Syntactic Analyses*  
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By a 'syntactic analysis' I mean a sentence which has within it chunks of lexical material that do not correspond to anything in logical structure of the sentence; rather they must be copied in other derivations under explicable semantic and pragmatic conditions. I will attempt to show that there are some clear cases of constructions that require treatment in terms of analogies, and some suggestive cases -- enough to indicate that analogies are a real phenomenon in English. 

The Andrews Case

Sentence (1) was brought to my attention by Haj Ross (who I had heard it from Avery Andrews).

John invited you'll never guess how many people to his party,  

rews raised the question of how one could account for the underlined noun clause occurring in the middle of the sentence. He had tested that (1) should be derived from the structure underlying (2),

You never guess how many people John invited to his party,  

You never guess how many people John invited to his party,

You never guess how many people John invited to his party,

John invited you'll never guess how many people to you can 

imagine what kind of a party.

though Andrews' suggestion might be made to account for one NP like 

underlined NP in (1), it could never be made to account for more than one such NP. However an indefinite number of such NPs can occur in a single sentence.

John invited you'll never guess how many people to you can imagine what kind of a party.

In most contexts, (1) would have the meaning of (8a), though in certain relatively rare situations, many speakers (perhaps with a little straining) can get it to mean (8b), or something more specific.

(9) John invited a lot of people to you can imagine what kind of a party.

In just those contexts where (1) will mean (8a), (2) will conversationally entail (8a); those rare situations where (1) will mean (8b) are just those in which (2) will conversationally entail (8b); etc.

Similarly, (9) can have any of the meanings of (10), depending on context.

(10) a. John invited a lot of people to a wild party.

b. John invited a lot of people to a dull party.

c. John invited a lot of people to a party where everyone has to dress up as one of the Watergate characters, etc.
in any given context, (11) will conversationally entail exactly what (9) means in that context.

You can imagine what kind of party John invited a lot of people to.

These observations suggest that (1) is a syntactic amalgam such that
(a) the underlined portion of (1) is copied in from a derivation which is just like (2) except that the complement S has been sluiced (for a discussion of sluicing, see [Ross, 1969]);
(b) the initial F-marker of the derivation of (1) will vary with context -- for example, in a context where (1) has the meaning of (8a), the initial F-marker of (1) will be that of (8a).

The general idea is that in any context C, the logical structure of the sentence to be copied in must conversationally entail the logical structure of the sentence into which it is copied. We can state an informal rule to account for such sentences as follows:

(12) For all contexts C, if:

i. \( S_1 \) is an indirect question with \( S_0 \) as its complement S; and

ii. \( S_2 \) is the ith phrase marker in a derivation D whose logical structure is conversationally entailed by the logical structure of \( S_1 \) in context C; and

iii. NP\(_1\) is an NP in \( S_2 \), such that \( S_2 \) minus NP\(_1\) is identical to \( S_0 \); and

iv. \( S_1 \) has the force of an exclamation; then

v. relative to context C, \( S_1 \) minus \( S_0 \) may occur in place of NP\(_1\) in the ith phrase-marker of derivation D.

Example: \( S_1 \) = You'll never guess how many people
\( S_0 \) = John invited to his party
\( S_2 \) = John invited a lot of people to his party
NP\(_1\) = a lot of people

Since (12) places no limit on the number of sluiced indirect questions that can be substituted for NPs, (12) is capable of accounting for sentences like (3) and (4), where there are multiple amalgamations. (12) also has the advantage of reducing the truth conditions for such sentences to truth conditions for other, more basic sentences. It also automatically determines the correct context-class in which such sentences can be used.

Bill Cantrell has suggested what may be a more plausible derivation for the Andrews sentences. He suggests that (1') may be an intermediate stage in the derivation of (1).

(1') John invited a surprising number of people -- you'll never guess how many (people) -- to his party.

First the sentence remnant "you'll never guess how many (people)" is inserted under pretty much the same conditions as those given in (12), with perhaps the additional proviso that the constituent in S, that corresponds to the questioned constituent in \( S_0 \), is modified by the adjective "surprising" or "unexpected" or the equivalent. (1) would then be derived from the structure underlying (1') by the deletion of "a surprising number of people". Cantrell's suggestion amounts to breaking up the substitution rule of (12) into two rules -- an insertion rule and a deletion rule. This has the advantage of being able to account in addition for constructions like (1').

2. Horn's Cases

Larry Horn has suggested to me a class of sentences that are similar to Andrews' cases and that also seem to require treatment as amalgams. Consider (13).

(13) a. John is going to, I think it's Chicago on Saturday.
b. John is going to, is it Chicago on Saturday.
c. John is going to, it is Chicago, isn't it on Saturday.
d. John is going to, I'm sorry to say it's Chicago on Saturday.

As in the Andrews cases, the sentences in (13) contain sentences with a deleted clause functioning in place of NPs. But the deleted portion in (13) is the relative clause of a left sentence, rather than an indirect question complement. As before, there can be more than one per sentence.

(14) John is going to, I think it's Chicago on, I'm pretty sure he said it was Saturday to deliver a paper on Was it morpholexema?

As before, there are constraints on which Ss can occur in place of NPs.

(15) a. *John is going to, I'm sorry it's Chicago on Saturday.
b. *John is going to, God knows it's Chicago on Saturday.
c. *John is going to, you'll never guess it's Chicago on Saturday.
d. *John is going to, it's odd that it's Chicago on Saturday.

And as before, it is conversational entailment in context that determines which underlined NPs can occur.

(16) a. I think it's Chicago that John is going to on Saturday.
b. Is it Chicago that John is going to on Saturday?
c. It is Chicago, isn't it, that John is going to on Saturday.
d. I'm sorry to say that it's Chicago that John is going to on Saturday.

(17) John is going to Chicago on Saturday.
R. John is going to, it looks like Chicago on Saturday.

On first blush one might be tempted to say that the "I think" in (20a) is a parenthetical. Of course, it does not have the right intonation for a parenthetical, and parenthetical intonation cannot be used there since, as Ross observed, there is no niche for parentheticals following a proposition.

(21) "John is going to, I think, Chicago on Saturday.

Moreover, some expressions that can be used in (20) cannot function as parentheticals, and conversely. Compare (20) and (22).

(22) a. John is, I think, going to Chicago on Saturday.
    b. *John is, did he say, going to Chicago on Saturday.
    c. No corresponding parenthetical.
    d. John is, wouldn't you say, going to Chicago on Saturday.
    e. John is, I regret, going to Chicago on Saturday.
    f. No corresponding parenthetical.
    g. No corresponding parenthetical.

(a) and (d) are the only cases that match in (20) and (22).

My best guess at present is that cases like (20) are either derived from the Horn cases by deletion of "it tense + be" or that (19) can be generalized to cover both cases.

Incidentally, Ross has observed (personal communication) that amalgams may be embedded inside one another.

(22 1/2) John is going to marry, I guess I'll have to tell God knows how many people that it's Harriet next Sunday.

I would imagine that such cases are fairly rare, since it would in general be difficult to get the contexts to match up correctly.

Bill Cantrall (personal communication) has made the same suggestion for this construction as he made for the Andrews cases, namely to derive (13a) via insertion and then deletion. The post-insertion but pre-deletion stage would yield (13a').

(13a') John is going to Chicago -- I think it's Chicago -- on Saturday.

Deletion of the first "Chicago" would yield (13a). As before, the suggestion has obvious advantages and I am most receptive to it.

3. Forman's Parentheticals

There is also some evidence that real parentheticals ought to be treated as amalgams. Ross, in his S-lifting paper (Ross, 1973) has,
suggested that parentheticals are to be derived by a rule that lifts a complement. Thus (23b) would be derived from the structure underlying (23a).

(23) a. I think John left.
    b. John left, I think.
    c. John, I think, left.

(23c) would be derived by moving the parenthetical into the post-subject niche.

Given the possibility of amalgams, however, there is another alternative, namely, to derive the parenthetical from another derivation under specified pragmatic conditions. Note that (23a) in appropriate contexts can conversationally entail a hedged assertion of (24).

(24) John left.

(23b and c) are in fact hedged assertions of (24). Thus, for simple cases like (23b and c), one might propose the following rule as an alternative.

(25) For all contexts C, if:
    i. $S_1$ is a sentence with an embedded complement $S_0$; and
    ii. $S_2$ is the ith phrase-marker in a derivation D such that in context C
        either (a) the logical structure of $S_1$ conversationally entails a hedged version of $S_2$,
        or (b) the logical structure of $S_1$ expresses a concession of the propositional content of the logical structure of $S_2$,
        or (c) the logical structure of $S_1$ gives the source of the information asserted in the logical structure of $S_2$; and
    iii. $S_0$ is identical to the propositional content of $S_2$; and
    iv. maybe other conditions; then
    v. relative to context C, $S_1$ minus $S_0$ may occur Chomskyanly adjoined to the right of $S_2$ in the ith phrase-marker of derivation D.

Example: $S_1 = I$ think
     $S_0 = John$ left
     $S_2 = John$ left

There is a bit of evidence favoring (25) over the S-lifting proposal. Ross observed that the following types of sentences provided difficulties for the S-lifting proposal.

(26) a. Is John here, do you think?
    b. Will John leave, do you suppose?

The cases in (26) are automatically accounted for by the amalgam proposal in (25), since the (a) sentences in (27) and (28) each conversationally entail a hedged version of the (b) sentences in just those contexts in which the corresponding sentences in (26) are appropriate.

(27) a. Do you think John is here?
    b. Is John here?

(28) a. Do you suppose John will leave?
    b. Will John leave?

A particularly interesting case supporting an amalgam approach has been brought to my attention by Don Forgan.

(29) a. Will this, I hope, be acceptable?
    b. *Will this, I predict, be acceptable?

(30) a. I hope this will be acceptable. (rising intonation)
    b. Will this be acceptable?
    c. I predict that this will be acceptable.

(30a) can conversationally entail (30b), in a context where one is seeking confirmation, which is exactly the context required by (29a). Thus (29a) is predicted by (25), but not by S-lifting. Since (30c) cannot conversationally entail (30b), (25) predicts the illformedness of (29b).

These cases fall under (25 ii a). (25 ii b) is meant to account for concessive cases like the following (as pointed out by Jerry Morgan).

(31) a. Max, I realize, has little chance of being elected Pope.
    b. John, I admit, cannot play the tuba well.
    c. Sammy, I must concede, makes very good bagels.

Thus, "I realize that Max has little chance of being elected Pope" constitutes a concession of the unlikelihood that Max will be elected Pope. (25 ii c), proposed by Nick Wojcik, is meant to account for such examples of Ross' as (32).

(32) a. John Mitchell, Zeigler announced, has been appointed *under* to Afghanistan.
b. Kangaroos, the Times reported, are decreasing in numbers.

In (32a), the source of the information is Ziegler’s announcement; in (32b) it is the Times’ report; in (32c) the speaker got his information from Seymour.

By deriving sentences with parentheticals via a rule like (25) we can automatically account for certain observations made by Tanya Reinhart (1973). Reinhart observes that such sentences do not have the scope ambiguities that one would expect given an S-lifting solution,

(33) a. John thinks Bill is taller than he is.

b. Bill, John thinks, is taller than he is.

(34) a. Oedipus believed that his mother wasn’t his mother.

b. His mother wasn’t his mother, Oedipus believed.

The (a) sentences have both a wide and narrow scope reading, the narrow scope reading being contradictory. The (b) sentences have only the contradictory narrow-scope reading. Since S-lifting claims that the (b) sentences are derived from the (a) sentences, that solution would all things being equal, predict that (b) sentences should have the same scope ambiguities as the (a) sentences. The S-lifting proposal might be saved by adding an additional global condition that the S into which the lowering takes place retains its status as an embedded complement in surface structure. Such a condition might describe the facts in (33) and (34) – but the solution in (25) would predict them automatically – and thus explain them.

Perhaps the most unsatisfactory aspect of (25) is the three disjunctive conditions in (25 ii). It would be nice if these could be stated as one uniform condition. One possible proposal along these lines might be based on the observation (which seems true) that all three conditions have the effect of relieving the speaker of part of the responsibility for the speech act. If a condition of this sort could be stated more precisely, then perhaps it could replace the disjunction in (25 ii). Unfortunately, there is some evidence that at least superficially seems to suggest that the conditions in (25 ii) cannot be collapsed into a single condition. Consider the following examples.

(35) a. John left, I think.

b. John left, or at least I think he did.

(36) a. The tapes will be turned over to the Committee, the White House announced.

b. The tapes will be turned over to the Committee, or at least the White House announced that they would.

Larry Horn (personal communication) has suggested that the (a) sentences can be derived from the structure underlying the (b) sentences, that is, there would be no “or at least...” stage in the derivations of the parentheticals of (35a) and (36a). But it would appear that not all parentheticals can be derived via such an intermediate stage.

(37) a. *John left, or at least I realize that he did.

b. *John left, or at least I concede that he did.

c. *Will this be acceptable, or at least I hope it will.

The meaning associated with the or-at-least construction seems to be that associated with parentheticals on questions or with concessive parentheticals. Thus it would appear that, if some parentheticals are derived via an intermediate or-at-least stage, others cannot be, and therefore there could be no uniform condition on the derivation of parentheticals. Obviously more investigation needs to be done on the relationship between the (a) and (b) sentences in (35) and (36).

4. Performative Predicate Modifiers

Among the arguments usually given for the so-called ‘performative hypothesis’ is one based on the fact that there are adverbial clauses that modify the understood performative predicate.

(38) a. Take out the garbage, because I’m too lazy.

b. Since it is a matter of national security, where are the secret files?

c. Since the President paid I should tell you, you are being investigated by a grand jury.

In (38a) the subordinate clause gives the reason for the request, in (38b) it gives the reason for asking the question, and in (38c) it gives the reason for making the statement. Such subordinate clauses are relatively well-behaved in a theory with a performative analysis. However, Alice Davison (1973) has observed that there are other subordinate clauses that are not so well-behaved semantically.

(39) a. Joan is married, since she has a wedding ring on.

b. It’s raining, because my feet are wet.

c. Since the President said you were to take orders from me, get me the missing tapes.

d. Since you were there that day, what did the President say?

In (39a) the reason-clause does not give the reason why the speaker made the statement, but rather the reason he gives for believing the statement made in the main clause. The same is true in (39b). The fact that the speaker’s feet are wet is not the reason why he says that it’s raining, but only the reason he gives for believing that it’s raining. In (39c), the reason-clause does not specify the reason for
having the order, but only the reason why the speaker has authority to give it. In (39d), the reason-clause does not give the reason for asking the question, but rather the reason why the speaker believes the hearer has the knowledge to answer it. As Davidson observes, there is a general principle governing such cases, namely, that the reason-clause gives the reason why one of the felicity conditions for a speech act holds. In (39a and b), the speaker’s belief is required for a felicitous statement, in (39e) the speaker’s authority is required for a felicitous order, and in (39d), the speaker’s belief that the hearer can answer the question is required for a felicitous question.

There is also a class of cases where the reason-clause gives a reason not why a felicity condition holds, but rather why the hearer should make the ‘called-for response’, that is, why he should do what the speaker is trying to get him to do. The notion ‘called-for response’ is implicit in an observation of R. Lakoff’s noted by Ross (1971) and discussed in G. Lakoff (1972), and in the essential conditions given by Searle (1969). Various performative predicates are paired via meaning postulates with predicates that characterize a called-for response. For example, when a speaker gives an order, he is trying to get the hearer to obey it; the called-for response is obedience. When a speaker asks a question, he is trying to get the hearer to answer it; answering is the called-for response. When the speaker makes an assertion, he is trying to get the hearer to believe it; believing is the called-for response. And so on. In the following cases, the reason-clause specifies the reason why the hearer is to make the called-for response.

39') a. Get out of here, because Sam’ll kill you if you don’t.
   b. Where is Harry hiding out, because you don’t tell me, the cops will get to him first.
   c. You are going to get fired, because your boss’ secretary says she typed the dismissal notice.

The reason-clauses give reasons for obeying the order in (39a), answering the question in (39b), and believing the assertion in (39c).

To account for such facts we cannot simply have the reason-clauses modifying the performative predicates, since that would give the wrong meanings; for example, if the reason-clause in (39a) modified TATE then it would give the reason for stating. The above facts suggest, rather, a solution in the direction of amalgams. As a first, informal approximation, I suggest the following rule.

40) For all contexts C, if:
   i. S0 is modified by the reason-clause S1; and
   ii. S2 is the ith phrase-marker in a derivation D such that
       the logical structure of S0 is either a felicity condition
       for, or a called-for response to, the logical structure of
       S2 in context C; then

   iii. relative to context C, S1 may occur as a modifier of S2 in
       the ith phrase-marker of derivation D.

Example: S0 = I have authority to give you orders
           S1 = the president said you were to take orders from me
           S2 = get me the missing tapes

But though (40) will handle the cases in (39) and (39'), there are other cases of a similar sort that such a rule should be able to cover, but which cannot be handled by (40).

41) a. Since Harry is dry, how could anyone have splashed water on him?
   b. Since the president said you were to take orders from me, I would appreciate it if you would supply me with the missing tapes.
   c. Since you were there that day, it would be useful if you were to tell us what the president said.

41') a. Will you get out of here, because I just found out that Sam will kill you if you don’t.
   b. I’d like to know where Sam is hiding out because, if you don’t tell me, the cops will get to him first.
   c. I fear that you are going to get fired, because your boss’ secretary says she typed the dismissal notice.

The sentences of (41) and (41') are like those of (39) and (39'), but with one additional wrinkle: the reason-clause does not express a reason for a felicity condition for, or a called-for response to, the logical structure of the sentence in the main clause itself, but rather it expresses a reason for a felicity condition for, or a called-for response to, a logical structure which is conversationally entailed by the logical structure of the main clause. For example, take (41b). "The president said you were to take orders from me" is not a felicity condition for my expression of potential appreciation ("I would appreciate it if you would supply me with the missing tapes"), but rather for the order conveyed by that expression of appreciation ("Get me the missing tapes"). Thus, (41b) works essentially like (39c) except that whereas in (39c) the order is literally expressed in the sentence itself, in (41b) it is conveyed indirectly by the main clause.

For another example, compare (39a) and (41a). In (39a), "Sam will kill you if you don’t (get out of here)" is a reason why the hearer should obey the directive to get out. In (41a), "Will you get out of here?" conveys the directive to get out, and the because-clause gives the reason why that conveyed directive should be obeyed.
This indicates that (40) should be revised as follows.

42) For all contexts C, if:
   i. the sentence consisting of \( S_0 \) modified by the reason-clause \( S_1 \) is true in C; and
   ii. \( S_3 \) in the \( i \)th phrase-marker in a derivation \( D \) such that the logical structure of \( S_0 \) is a felicity condition for, or a called-for response to, a logical structure \( S_3 \) which is conversationally entailed by the logical structure of \( S_2 \) in context \( C \); then
   iii. relative to context \( C \), \( S_1 \) may occur as a reason-clause modifier of \( S_2 \) in the \( i \)th phrase-marker of derivation \( D \).

Example: \( S_0 \) = I have the authority to give you orders
         \( S_1 \) = the president said you were to take orders from me
         \( S_2 \) = I would appreciate it if you would supply me with the missing tapes
         \( S_3 \) = I order you to get me the missing tapes

The above example shows what is going on in (41b). Condition (42 i) requires the truth in context of "I have the authority to give you orders because the president says that you are to take orders from me," which gives the reason why the order \( S_2 \) is felicitous. \( S_3 \) conveys the order \( S_2 \). What principle (42) says is that \( S_2 \) can be modified in surface structure by the reason clause that gives the reason why the order conveyed by \( S_2 \) is felicitous. This is what is going on in (41b).

Though I have only reported in this section on because-constructions that require treatment as amalgams, I should like to note for the record that there are similar cases with if and unless. My favorite is reported to me by Peg Griffin. In the movie "Lovers and Other Trangers," the hero and heroine are having an affair in which they jet on Wednesdays. At one point, the heroine says to the hero: "It's Wednesday, unless you're tired."

Liberman's because-cases

Mark Liberman (1973) observed sentences like the following:

43) a. The Knicks are going to win, because the Celtics can't handle Frazier.
   b. The Knicks are going to win, because it looks like the Celtics can't handle Frazier.
   c. The Knicks are going to win, because it's obvious that the Celtics can't handle Frazier.

In each of these cases, a reason is being given for the speaker's belief of the assertion he makes in the main clause. Such appositive because-clauses, at least the simple ones like (43a), are formed by the rule in (42) above. However, the cases in (43b and c) cannot be handled by (42), since the reason-clause, when read literally, does not give the reason for some felicity condition on the speech act conveyed by the main clause. For example, in (43c) it is not the obviousness of the Celtics inability to handle Frazier that leads the speaker to believe that the Knicks are going to win -- it is the Celtics inability itself. The reason given in (43c) for the speaker's belief in the Knicks's ultimate victory is the same as the reason given in (43a). The difference is that in (43c) the speaker is also asserting the obviousness of the reason clause.

Liberman proposed to handle such cases by suggesting that predicates like "look like" and "be obvious" were "transparent" in appositive because-clauses. In other words, because skips over them and takes as its scope the embedded \( S_2 \). But such a proposal will not work for the following cases.

44) a. The Knicks are going to win, because I can't imagine anyone on the Celtics handling Frazier.
   b. The Knicks are going to win, because I can't imagine who on the Celtics could possibly handle Frazier.
   c. The Knicks are going to win, because who on the Celtics can possibly handle Frazier?

In these cases, there is no simple embedded sentence that could be the scope of because. Indeed, (44c) has a question of all things, inside the because-clause. Why should questions turn up inside appositional because-clauses? Moreover, how can one account for what these sentences mean? (44c), for instance, means something like (45).

45) The Knicks are going to win, because nobody on the Celts can possibly handle Frazier.

There is a single general principle that handles both the cases of (43) and (44). In both sets of examples, the sentence in the because-clause conversationally entails the understood reason. For example, an assertion of "It's obvious that the Celtics can't handle Frazier" conversationally entails an assertion of "The Celtics can't handle Frazier." (cf. (43c)) And the question "Who on the Celtics can possibly handle Frazier?" can be used 'rhetorically' to convey the assertion that "Nobody on the Celts can possibly handle Frazier."

The same phenomenon occurs where the because-clause gives a reason for a called-for response. Look back to sentences (39') and compare them with (41').

41') a. Get out of here, because I just found out that Sam will kill you if you don't.
b. Where is Sam hiding out, because do you want the cops to get to him first?

c. You're going to get fired, because do you think your boss would have his secretary type a dismissal notice just for fun?

(39a), "Sam will kill you if you don't (get out of here)" is a reason why the hearer should obey the directive to get out. In (41a), just found out that Sam will kill you if you don't (get out of here)" conveys the information "Sam will kill you if you don't (get out of here)". The latter is a reason for obeying the directive to get out: the former, the speaker's just having found out the information, not such a reason. Thus it is what is indirectly conveyed by the cause-clause that gives the reason why the hearer should obey the directive.

This would seem to suggest that the sentences in (41a), (43) and (44) are really amalgams formed by an extended version of (42), to be stated about as follows.

6. For all contexts C, if:

1. the sentence consisting of S_0 modified by the reason-clause S_1 is true in C; and

2. S_1 conversationally entails an assertion of S_1 in C; and

3. S_2 is the i-th phrase-marker in a derivation D such that the logical structure of S_2 is a futility condition for, or a called-for response to, a logical structure S_3 which is conversationally entailed by the logical structure of S_2 in context C; then

4. relative to context C, S_4 may occur as a reason-clause modifier of S_2 in the i-th phrase-marker of derivation D,

will allow for sentences even more complex than those given above, sentences where there are indirect speech acts both in the main clause and in the because-clause. Consider the following example.

(7) I'm afraid the Knicks are going to win, because who on the Celts can possibly handle Frazier?

Let us consider how (46) accounts for (47).

S_0 = I believe that the Knicks are going to win
S_1 = no one on the Celts can possibly handle Frazier
S_2 = I'm afraid the Knicks are going to win
S_3 = The Knicks are going to win
S_4 = who on the Celts can possibly handle Frazier?

Condition (46:1) requires that (40) be true in context C.

(40) I believe that the Knicks are going to win because no one on the Celts can possibly handle Frazier.

Condition (46:2) requires that S_1 conversationally entail an assertion on the part of the speaker of S_2 which it does. Condition (46:3) requires that S_2 be a felicity condition for the logical structure of S_3. The latter would include the performativa predicate of asserting; I believe the Knicks are going to win" is a felicity condition for "assert that the Knicks are going to win". Condition (46:4) also requires that S_3 conversationally entail S_4, when it does in the appropriate contexts. Thus, (46) allows the formation of (48), which is of the form "P because S_1". What Liberman calls an "appositional" because-clause is simply a because-clause formed under the conditions of (46).

6. Liberman's Or-cases

In G. Lakoff (1966) it was suggested that sentences of the form (49a) were to be derived from structures underlying sentences of the form (49b).

(49a) a. Get out, or I'll slug you.
   b. If you don't get out, I'll slug you.

Liberman (1973) found examples that show that the or-cases are more complex than had previously been thought. Liberman observed cases like (50).

(50a) a. You'd better get out, or somebody'll slug you.
   b. I think you'd better get out, or I'm afraid I'll have to throw you out.

The or's in these sentences are not simple logical or's, nor can they be derived from corresponding if-clauses. Yet semantically they seem to be functioning like the or-construction of (49a).

(51a) Get out, or do I have to slug you?

(51b), with the imperative in the first clause, seems to be a case of the same construction as (49a). But there is no if-construction corresponding to (51); moreover, there is a question in the second clause. In fact, such constructions exist with questions in both clauses.

(52a) Do you want to leave now or do you want to be thrown out?
   b. Can you leave now or would you like me to call the cops?
   c. Will you eat your kreplach or do I have to give you a smack?
Liberman case close to suggesting, many (if not most) of such cases sentences of the form "S₁, OR S₂," are understood as the corresponding sentences of the form "S₁, BECAUSE IF NOT S₁, THEN S₂," with certain provisos. Consider first the relatively easy cases.

1) a. You'd better leave, or somebody'll slug you.
   b. You'd better leave, because if you don't leave, somebody'll slug you.

2) a. I think you'd better get out, or I'm afraid I'll have to throw you out.
   b. I think you'd better get out, because if you don't (get out), I'm afraid I'll have to throw you out.

3) a. It's a good thing that ants aren't smart, or they would rule the world.
   b. It's a good thing that ants aren't smart, because if they were smart, they would rule the world.

Because-constructions in (53b) and (54b) are like those discussed above. The main clause contains an indirect speech act conveying a directive. In (53b) the because-clause directly gives the reason why the hearer should carry out the directive. In (54b), the because-clause contains an indirect speech act which conveys a reason why the hearer should carry out the directive. The because-clause in (55b) is straightforward. There are also cases where the or has the meaning of a because-clause that gives the reason why some felicity condition of the speech act in the main clause holds.

56) a. John must be dead, or he would have contacted us by now.
   b. John must be dead, because if he weren't, he would have contacted us by now.

The main clause hedges that John is dead, and the because-clause gives the reason why the speaker believes that assertion. Liberman suggests that many of such or-clauses should be derived transformationally from more remote because-constructions of the sort illustrated here. Such a derivation would account not only for most aspects of the meanings of such or-sentences, and for the occurrence of indirect speech acts in them, but also for such pragmatic details as the occurrences of would in (55a) and (56a), which would follow from its occurrence in the then-clause following a hypothetical if-clause. If such or-sentences are derived from because-constructions of the sort discussed above, then they are syntactic amalgams, since the because-constructions are.

However, some complexities involved with deriving such or-constructions from because-if-not constructions ought to be noted. Certain questions pose a problem for any simple-minded analysis.

57) a. Get out, or do I have to call the cops?

b. "Get out, because if you don't (get out), do I have to call the cops?"

c. Get out, because if you don't (get out), I'll call the cops.
(58) a. Why don't you call your mother, or she'll be very unhappy.
   b. Why don't you call your mother, because if you don't, she'll be very unhappy.
   c. Call your mother, because if you don't, she'll be very unhappy.

(57a) would present problems for any simple-minded transformational derivation of "S₁, OR S₂" from "S₁, BECAUSE IF NOT S₁, THEN S₂," since (57a) would presumably be derived from (57b), but (57b) is ill-formed. The problem is that the if-clause cannot occur with the indirect speech act question "Do I have to call the cops?" conveying a threat to call the cops. Of course, it does occur with the threat in direct speech act form, as (57c) shows. In other words, the problem is that the if-clause does not go with the question S₁, but rather with the nonquestion (e.g., the threat) conveyed by S₂.

There is a similar problem in (58). Again, on the assumption that "S₁, OR S₂," were to be derived from something like "S₁, BECAUSE IF NOT S₁, THEN S₂," we would expect the source of (58a) to be the version of (58b) with or rather than the version with don't; since S₁ in (58a) is negative, we would expect the if-clause of the source to be positive (or a double negative). But the reverse is the case, and the reason is clear: "Why don't you call your mother?", though itself negative, conveys a positive request to call your mother. The if-clause must be a negative not of the actual S₁ (a negative question), but of what S₁ conveys (a positive directive). As in the case of (57) the if-clause must match up not with the actual S₁ and S₂, but with what is conveyed by them.

These observations suggest that no transformational solution deriving "S₁, OR S₂," directly from a more remote appositional because-clause will work. Instead, it would appear that the or-sentences will have to be derived directly by amalgamation, in much the same way as the appositional because-clauses are, but under somewhat different conditions. (59) is an approximation to such a rule.

(59) For all contexts C, if:

1. the sentence consisting of S₀ modified by the reason clause IF NOT S₀, THEN S₁ is true in C; and

2. S₀ conversationally entails an assertion of S₁ in C; and

3. S₁ is the ith phrase-marker in a derivation D such that a logical structure of S₀ is a felicity condition for, or a called-for response to, a logical structure S₁ which is:
conversationally entailed by the logical structure of $S_2$
in context C; then

iv. relative to C, $\phi$ may occur disjoined to the right of $P_3$
in the 1st phrase- marker of derivation $P$.

There is some additional possible motivation for deriving the
sentences directly by amalgamation instead of by transformation
from appositional because-clauses, namely, the fact that appositional
because-clauses are more restricted in their distributions than argu-
ment e-constuctions.

a. The judge ordered her to shut up, or he threatened to throw
her out of the courtroom.

b. The judge ordered her to shut up, because if she didn’t,
he threatened to throw her out of the courtroom.

Appositional because-clauses are pretty bad to terrible with reported
speech acts, while the or-constuction is uniformly pretty good to
excellent. Since transformational solutions rule out the situation
here the input construction has a more limited distribution than the
output construction, it would seem that a transformational solution
is inappropriate here. The rules given in (66) and (59) are vacuous so
whether they are to apply in the case of reported speech acts.

So adequate versions of those rules will have to limit (66) so that
it does not apply in such cases, but leave (59) free to apply in such
situations.

Tag Questions

Within transformational grammar, tag questions were assumed to
be introduced by transformations that copied them onto the end of the
sentences. Such a treatment has numerous syntactic problems, as
discussed in Andres et al. (1973). I would like to suggest that tag
questions are really reduced forms of real questions, which have been
maligned onto the end of the sentence. Although the pragmatics of
ag questions has turned to be so fearfully complex that I have not
been able to get very far with figuring out the pragmatic conditions
for such an amalgamation rule, there is a bit of evidence that seems
to weight in favor of a treatment via amalgamation. Consider (61).

61) You couldn’t open the door, could you?

In a transformational approach, (61) would have the same underlying
structure as “You couldn’t open the door.” Although (61) can be used
to confirm such a proposition, it also has another use which cannot
even approach an explanation using a transformational approach,
namely, (61) can be a request to open the door. Why should this be
possible? Note that the question “Could you open the door?” can convey
a request to open the door. This suggests that it is no accident that
(61) can convey a request. Nor is it an accident that it is a polite
request in which there is a ‘conventional’ (in the sense of R. Lakoff
(1973)) assumption that the speaker couldn’t open the door. In (61),
the tag makes the request it would normally make and the main clause
expresses the ‘conventional’ assumption. If the tag is just copied
on, as in the transformational approach, that is, if it is not in any
sense a real question, then there is no reason why (61) should have
the meaning it does. If, on the other hand, (61) is an amalgam of a
declarative and a real question, it is not at all surprising that the
meaning of the question and the meaning of the declarative both figure
in the meaning of the amalgam.

Another bit of evidence has to do with the particle now (not the
time adverb now!) as in (62).

62) a. Now I wouldn’t hit you.
    b. I wouldn’t hit you now.
    c. Now I wouldn’t hit you now.
    d. If now wouldn’t hit you.
    e. If wouldn’t hit you.
    f. If I wouldn’t hit you now.

The particle now may occur at the beginning or at the end of a
sentence or both, but not in general in the middle. Now consider
sentences like (63).

63) a. I wouldn’t hit you now, would I?
    b. I wouldn’t hit you, now would I?
    c. I wouldn’t hit you now, now would I?
    d. Now I wouldn’t hit you now, now would I?
    e. I wouldn’t hit you now, now would I now?
    f. Now I wouldn’t hit you now, now would I now?

If tags are derived by amalgamation from full questions which have
sentence status of their own in other derivations that they are copied
in from, then the facts in (63) follow naturally — the now’s can
occur at either the beginning or the end or both of both the declarative
sentence and the tag. On the transformational treatment, where
tags are just strings of morphemes and do not have sentence status at
all, the occurrence of not only one but two now’s in mid-sentence
would be an anomaly to say the least, as would the occurrence of four now’s
in a single sentence.

Negative contraction provides still another bit of evidence that
tags are reduced forms of full sentences.

64) a. Has Figeister not committed a felony?
    b. Haan’t Figeister committed a felony?
5. a. Figmeister has committed a felony, has he not?
   b. Figmeister has committed a felony, hasn’t he?

   Normal questions like (69), the position of the negative (before or
   after the subject) depends upon whether there is contraction. If
   contraction takes place, the negative appears before the subject with
   an auxiliary that it has contracted onto. Otherwise it appears after
   the subject. Tag questions show exactly the same distribution of
   negatives v-ia-via their subjects, as (65) indicates. If tags are
   rived via amalgamation from full questions, this is just what would
   expected and no additional rules would have to be stated. But if
   are copied onto the end of the sentence as a string of morphemes
   a transformation and have no independent status as questions, then
   is hard to see how negatives could be copied into the right
   ace at all, much less how their distribution could be accounted for
   terms of the normal distribution of contracted and uncontracted
   negatives in questions.

   Despite the enormous and yet unanalyzed pragmatic complexities
   tag questions, it is clear that certain of the phenomena that occur
   the cases of amalgamation discussed above also occur in certain
   cases of tag questions. Consider, for example, cases like those

6. a. The Giants won’t win, will they?
   b. I guess the Giants won’t win, will they?/don’t I?
   c. I don’t suppose the Giants will win, will they?/do I?
   d. I don’t think the Giants will win, will they?/do I?
   e. I don’t believe the Giants will win, will they?/do I?

   She observes, the tag indicates that the assertion made in the main
   clause is hedged, and it functions to ask for confirmation. The tag
   agrees with the assertion conveyed — in subject and in auxiliary, and
   takes the opposite of the assertion’s negative polarity. In each of
   the sentences of (66), the assertion indirectly conveyed is "the
   Giants won’t win" and the tag agrees with it. As in the case of or
   construction, where the negative of the if-clause had to be identical
   to what was conveyed by S, no here too the negative of the tag
   question must be identical to what is conveyed by the main clause.

   Such bits of evidence seem to indicate that tag-question
   constructions, when properly understood, will also turn out to be
   amalgams.

   Implications

   The notion of 'the logical structure of a sentence' appears to be
   challenged substantially by the phenomena of amalgams. Whereas before
   we could, within generative semantics, speak of the logical structure
   of a sentence, now that seems impossible, since there will be more than
   one logical structure associated with any sentence formed by
   amalgamation, but it may still be possible to designate one of those
   logical structures as the principal logical structure, the one on
   which the truth conditions for the sentence depend. The principal
   logical structure would be the initial phrase-marker of the derivation
   into which the copying from other derivations is done. The other
   related logical structures would account for other 'pragmatic' aspects
   of the meaning of the sentence. At this stage, such a move seems
   possible, but further research may indicate that it is untenable.

   Incidentally, the idea that the pragmatic aspects of meaning
   would not be part of the logical structure is by no means new.
   Similar proposals are needed to account for the meaning of particles
   such as too, say, huh, etc. and for the pragmatic conditions
   associated with certain rules of grammar, such as raising.

67. a. John is a Republican and Bill is a crook;
   b. John is a Republican and Bill is a crook too,

68. a. Where are you going?
   b. Say, where are you going?
   c. Where are you going, huh?

69. a. It has just now struck me that my wife has been dead two
   years tomorrow.
   b. My wife has just now struck me as having been dead two years
   tomorrow.

   Such cases have been discussed by G. Lakoff (1971), James (1973)
   and Postal (1974). In such cases there are meaning differences that
   presumably could not be reasonably expressed in the logical structure
   of the sentence. In each case, there would be a 'pragmatic'
   assumption, expressed by another logical structure, and related to the
   sentence transderivationally. This is similar to what happens in the
   case of amalgams, except that in amalgams actual portions of another
   derivation are copied in. Thus, amalgam constructions of the sort we
   have looked at may actually provide no more problems for the notion of
   'logical structure' than do particles and pragmatic conditions on
   transformations.

   Given that certain rules of amalgamation are necessary, the
   theory of grammar will have to be extended slightly to allow for them.
   There are already transderivational rules that insert constants,
   delete constants, delete under identity, and change grammatical
   relations. All we need to do now is to allow transderivational
   copying rules as well. From that perspective the changes are relatively
   minor. However, it is conceivable that such a minor change may lead
   to a major change in our conception of the theory of grammar. So far
   we have been looking at things conservatively and asking what evidence
   is there in favor of amalgamation rules — what cases are they
   absolutely required for? But now that we know that some are needed,
e can ask a different question, namely, are there other constructions that could be handled by means of smallness, even though they don’t have to be. It is my present opinion that by using formal semantic techniques developed by Lambi Karttunen for dealing with embedded pragmatic presuppositions, it will be possible to treat relative clauses, complements, and conjunctions by rules of amalgamation. The reason I need this is that I am not at all sure that the semantic and pragmatic conditions really can be worked out with Karttunen’s apparatus. But if this is possible, there could be a version of generative semantics in which the notion of logical structure is defined at all, would be radically changed. The set of logical structures would then be simple by consisting of predicates and arguments with no embeddings at all. All embedding could be done by amalgamation under semantic and pragmatic conditions. Such a theory should have a somewhat similar ring to it. In some ways, it is reminiscent of the Syntactic Structures theory, with logical structures as kernel sentences and amalgamation rules as double-base transformations. There is, of course, a huge difference.

Transformations in the Syntactic Structures theory were independent of meaning. Amalgamation rules have at their heart semantic and pragmatic conditions. Similarly, kernel sentences had no modal-theoretical interpretations, while logical structures did. Such a theory is also reminiscent in some ways of Montague grammar, in which complex constituents are built up from simpler constituents under specific semantic conditions. Again there are important differences.

I should make it clear that I am not suggesting such a theory as being correct. I have no substantive evidence one way or the other. All that I have claimed is that rules of amalgamation are necessary. Given them, the question arises as to how far can and should be pushed. And anyone who tends toward conservatism in his theorizing must confront a dilemma: Which is more conservative: sticking as close as possible to generative semantics or moving toward a semantically lean Syntactic Structures theory? Or even perhaps moving towards a nondirectional theory of the sort proposed by Jacobson (1974), in which the distinction between transderivational and transformational rules is lost — somewhat reminiscent of Harris’ transformational grammar.

References


