A Syntactic Argument for Negative Transportation

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In his article, 'The position of embedding transformations in a grammar,' Charles Fillmore proposed a rule which he called negative transportation. He proposed it in order to account for the difference between the sentence pair (1a), (1b) and the pair (2a), (2b).

(1a) John thinks that Bill doesn't like Harriet.
(1b) John doesn't think that Bill likes Harriet.
(2a) John claims that Bill doesn't like Harriet.
(2b) John doesn't claim that Bill likes Harriet.

This difference, is that the first two sentences are semantically equivalent to each other; (there could never be a situation in which (1a) was true and (1b) false, or vice versa. But for sentences (2a) and (2b), this is not the case; it is perfectly possible for one to be true and the other false for a given situation. Further, Fillmore showed that for at least one interpretation of (1b), its meaning had to be that of (1a)--the negative not actually negated the verb of the lower sentence;[1] the speaker was not denying that John was thinking, but rather saying that John thought that it was not true that Bill liked Harriet. Fillmore had no syntactic motivation for his rule: the semantic grounds given above were the only ones linguists were aware of for some time, but still the rule seemed plausible, and the only reasonable way to account for the difference between the pair (1a), (1b) and (2a), (2b).

Negative-transportation, granted that it was a rule, was a minor rule[2] that applies to a relatively small number of a subclass of verbs--non factive verbs of mental state, and one or two intransitives. Thus, in English (the class of verbs within which the rule was applicable was the same in each language in which it is known to exist, but the set of verbs within this class that is subject to it varies from language to language), think, believe, suppose, guess, and want are some of the verbs subject to the rule, while, for example, hope, feel, realize, and many others are not. Thus, several things were known about the way the rule had to operate, although there was as yet no proof that such a rule existed.

In fact, it has been claimed by Dwight Bolinger[3]--and I believe with considerable justification--that the semantic evidence for negative-transportation is not as strong as it had seemed. Bolinger suggests that there is a slight difference between the meaning of (1a) and (1b)--not nearly as glaring a difference as between (2a) and (2b), but a difference nonetheless. With the (1b)

type, according to Bolinger, there is greater uncertainty in the speaker's mind about the negation in the lower sentence. So, for example, he says, comparing (3a) and (3b), both containing expect, a verb subject to this rule:

(3a) I expect it not to happen.
(3b) I don't expect it to happen.

The second, to me, signifies, "I rather believe it won't happen." The negative affects the main verb. The negation is milder. If Bolinger's claim is true (and it seems to me that it must be true in part at least), then positing the existence of a rule of negative transportation on the basis of semantic evidence alone becomes even shakier and more unsatisfactory than ever.

The one serious piece of syntactic evidence that I know of for this rule was suggested by Masaru Kajita[4] on the basis of facts true in some dialects of English. In these dialects (4a) and (4b) are grammatical, as is (4d), but (4c) is not.

(4a) I thought John wouldn't leave until tomorrow.
(4b) I didn't think John would leave until tomorrow.
(4c) I said John wouldn't leave until tomorrow.
(4d) *I didn't say John would leave until tomorrow.

Kajita's claim was that the grammaticality of these sentences--if it was as indicated--could be explained by making a number of assumptions.

First (a point first noted by Klima[5]), until occurs only in a very restricted class of sentences: either those extending over a broad time-span, as in (5a), or in sentences containing negatives (5b), and in no other types.

Hence the ungrammaticality of (5c).

(5a) The guests arrived until 5:00.
(5b) John didn't arrive until 5:00.
(5c) *John arrived until 5:00.

It has been suggested that the class of verbs which can precede until is actually the class of statives or verbs of duration of time, of which the abstract verb of negation whose superficial form is not is one.

It has further been suggested that the negated verb must be the one directly above until in the underlying structure if the sentence is to be grammatical. Thus, (4a) and (4c) are clearly grammatical for that reason; (4d) must be ungrammatical for the same reason. Therefore, the reason (4b) is grammatical is that in the underlying structure the negative was in the lower sentence, so that until could be used.

This would be a persuasive syntactic argument, but for two problems. The first is that, though many speakers do in fact find (4b) grammatical, equally as many do not. Since this is so, it calls the whole

argument into question, though it does not discredit it, just as Bolinger's claim weakens but does not discredit the purely semantic justification of negative-transportation.

There is a second serious difficulty. Although (4b) is grammatical for many speakers, none to my knowledge accept sentences like those of (6a)-(6c), but given Kajita's claim, these should be equally as grammatical as (4b).

(6a) *I didn't ever think that John would leave until tomorrow.

(6b) *I never thought that John would leave until tomorrow.

(6c) *At no time did I think that John would leave until tomorrow.

There should be one interpretation of these sentences in which the negation is introduced from the lower sentence, though the indefinite modifies the upper sentence. With other negated indefinites, these sentences are acceptable to those people who find (4b) good.

(7a) No one thought that John would leave until tomorrow.

(7b) It wasn't thought by anyone that John would leave until tomorrow.

It is not clear why the sentences (6a)-(6b) are so bad. But whatever the reason, they cast additional doubt on Kajita's argument.

There was, then, neither strong semantic nor strong syntactic proof of the existence of this rule. Recently, however, certain facts have come to light that appear to provide fairly conclusive evidence that this rule must exist.

The argument revolves around the formation of tag questions. Tag questions have been discussed, in particular by Klima,[6] and their general behavior is well-known. So, if a statement is positive, the tag-question is formed by affixing to it the corresponding negative sentence, and vice versa.

(12a) John has left, hasn't he?

(12b) John hasn't left, has he?

while questions which match the main sentence in negativity are either ungrammatical or quite different in meaning, generally sarcastic.

(13a) (So) John has left, has he?

(13b) *John hasn't left, hasn't he?

It has been assumed that tag-questions are formed from the simple declarative, though unlike declaratives, they share some of the properties of simple questions. Like simple questions, they are subject to certain constraints: certain types of sentences do not occur either as tag questions or as simple yes-no questions.

(14a) *Am I worried?

(14b) *I'm worried, aren't I?

(14c) *Do I suppose the Yankees will win the pennant?

(14d) *I suppose the Yankees will win the pennant, don't I?

That is, for verbs of mental state, it is impossible for the subject to ask whether they are true of him. The reason for the ungrammaticality of (14c) and (14d) is that suppose is being used as a performative verb, in Austin's sense, and therefore cannot be questioned, since it describes an action that is performed in the act of description, and to question it would be nonsensical.[7]

It is true, however, of tag questions that, though they share certain constraints with simple questions, they are obviously not synonymous with them. Therefore, that they clearly could not share the same underlying structure. So, for example, where a simple question like (15a) makes no presupposition about the answer the speaker anticipates, a tag, like (15b) definitely presupposes a positive answer: the speaker, receiving a 'no' answer to (15a), would probably not be surprised; receiving a 'no' answer to (15b), he would.

(15a) Did John leave?

(15b) John left, didn't he?

In fact, (15b), rather than a simple request for information, can be paraphrased as a statement of supposition of a positive answer, with an implied request not for information, but for reassurance that the supposition is really correct. (15b) can be paraphrased as (16):[8]

(16) I suppose John left--I'm just asking you in order to be absolutely certain.

Since this is true, we must look for an analysis of the tag-question that will differentiate it, in underlying structure, from the simple declarative. Perhaps we should bear in mind the paraphrase (16): a tag since their meanings are similar. We might assume that a sentence like (15b) was related to one like (17).

(17) I suppose that John left.

Both would contain performative verbs meaning suppose. The difference is that in (17) the performative is a real verb; in (15b) it is an abstract verb, present in the underlying structure but deleted transformationally.[9] Now consider a sentence containing the real verb suppose, again a performative:

(18) I don't suppose the Yankees will win, will they?

compared with the ungrammatical

(19) *I don't suppose the Yankees will win, won't they?

as well as, of course

(20) *I don't suppose the Yankees will win, do I?

The ungrammaticality of (20) has already been explained.

But the grammaticality of (18), rather than (19), is at first glance very odd. In meaning, the sentence is a true tag question: it is not a sarcastic rejoinder like (13a); yet, the tag is positive, as is the sentence it is formed on. Another fact is that the tag is formed on the lower sentence, which clearly is not always possible. In fact, forming the tag on the lower sentence is possible only in case the verb of the higher sentence is a performative verb--and for this reason not able to be questioned. Both positive and negative tag questions may be formed on the lower sentence, if the above condition holds.

(21a) *I'm surprised that John left, didn't he?
(21b) *Bill supposes that Mary is here, isn't she?
(21c) I suppose you think you're real smart, don't you?
(21d) I suppose John isn't here, is he?

The oddness of the grammaticality of (18) must be explained. First of all, we have already said--and there should be no disagreement on this issue--that the verb suppose in (18) is used just as it is in (21c) --as a performative. (Otherwise, (18) would be just as ungrammatical as (21b).) But it is negated, and it is as much nonsense to think of a negated performative as a questioned performative, by the very nature of a performative verb. This is, of course, only true of the underlying structure, since it is in the underlying structure that meaning is determined. This fact suggests that the negative cannot be in the higher sentence originally, or we are faced with an impossible situation semantically. We are faced with one syntactically as well: the lower sentence must be negative at the time the rule of tag formation goes into effect, in order to produce a positive tag question. Only after tag-question formation can the negative be removed from the lower sentence, unless we are to deny that the tag-question transformation can be formulated generally at all.

Then, we have hypothesized that sentences like (15b) and those like (18) and (21c) are derived from similar sources. We suggest, that is, that tag-question formation occurs only if a performative verb with the meaning of suppose is present--abstract or real. Further, strong reasons have been given for assuming that negative transportation is, in fact, a syntactic rule of English. Apparently it will operate after tag-question formation, in order to produce (18). But consider a sentence like (22):

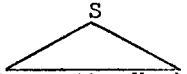
(22) John doesn't think the Yankees will win, does he?

In this sentence, since think is not being used as a performative, tag-question formation must operate on it, if at all. But the tag is positive, indicating

that the sentence tag-question formation worked on was negative at the time tag-question formation applied. Yet, this negative in the higher sentence has come there just as the negative came into the higher sentence in (18), by negative transportation--at least in one interpretation of this sentence. Therefore, to produce sentence (22), the order of application of these two rules must be, negative transportation first, and tag-question formation second. We are then faced with an ordering paradox, if we wish to be able to generate both (18) and (22).

This paradox can be avoided, however, if we make two further assumptions. First, that performative abstract verbs exist, and that one underlies (22), though not (18). Second, that these syntactic rules apply cyclically. With these assumptions, let us see how the derivations of (18) and (22) proceed. For (18), we assume the underlying structure (very approximate, of course), of (23):

(23) I suppose S



Neg the Yankees will win.

On the first cycle, neither tag-question formation nor negative transportation will operate. On the second, as suggested, tag question formation operates first (producing the intermediate string I suppose the Yankees won't win, will they?) and then negative transportation applies, producing the superficial form of (18). So far, so good. But it was with (22) and this ordering that trouble arose. Let us, making the assumption of an underlying abstract performative verb [suppose], postulate the following, again approximate, underlying structure for (22).

(24) [I suppose] S
John thinks S
Neg The Yankees will win.

On the first cycle, again, neither rule can apply. On the second cycle, tag-question formation does not apply, since in the second sentence there is no performative verb meaning "suppose." Negative transportation can apply, since think is a verb of the correct class and is marked as undergoing the rule, and so it does apply. After the second cycle, the intermediate string looks like (25):

(25) [I suppose] S
John doesn't think S
The Yankees will win.

We now proceed to the third cycle, containing the abstract performative verb. Now tag-question formation can take place; in fact, since the verb is abstract, it must. Since the verb in the next sentence is negative, a positive tag is added. Since the verb is abstract, negative transportation cannot take place again; if it

were a real verb, it might. Therefore, the order tag-question formation, then negative transportation, avoids the ordering paradox.

Thus, we have given evidence for the existence of three things: a rule of negative transportation, the presence of an abstract performative verb, and the syntactic cycle.

Footnotes

1. There is another interpretation, of course, with the higher verb itself being negated. Thus, "John doesn't think Bill likes Harriet" might have two interpretations: (1) "John thinks Bill doesn't like Harriet" (John has a definite opinion): (2) "It isn't so that John thinks Bill likes Harriet" (John need not have any opinion; he might, in fact, not know anything about either Bill or Harriet or the feelings of teh former for the latter. In this case, of course, negative-transportation has not occurred.

2. For a discussion of minor rules, and an explanation of why negative transportation is one, see G. Lakoff (1965).

3. In two letters dated 12/5/'67 and 12/7/'67, to George Lakoff.

4. Oral communication to writer, winter 1966-7.

5. In Klima (1964), pp. 288 f.

6. Klima (1964).

7. For a discussion of performative verbs and their properties, see Austin (1955). The verb in (14c) and (14d) is to be interpreted here specifically in its performative sense, though other readings are possible.

8. The contrast between negative simple yes-no questions and negative tag questions, as for example

(1) Didn't John leave?

and (2) John didn't leave, did he?

is more complicated. Sentence (1), unlike its positive counterpart, makes an assumption--namely, that the speaker had expected that John had left, but now has reasons to doubt his previous belief. Sentence (2) does not oppose any new information to the speaker's previous beliefs. Thus, (1) can be paraphrased, "I thought John had left--but now I have been given information contradicting this belief, so I am asking you to tell me which of the two is correct, as I don't know--my belief or the new information." But (2) can be paraphrased as, "I thought John hadn't left, and in fact he apparently hasn't--but I'm asking you just to make sure I'm right." Thus, (1) asks the hearer to help the speaker choose between two conflicting beliefs; (2) merely asks the hearer to reinforce the speaker's single belief.

9. For a discussion of the notion "abstract performative verb" see R. Lakoff (1968) and J.R. Ross (1969).

Bibliography

Austin, J.L. (1955) How to Do Things with Words. edited by J.O. Urmson. Oxford: Oxford University Press.

Fillmore, C. (1963) "The Position of Embedding Transformations in a Grammar." Word, 19, pp. 208-231.

Klima, E.S. (1964) "Negation in English," in The Structure of Language: Readings in the Philosophy of Language, edited by J.A. Fodor and J. J. Katz. Englewood Cliffs, N.J.: Prentice-Hall.

Lakoff, G. (1965) On the Nature of Syntactic Irregularity. The Computation Laboratory of Harvard University, Mathematical Linguistics and Automatic Translation, Report #NSF-16. Cambridge, Mass.

Lakoff, R. (1968) Abstract Syntax and Latin Complementation, Cambridge, Mass.: The M.I.T. Press.

Ross, J.R. (1969) "On Declarative Sentences," in Readings in English Transformational Grammar, edited by R. Jacobs and P.S. Rosenbaum, Boston: Ginn-Blaisdell.