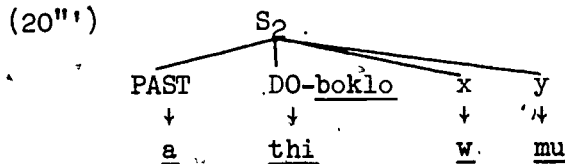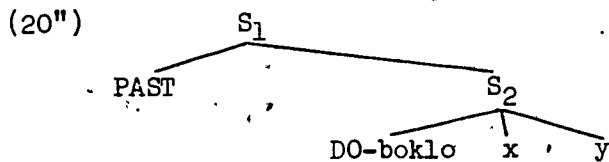Sentence (20), which contains a transitive action construction,

would have the representation given in (20'), according to my analysis.

(20) Wamuthi boklo.
     'He hit him in the back.'

(20')

$$S_1$$

PAST S_2

DO x S_3

boklo x y

Predicate Raising will move boklo onto the same node as DO, as shown in (20"). Then the temporal predicate PAST will be lowered into S_2 and the structure will be ready for lexical insertion, as shown in (20"').

(20")

$$S_1$$

PAST S_2

DO-boklo x y

(20"')

$$S_2$$

PAST   DO-boklo   x   y
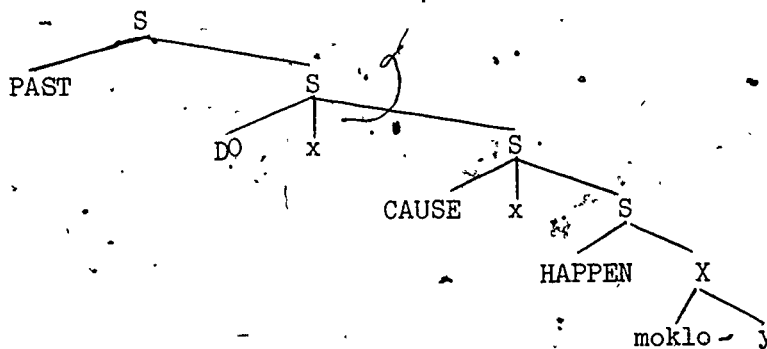↓   ↓   ↓   ↓
a   thi   w   mu

     The analysis I am proposing requires that we consider the verb stem -thi not as a unitary predicate, but as a class of predicates which can be distinguished only by their syntactic consequences. Even the accompanying ideophone will not necessarily be a clue to the 'meaning' of -thi in a given construction, since many ideophones can occur in more than one type of construction. For example, bihli can occur in intransitive constructions, meaning 'to come off', and in transitive constructions, meaning 'to scrape off'. However, the syntactic fact that the transitive meaning requires an object slot on the verb phrase will always differentiate the two meanings.
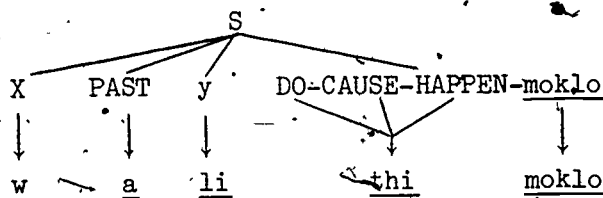
     The class of predicates expressed by -thi in combination with an ideophone will have to include some derived compound predicates. One such case is illustrated in (23), with its logical structure given in (23'), and its derived structure after lexical insertion given in (23").

(23) W-a-li-mokloza ithambo, w-a-li-thi moklo
      he-pst-it-break bone, he-pst-it-thi IDEO (breaking)
      'He broke the bone'.

(23')

```
                    S
          /                 \
       PAST                   S
                         /    |    \
                       DO     x     S
                          CAUSE   x    S
                               HAPPEN    X
                                       moklo   y
```

(23")

```
                        S
       /      |     |         \              \
       X     PAST   y    DO-CAUSE-HAPPEN-moklo
       |      |     |         |              |
       w      a     li       thi           moklo
```

The idea that -thi lexicalizes a class of predicates which can only
be distinguished by their respective syntactic consequences can be
paralleled by the behaviour of many other verbs. For example, the verb
stem -hamba, 'to go, to travel', is normally used as an intransitive
action predicate. As such, it can be inflected with the long form of
the perfect suffix -ile (expressing immediate past action). For
example:

(24) Bahambile.
     'They have gone.'

When an adverb follows the verb, it is obligatory to use the short
form of the perfect, -e, in place of the long form. For example:

(25) Bahambe ngezinyawo.
     'They left on foot.'

However, it is also possible to use -hamba as an action-state predicate.
In this case, there is no longer a long form/short form contrast in
the perfect, but the suffix -ile is invariably used, and it describes
a state entered in the immediate past and continuing in the present.
For example:

(26) Isela lihambile manje.
     thief he-go-perf   now
     'The thief has left now.'

The literal meaning of (26) is: having just left, the thief is now in
a state of being gone. Note that the time adverb manje eliminates the
'immediate past action' reading of (26), because it would involve a
contradiction.

To conclude the present defense of my proposed definition, there
are a number of morphophonemic facts about Zulu which strongly support

the view that ideophones are entities that exist outside of any
morphological unit. These facts concern the distribution of stress
and length among vowels. In all major lexical categories, <u>except
ideophones</u>, stress and length are assigned to the penultimate syllable
of a word, other vowels being short and unstressed or half-stressed.
For example:

> (27) ukub'ɔ:nə 'to see', but ukubon'i:sa 'to show (cause
> to see)'
> (28) 'i:ⁿdʒa 'dog', iⁿdʒ'a:na 'little dog', iⁿdʒan'a:na
> 'tiny dog'

Moreover, all formatives which are subject to these rules are at
least two syllables in length.

Ideophones deviate from these regularities in every way possible.
Ideophones are frequently monosyllabic, and the stress and length
of their vowels must be considered as inherent rather than derived.
Ideophone vowels can be short, long or extra-long. For example:

> (29) bɔ 'hitting in the small of the back'
> d'u: 'being very quiet'
> dʒ'a:: 'being stretched out'

A short vowel may be stressed in an ideophone. For example:

> (30) t'ɛbɛ 'being weighed down'
> ʇh'ifi 'squashing'[9]

These features, however, are regularized in the verbal derivatives
of the above ideophones.

> (31) ukut'ɛ:ba 'to be weighed down'
> ukuʇh'i:fa 'to squash'

In polysyllabic ideophones, stress and length are clearly assigned on
the basis of semantic criterion. Note that in the first example
below, stress has to be assigned independently of length, since the
final syllable is long but unstressed.

> (32) b'u: b'u: bu: 'threshing'
> ⁿt'inin'i:: 'spinning-along'[10]
> ᵐbyɛnɛn'e:: 'tingling'

For some discussion of expressive phonological rules, particularly
as they affect ideophones in Zulu, see Johnson (1975). The point here
is that the failure of ideophones to be subject to stress and length
rules which are obligatory for their verbal derivatives is automatically
accounted for in our assumption that morpheme boundaries do not appear
in the lexical representations of ideophones.

3. Concerning the semantics of ideophones, I would like to make
some tentative proposals, which should at least stimulate discussion

on the major problems. For example, it seems relatively clear that ideophones describe sensations of various kinds, but there is a need to define the range of sensations that can be expressed through ideophones, and how this varies between languages and language groups.

A notable feature of ideophones is that they have a limited semantic domain, and that individual meanings within the class tend to be highly specific, concrete, and perceptual. These limitations doubtless reflect limitations on the human vocal capacity to evoke meanings directly through sounds. How and why these limitations exist should provide a fascinating area of research.

Another aspect of the 'domain' of ideophones is the absence of exhaustiveness within any subpart of the domain. Ideophones are not constrained to describe all sensations in any language, but only those that have some innate interest and call for some descriptive force. It would be very interesting, for example, to investigate how ideophone colour terms in a language like Zulu compare in their organization to standard colour terms. It is possible that they parallel each other in that for each standard colour term there exists an ideophone which describes the most intense shade of that colour; or there could be gaps in the ideophone inventory, so that only standard words are available for describing colours like brown; and so on.

Related to these problems is the absence of paradigmatic semantic contrasts among ideophones, which would give rise to relations such as antonymy and synonymy. Each ideophone seems to be a discrete and independent semantic unit; pairs of ideophones with interdependent meanings (like the verbal pairs increase/decrease, conquer/defeat, run/walk, love/hate) do not exist. The non-sense of negation with ideophones is probably one dimension of this particular problem. The direct negation of an ideophone cannot be a meaningful semantic unit if the ideophone is defined only by what it includes, and not what it excludes. The occurrence of ideophones in negative constructions appears from the present literature to be a universally rare phenomenon. This is probably because constructions with ideophones allow only external negation, not internal negation, and external negation is in general rare. Consider the English negative construction given in (33).

(33) The gun didn't go: bang!

(33) is a meaningful utterance if it means the same as (33a).

(33). a. It is not true that the gun went: bang!

However, (33b) is not a meaningful paraphrase, because the constituent not bang does not describe an activity (in the way that a phrase like 'not sleep' or 'not sit down' could describe a real activity).

(33) b. *What the gun did was: not bang.

Finally, a historical problem in the semantics of ideophones is the susceptibility of this class to semantic shift. Although many Bantu languages have large ideophone inventories, there is a striking absence of cognates across languages in this group. How ideophones are created, transmitted, restructured, and dismissed from a language offers a complex historical and sociolinguistic puzzle.

4. Apart from the grammatical arguments I have presented above, I think there are two major advantages to the approach to ideophones which I am advocating. One is that the analysis stays close to basic surface facts about ideophones, such as the absence of inflection, and tries to give them a satisfactory explanation. The other is that it requires very little modification in the over-all grammar. My analysis entails only that a convention be added which allows certain predicates to be entered in the logical structure of sentences directly in their phonetic forms, and that a lexicalization rule be introduced to handle abstract predicates which get stranded syntactically by the inability of ideophone predicates to combine morphologically with them. Otherwise, the rules and conventions which generate sentences with ideophones will be the same as those for other sentences of a language.

These simple grammatical devices provide a framework for dealing with ideophones, within which an investigator is free to explore what is the most fascinating aspect of ideophones, their acoustic artistry. There can be no doubt that the ideophone inventories of many languages represent a very high level of development of the auditory imagination. As Fortune has commented concerning Shona: "We have in the ideophone an attempt to give artistic form through the medium of sound to experiences which, in other cultures, would stimulate half a dozen different arts".(Fortune 1962:43). This 'verbal art' deserves as much respect and research as those aspects of language which might be more appropriately characterized as 'verbal sciences'.

Footnotes

[1]ɓ is a voiced imploded bilabial stop. Tone has not been marked in any of the examples.

[2]The semantic affinity of ideophones and verbs is discussed in Dunene (1965).

[3]The most usual function of the Bantu neuter extension is to mark a state, and of the applied extension, to mark an action performed on someone's behalf (or against someone). The fact that the meanings differ with ideophone stems is good evidence that ideophones are not members of the category 'verb'.

[4]A third possible environment for certain ideophones is in apposition to an adjective. For example:

Sabona umuthi munye _zwi_.   'We saw only one tree.'
we-saw   tree   one   IDEO(solitary)

[5]The only exception to this that I know of involves _thi_ with the applied extension -_el_-.   That is:

U-ya-m-th-el-a _bobobo_.   'He gives false evidence against him.'
he-ya-him-_thi_-app.   IDEO

In this case, the focus seems to be on the assertion of the action having been harmful to the recipient; that is, on whatever predicate is lexicalized by the suffix -_el_- (but not on -_thi_- per se).

[6]The verb _ukuthi_ appears in a total of six syntactic constructions. _Ukuthi_ may introduce: 1) direct quotations, 2) ideophones, 3) infinitives, 4) subjunctive clauses, 5) participial clauses, 6) present tense 'potential' clauses (cf. Doke 1955:160).

[7]-_the_, the perfect form of -_thi_, is used in constructions involving stative predicates.

[8]-_ke_ indicates 'occasional action'.   It is a member of a set of defective verbs which, in forming compound constructions with major verbs, express some adverb-like notion.

[9] ɬ is a voiceless dental click.

[10]t' is a glottalized t.

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