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ALTERNATIVES

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I'd like to begin by assuming that "presupposition" is a coherent notion which accurately picks out a natural class of real phenomena. We should keep in mind that this assumption might be wrong on all counts. In (1) I give a few examples of what various writers have claimed to be presuppositional relations:

(1)a The present King of France is bald.
a' There is now one and only one King of France.
b John is sorry that he went to graduate school.
b' John went to graduate school.
c Albert has stopped beating his wife.
c' Albert used to beat his wife.
d It's the butler who shot Sir Edward.
d' Someone shot Sir Edward.
e Alice criticized John for losing his bicycle.
e' Alice judged that John has lost his bicycle.
f As-tu mangé?
f' (speaker of f is on intimate terms with or socially superior to hearer, or etc.)

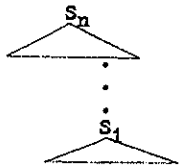
In some cases, e.g. (1)e-e', it has been shown that the phenomena are not real, since the alleged relationship does not hold. It is by no means clear that the factually accurate cases form any natural class--the sort of relationship exemplified in (1)f-f', in particular, seems very different from the cases (1)a-(1)d, and indeed these last four types have been classed together mainly by assumption. So far, no one has succeded in giving an explicit and consistant definition of "presupposition" which accords with the linguistic intuitions that the notion is meant to describe.

For the purposes of investigation, however, suppose we cast aside doubt and embrace the term presupposition as a description of the type of relationship exemplified in cases (1)a-(1)d. Let us furthermore adopt the suggestion of Thomason (1973) that we should restrict the characteristic of presupposing to sentences, and say that what a (sincere and aware) speaker does is to "presume" the presuppositions of the sentences he uses.

Within this framework I will examine some facts about the projection problem for presupposition: given that a sentence S_1, taken in isolation, presupposes A, if S_1 is embedded in a complex sentence S_n, how (if at all) can we predict the relation of S_n to A?

Schematically:

(2)



If $S_1 \gg A$, S_n ? A

The projection problem for presupposition was first investigated, as such, by Langendoen and Savin (1971). They hypothesized that "presuppositions of a subordinate clause do not amalgamate either with presuppositions or assertions of higher clauses; rather they stand as presuppositions of the complex sentence in which they occur." Their investigation is flawed by the fact that the "presuppositions" they examine are mainly of the type (1)e-e'; also they do not consider a wide enough class of embedded environments.

These failings are corrected in the solution proposed by Lauri Karttunen (1973a and b), who proposes a classification of complement-taking verbs into Plugs, Filters, and Holes. I will give a brief summary of his proposal, since my argument requires an understanding of it.

Plugs (verbs of saying, verbs of propositional attitude etc.), as in (3)a-c, metaphorically block up the tree, preventing the presuppositions of their complement from becoming presuppositions of any higher sentence. Holes (factives, modals, aspectuals, etc.), as in (3)a'-c', pass along to the matrix sentence all the presuppositions of their complement, in the manner described by Langendoen and Savin.

(3)a Bill said that John has stopped beating his wife.[1]
b Bill thinks that John has stopped beating his wife.
c Bill ordered John to stop beating his wife.
a' It is odd that John has stopped beating his wife.
b' Bill forced John to stop beating his wife.
c' John is unable to stop beating his wife.

Karttunen's Filters are the connectives and, or, if. As the name suggests, they pass along some presuppositions and block out others, in accordance with certain conditions which are given in a simplified form in (4):

(4) Condition 1: In an S of the form "if A, B" or "A and B"
if $A \gg C$ then $S \gg C$
if $B \gg D$ then $S \gg D$ unless $A \vdash D$

[1]Examples from Karttunen (1973a).

Condition 2: In an S of the form "A or B"
if A>> C then S >> C
if B>> D then S >> D unless $\ulcorner\sim A\urcorner \vdash D$

N.B. "A>> C" means "A presupposes C"
"A⊢C" means "A entails C"
"$\sim$A" means "the negation of A"

Some examples of Karttunian filtering, quoted from Presuppositions of Compound Sentences, are given in (5):

(5)a If baldness is hereditary, then John's children are bald.
a' If John has children, then his children are bald.
b It's possible that John's children are bald.
b' It's possible that baldness is hereditary and John's children are bald.
b''It's possible that John has children and his children are bald.
c Either baldness is not hereditary or John's children are bald.
c' Either John has no children or his children are bald.

Thus (5)a presupposes that John has children since its consequent clause ("John's children are bald") presupposes this, and its antecedent clause ("baldness is hereditary") does not entail it. This is the prediction made by the filtering condition, and sure enough, our intuition is that a speaker using (5)a must presume that John has children[1].

In (5)a', on the other hand, the consequent clause again presupposes that John has children, but in this case the antecedent clause ("John has children") entails this, so that the presupposition is filtered out. So predicts the filtering condition, and again, our intuition concurs that (5)a' does not commit the speaker to presuming that John has children.

The case of and is a little trickier. Observe first that possible is a Hole--thus (5)b presupposes that John has children, just as the embedded sentence does. In (5)b', according to Condition 1 the embedded conjunction presupposes that John has children, since the second conjunct presupposes this and the first conjunct does not entail it. Possible, being a Hole, should pass this presupposition through to (5)b' as a whole, and our intuition is that it does. In (5)b'', Karttunen's filtering condition predicts that the embedded conjunction ("John has children and his children are bald") will not presuppose that John has children, although the second conjunct does so, since the entailment of the first conjunct filters out this presupposition. We cannot tell this from the con-

[1] I rely on intuitions as to what a sincere and aware speaker is committed to, rather than on the presence of truth gaps, since I think that the former intuitions are more direct. Presuppositions and entailments may then be differentiated by adding a modal (e.g. "it is possible that...")

junction itself, just because the first conjunct does (trivially) entail that John has children. But when the whole conjunction is put in the complement of possible, which "passes along" presuppositions but not entailments, we observe that the embedded conjunction must have merely entailed that John has children, rather than presupposing it, since the sentence (5)b'', as a whole, tells us merely that it is possible that John has children.

In the case of or, we observe that (5)c does presuppose that John has children, as predicted by Condition 2: the second clause presupposes this, the negation of the first clause does not entail it, and thus the presupposition passes through the filter and attaches itself to the sentence as a whole. In (5)c', on the other hand, the second clause again presupposes that John has children, but the negation of the first clause entails this, so that the filtering condition traps this presupposition, preventing it from passing through to the higher sentence--which accords with our intuition that we cannot in fact conclude from (5)c' that John has children.

The important thing to notice in all this is that the filtering condition associated with and, Condition 1, screens out presuppositions on the basis of what is entailed by the A clause; the filtering condition associated with or, Condition 2, screens them out on the basis of what is entailed by the negation of the corresponding clause.

Karttunen has given a much more refined and detailed description of these phenomena than I have attempted to reproduce here. In particular, he shows that presuppositions may be filtered out not only by what is logically entailed by the relevent clause, but also by a chain of reasoning which combines that clause with the speaker's background assumptions. I give a simplified version of his theory for ease in exposition--this simplification does not affect the argument I am about to make.

In Karttunen's filtering conditions one point is left unclear. What exactly constitutes a sentence of the form "if A then B," "A and B," "A or B?" Is it syntactic form, logical form, or something else that is crucial in determining which filter, if any, should apply?

It surely cannot be syntactic form. We find that sentences like those in (6), to give a small sample, show the same filtering as if:

(6)a On the assumption that A, it must be the case that B.
b From A it would follow that B.
c Having assumed A, we may conclude that B.
d A, so B.

Likewise we find that sentences of the type given in (7) can exhibit the filtering associated with and:

(7)a A but B.
b A although B.

Unfortunately for the notion that logical form might be at issue, we also find some sentences with the form specified in (7) which exhibit the type of filtering associated with *or*. In fact, there are even some sentences with the connective "and" which show *or*-type filtering. I wish to argue that the factors which differentiate between filtering by Condition 1 and filtering by Condition 2, in these cases, cannot be found in the syntactic form, nor even in the logical form of such a sentence, but must be specified in terms of how that sentence functions in a discourse. In other words, the solution to the projection problem for presupposition is to be found at the level of speech act theory, or the theory of the communicative use of language.

First, consider some examples of "conjunctive" (Condition 1) filtering with "but:"

(8)a (Maybe) John used to beat his wife, but has now stopped doing so.
b (Perhaps) there is a King of France, but perhaps he is bald and thus afraid to show his face in public...
c (Maybe) John still drinks too much, but has now stopped beating his wife.

In (8)a-b, we find exactly the same sort of filtering that we found in (5)b'', where the presupposition of the second clause is blocked by the entailment of the first. If we replace the first clause in such a sentence with one which does not have the appropriate entailment, as in (8)c, the presupposition of the second clause sails on through to become a presupposition of the overall sentence.

On the other hand, we find sentences with *but* in which it is the *negation* of the first clause which blocks the presupposition of the second, as specified by Condition 2:

(9) Perhaps John has no children, but perhaps his children are away on vacation.

The crucial difference between (8) and (9) seems to be as follows--such sentences are normally used to provide an answer to some question which has explicitly or implicitly arisen in a discourse, such as "has John ever been a wife-beater?" "does John have any children?" "how should we account for such-and-such a piece of evidence (e.g. that no children have been seen around John's house since he moved in a week ago)?" In sentences like (8)a-b, both clauses together constitute a possible answer to such a question, and are put forward as supplementary elements in a single speculation. In sentences like (9), each clause independently provides a possible answer, and the speaker is giving two alternative speculations as to what the answer might be.

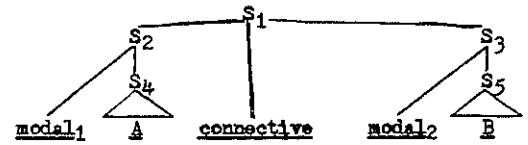
Notice that if we remove the negation from (9), we can still get filtering-out of the presupposition that John has children, this time by Condition 1 instead of Condition 2:

(10) Perhaps John has children, but perhaps his children are away on vacation.

However, sentence (10) is now only one answer, rather than two answers, to the relevent question.

Just what the logical and/or pragmatic structures are, in such cases, is a little tricky to sort out. Consider the structure sketched in (11) as an approximation to what is involved in sentences like (9) and (10):

(11)



Both in sentence (9) and in sentence (10) the logical relationship between the clauses S_2 and S_3, the ones linked by the connective, is conjunction--in each case it is both possible that A and also possible that B. This accords with the assumption that "but" is logically conjunctive, something like a constrastive form of "and." Neither sentence (9) nor sentence (10) specifies any particular logical relationship at all between the clauses represented as S_4 and S_5, the complements of the modal predicates. In sentence (9) the S_4 clause ("John has no children") and the S_5 clause ("John's children are away on vacation") are contraries, i.e. cannot both be true, since the entailment of the first contradicts the presupposition of the second. This will of necessity be true in any case where filtering by Condition 2 takes place. However, the fact the S_4 and S_5 in such cases cannot be conjunctively related does not mean that they are disjunctively related, since the possibility that both are false is not ruled out.

Furthermore, it is not a general condition on the presentation of alternatives that they be contraries--for example, one might speculate about John's apparent tiredness that most likely he has been working hard, but perhaps he is emotionally upset (where either clause presents a reasonable explanation), without ruling out the possibility that he might be both overworked and depressed at once.

Thus the logical structure of sentences like (9) and (10) will be simply a conjunction of modal[1] propositions, from which we can tell nothing about which filtering condition should apply. That decision, I have claimed, must be made on the basis of whether the sentences in the complements of the conjoined modals (S_4 and S_5 in (11)) are thought of as specifying alternative answers, or supplementary elements in a single answer, to a background question. In neither the alternative nor the supplementary case is any parti-

[1] I use "modal" rather loosely here, since it will be necessary to call things like "I think that..." modals in this sense, as will be mentioned later.

cular logical relationship between these complement sentences specified. It will not suffice to let the filtering conditions apply freely wherever they can, since where the syntactic form is unambiguous (i.e. suited only to the alternative or the supplementary case), one of the filters cannot apply.

(12) One alternative is that John is happily married, and another alternative is that his wife keeps him on a tight rein.

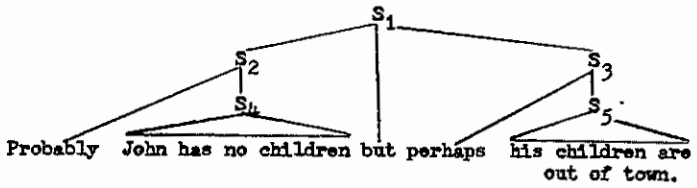
Although the connective in (12) is "and," the use of the word "alternative" (which functions as a modal in the sense used above) makes it clear that alternative answers are being presented. Now, the A clause ("John is happily married") entails that John has a wife[1], and the B clause presupposes this, so the conjunction filter (Condition 1) should block the presupposition. However, our intuition about (12) is that it does commit the speaker to John's having a wife (to make sense of it, think of it as an explanation for some observation such as that John never flirts with available women). Thus we must prevent the Condition 1 filter from applying to (12), although it could apply if we let it. On the other hand, the Condition 2 filter must be allowed to apply to sentences with the same modal environment:

(13) One alternative is that John is a bachelor, and another alternative is that his wife has left him.

Comparable examples could be given the other way around (with a syntactic form that allows only the supplementary interpretation)--the only difference would be that in such a case any attempt to get presuppositional filtering by Condition 2 would result in an anomalous sentence, since contraries can hardly be supplementary elements in one (sane) speculation.

The reader may have noticed a wrinkle in the description I am proposing: in order to get the filtering conditions to work, we must be able to pick out the appropriate A and B clauses from amidst (what I have been calling) their modal environment.

(14)



[1]It does not, I think, presuppose that he has a wife--the negation test is tricky, because of the scope ambiguity, but "it is possible that John is happily married" tells us only that John may have a wife.

Thus in (14), S_5 presupposes that John has children. So does S_3, since perhaps is a hole. S_1 does not, by intuition, so we must arrange for the negation of the A clause to entail that John has children. But if the A clause is "probably John has no children" we seem to be out of luck, since "it is not probable that..." or even "it is probable that not..." will certainly not entail the existance of the children. To get the right result we must pick out S_4 as the A clause.

To solve this problem in general is no trivial matter, as we can see by looking at a few of the other sentence types that can arise (taking for the moment only the alternatives case):

(15)a A and B seem equally plausible.
b It's known to be thought to be likely to turn out that A, although perhaps B.
c It's more likely that B than that A.
d All the evidence points to A; however B cannot be ruled out.
e I believe that A, but perhaps B.
f Mary claims that A, but it's possible that B.

What we need to say is that the alternatives being presented are essentially S_4 and S_5 in (14), or the clauses represented as A and B in (15), while all of the (apparently) higher sentences constitute some sort of adassertional qualification, specifying degree of certainty, source of knowledge etc. for the lower clauses which are the real meat of the matter.

This is not a very elegant proposal, but I think there is quite a lot of independent evidence that we must make such an analysis anyway. To discuss the question in detail would require a seperate paper much longer than this one, but I will list a few suggestive facts:

I. In some cases such adassertional qualifiers are clearly transparent to the force of connectives:

(16) I think that you'd better leave, or I'm afraid that there'll be trouble.

Sentence (16) is not a disjunction of states of mind, but of a course of action and the consequences of doing otherwise.

II. Adassertional predicates[1] are much more transparent to multiple applications of Raising than "real" predicates are:

(17)a ??It's likely to be shown to be muggy tomorrow.
b It's known to be thought to be likely to turn out to be muggy tomorrow.

[1]Or rather, predicates used adassertionally, since any such predicate can also be "real."

III. Adassertional predicates tend to phonologically reduce in cases where they cannot when "real:"

(18)a John is supposed to be a good baseball player. (≠it is said)
b John is spostə be a good baseball player.
c *John is commonly spostə be a good baseball player.
d John is supposed by the police to be hiding in Rome.
e *John is spost/spozd by the police to be hiding in Rome.

IV. Tendencies II and III conspire to make such predicates, in some cases, look very much like verbal auxiliaries in English, and indeed we find languages with a variety of morphologically enshrined verbal "mood" indicators with meanings like "it is said that..." "one may deduce that..." and so forth.

Getting back to the projection problem for presupposition, I will close with an attempt at an explicit definition of my proposal for Alternativeness filtering:

(19) Definition of Alternativeness: To present two or more propositions as alternatives is to implicate that any one of them independently specifies a solution for some problem that has arisen, explicitly or implicitly, in the discourse in question.

(20) Alternativeness Filtering Condition: If the propositions expressed by two or more (appropriately qualified) sentences $\{S_1 \ldots S_n\}$ are presented as alternatives in a speech act U with an assumed context X, then if $S_i \in \{S_1 \ldots S_n\} >> A$, the speaker of U will be conventionally understood to presume A unless there is some $S_j \in \{S_1 \ldots S_n\}$ such that $S_j \cup X$ entails $\sim A$.

I propose (20) merely as a descriptive attempt. I do not wish to suggest that (20) or anything like it is to be enshrined, as such, in Universal Grammar, in the theory of communicative acts, or anywhere else. I have tried to show that the projection problem for presupposition involves aspects of the communicative use of language--if one assumes that presuppositions themselves are creatures of that realm (i.e. conversational rather than conventional implicatures in Grice's terminology), then (20) may become an automatic consequence of more general laws of discourse. If, alternatively, we wish to maintain the position that presuppositions are conventional implicatures (part of sentence meaning rather than part of utterer's meaning), then we seem to be forced to include quite a bit of speech act theory in our grammar, at least something that will do the work of (20), in order to deal with the projection problem.

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