FACTIVITY FROM A DISCOURSE PERSPECTIVE

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This paper presents an investigation of presuppositional pheno-
mena in certain types of factive expressions. It begins with a
comparison of a logic-based and a discourse-based approach to
the problem of factivity. I give reasons for choosing a dis-
course-based approach, and proceed to define factives as having
the two characteristics of being true and being old information.
I then use these characteristics along with the idea that truth
is context-dependent to explain several previously unrelated
phenomena—the cancellation of factives' presuppositions in
if-then sentences, either-or sentences, sentences with such verbs
as dream, imagine and want, and sentences involving beliefs
different from those of speaker and listener.

1.0 Introduction

The phenomenon of presupposition has been investigated from various
perspectives in recent years. A result of this is that various definitions
of presupposition have been proposed. These definitions are primarily of
two types, some involving criteria based on logic (Strawson 1964, Wilson
1975), some using a pragmatic or discourse approach (Lakoff 1971, Fillmore
1971). Section 2 of this paper presents a critical analysis of these defi-
nitions, while later sections introduce a definition of factivity in terms
of one of these approaches, and points out the usefulness of this definition
in explaining various interesting characteristics of factives.

2.1 Logic-based definitions of presupposition

According to a logic-based definition, a presupposition is a propo-
sition that is entailed by a sentence, and also by the negation of that
sentence (Kiparsky and Kiparsky 1971, Langendoen 1971). In the case of fac-
tivity, this means that clauses containing factive predicates (such expres-
sions as know, realize, regret, or be happy, surprised, angry and so on),
and the negations of those clauses, presuppose their complement. Consider
the following sentences containing factive predicates:

(1) a. John realizes the president is an idiot.
   b. John does not realize the president is an idiot.
     Presupposition of (a) and (b): The president is an idiot.

(2) a. Mary knows her dog can't stand on his head.
   b. Mary does not know her dog can't stand on his head.
     Presupposition of (a) and (b): Mary's dog can't stand on his head.

(3) a. George is upset that his girlfriend eats garlic.
    b. George is not upset that his girlfriend eats garlic.
       Presupposition of (a) and (b): George's girlfriend eats garlic.

(4) a. Lois regrets that she fell in love with Superman.
    b. Lois does not regret that she fell in love with Superman.
       Presupposition of (a) and (b): Lois fell in love with Superman.

2.2 Pragmatic-based definitions of presupposition

There are a variety of different suggestions as to how to state the idea of presupposition pragmatically. Cooper (1974) summarizes the various suggestions as follows. "To say that S presupposes S' is to say that, given certain conventions and purposes of language, it would be 'inappropriate', 'deviant', 'incorrect', 'odd', etc., to sincerely assert S unless one believed S' to be true." (p. 46) In other words, most pragmatic approaches assume that a presupposition of a sentence is a proposition the speaker must believe to be true in order to utter that sentence sincerely. Consider the following situations, in which "?" is used to signal contextual inappropriateness.

(5) John does not believe that God exists. He says:
    ?Mary doesn't realize that God exists.

(6) George knows John did not steal a kangaroo from the zoo. He says:
    ?John doesn't regret stealing a kangaroo from the zoo.

In contrast to the logic-based approaches, in a pragmatic approach, it is more accurate to say that a presupposition is a property of the speaker, rather than of the sentence spoken.

2.3 Comparison of the two approaches

The most common criticism of a pragmatic approach is that its definition of presupposition is too vague to be usable. After all, a sentence can be inappropriate for any of a number of reasons, not all of which have to do with presupposition. Consider:

(7) John Smith is talking to Mary Jones. They are old friends. Mary asks, "What do you think of the president's plans for curbing inflation?" John believes they are good, and that Congress will pass them. He replies:
    a. ?I think they're great, Miss Jones.
    b. ?I think they're good, and I've been talking to George and he agrees, though he realizes that Congress won't pass them.
    c. ?I think the president eats Cheerios for breakfast, most days.

All the replies are inappropriate, but only the deviance of (b) would be considered attributable to presuppositional phenomena.

The logic-based approach has the advantage of being precisely stated, and thus easily testable. There are, however, at least two problems with it. The first involves methods of dealing with apparent counterexamples. For example, sentence (8) should presuppose that linguists have six fingers.

(8) John doesn't know linguists have six fingers.

Thus the adding to (8) of any statement to the contrary should render the sentence contradictory. However, this does not seem to be the case.

(9) John doesn't know linguists have six fingers, because linguists don't have six fingers.

In addition to negative sentences such as (8), factive clauses embedded in if-then or either-or sentences also seem to lose their presuppositions. For example:

(10) If John gets a Ph.D., he'll be happy that he got it.

(11) Either John is unhappy that he got an A, or he didn't get an A.

In (10), the sentence as a whole does not presuppose that John got a Ph.D., and in (11) the sentence does not presuppose that John got an A, although in both cases these propositions are found in the complements of factive expressions (Karttunen 1973).

Many of those supporting logic-based semantics have responded to these and similar problems by abandoning the idea of presupposition altogether, e.g., Wilson 1975. I consider this solution to be a case of throwing out the baby with the bathwater. The concept of presupposition is useful for explaining a large number of real phenomena, and the relatively few types of exceptions are very limited as to possible context; some are so limited that it is hard to come up with a natural context for them. Either-or sentences similar to (11) are in this class.

Instead of getting rid of the whole idea, we can attempt to describe formally the types of syntactic contexts that wipe out presuppositions. Such an approach is used by Kartunnen (1973, 1974) who describes various structures that dissolve presuppositions, and formulates rules to predict which presuppositions will be dissolved. However, even if it is possible to come up with a complete set of such structures and rules, the resulting system is not explanatory. We have no idea why these apparently unrelated structures cancel presuppositions, nor can we predict what other structures might do the same.

In view of these problems, I prefer to try a pragmatic approach to the problem of factivity. I feel that such an approach can be made both explanatory and predictive. Obviously it will have to be much more specific than the ones summarized above. I suggest the following:

(12) A FACTIVE VERB is a verb whose complement forms part of the background of the discourse and as such is not considered by the speaker to be a matter for discussion or argument on the part of himself or his listeners.

I will consider some of the ramifications and problems of this definition later in the paper, but first I wish to point out ways to deal with many of the counterexamples mentioned above in connection with a logic-based approach.

3.0 Interpretation of the concept of truth as being context-dependent

The logic-based approach to presupposition, and to semantics in general, depends on the idea of a sentence having a truth value. For example, in the case of factive expressions, to say that the presupposition of a sentence is entailed by that sentence means that in all cases where the sentence is true, the presupposition will be true also. In addition, of course, in all cases where the negation of the sentence is true, the presupposition will also be true.

The problem with such an approach lies in determining what the truth value is for a sentence. In many treatments, it seems to be assumed that there is some objectively definable entity called "reality", which exists independent of speakers or listeners. In addition, this reality is assumed, usually without discussion, to be the same for everyone (Kempson 1975, 1977, Wilson 1975). Even when it is conceded that the truth of a sentence or its presupposition is determined by the beliefs of the speaker (Lyons 1977), the analysis is based on the assumption that we need worry about only this set of beliefs. That is, either it is the case that only the speaker's beliefs about the world are relevant, or it is safe for the linguist to assume that everyone's beliefs about reality are the same.

Neither of these is the case. Given a very simplified situation, with one speaker and one listener and one proposition X, we have at least five possible situations that must be considered if we are to understand the behavior of presupposition-bearing constructions:

(13) I. Both the speaker and the listener believe X to be true.
II. The speaker believes X to be true, but the listener does not.
III. The listener believes X to be true, but the speaker does not.
IV. Neither the speaker nor the listener believe X to be true, but they know someone else does.
V. The speaker is not himself sure whether or not X is true.[1]

Situation I is generally the only one considered. Situation II usually creates a break in the flow of discourse, often followed by the listener re-introducing the complement of the factive as a new item in the discourse. That is, he changes the topic of discussion from whatever the speaker was discussing to the proposition expressed in the complement. For example:

(14) John: Aren't you glad that our semantics class is so simple?
Mary: Simple! How can you say it's simple? I think it's really difficult!

Mary does not believe that the class is simple, as John assumes, and as a result, she chooses not to answer the question and maintain the flow of discourse, but instead decides to comment on this belief of his which differs from her own.

Situation III produces one of the types of counterexamples to factivity most often cited, e.g., Wilson 1975. Consider sentence (9), repeated here:

(15) John doesn't know linguists have six fingers, because linguists don't have six fingers.

This type of sentence shows up in a very limited context: where a person has just said something like (16):

    (16) Would you believe it? John doesn't know linguists have six fingers!

Hearing this, his listener wants to correct his beliefs about how many fingers linguists have. That this type of counterexample is not confined to negative sentences as has been suggested by Wilson (1975) can be seen in the following exchange, where again there is a difference of beliefs about what the speaker and his listener believe to be true:

    (17) A: John's really happy that you won the prize.
         B: Well, it's nice that John is happy that I won the prize, but
            I didn't in fact win the prize.

Situation IV is exemplified by the following type of counterexample, where the presupposition of be upset is cancelled by the rest of the discourse:

    (18) Susan speaking to Karen: It's too bad that Mary is so upset
           about not passing the test. I wish we could tell her that we
           know she got an A.

Situation V produces another type of counterexample commonly mentioned, where the conflict concerning what is true is not between speaker and listener, but is just within the speaker. This produces such sentences as (19):

    (19) Speaker observing John frowning at his test, which speaker assumed
           he had received an A on:
           Either John is unhappy that he got an A, or he didn't get an A.

In using either-or the speaker is creating two possible and conflicting states of the world, only one of which he expects to match reality, to be "true". Under these circumstances it's natural that the presupposition of John is unhappy that he got an A is confined to one of these possible situations, and thus is not carried over to the whole sentence.

I hope that even this brief analysis shows that by using a context-dependent concept of truth, most of the counterexamples pointed out in logic-based approaches are predictable, obviating the necessity of doing away with the notion of presupposition.

4.0 Characteristics of factives

Now let us return to the definition of factive expressions given in section 2.3 above. I said the complement of a factive "is not considered by the speaker to be a matter for discussion or argument on the part of himself or his listeners." That is, the fact that a proposition appears as the complement of a factive expression indicates that the speaker does not expect the listener to comment on it or argue about it. There are several different types of evidence that show this trait of factive complements; I will call the trait inarguability.

4.1 Evidence for inarguability

Complements of factives are unaffected by negation of the sentence. That is, a person can say either (20) or (21) and the proposition "John is leaving" is not negated in either case:

(20) I'm glad that John is leaving.

(21) I'm not glad that John is leaving.

The purpose of negation in a sentence is often to correct beliefs or expectations the speaker expects the listener to have (Givon 1978). However, in most situations not everything described in the sentence is considered to be refuted, and the speaker arranges the sentence so that the elements that, in his opinion should match everyone's beliefs, are not affected by the negation. The fact that factive complements fall into this unaffected group indicates that the speaker feels they are not open to argument or correction.

That complements of factives are not, in the opinion of the speaker, open to debate can also be seen in the fact that it is very difficult for his listener to choose to make the complements themselves subjects of discussion. Consider sentence (22):

(22) Mary is upset that George peels bananas with his feet.

If upon hearing this sentence, an individual answers by saying, for example, "That's not true" or "Are you sure?", he is only denying or questioning Mary's being upset, not George's peeling of bananas. Notice that an answer of "No, he doesn't", while clearing up what is being denied, is not an acceptable response to this statement. Similarly, in answer to a question such as (23), any short answer responses such as "yes" or "no" apply only to Mary's actions, not George's.

(23) Is Mary upset that George peels bananas with his feet?

Finally, consider (24):

(24) It bothers George that Mary is upset.

If a listener wants more information concerning (24), and asks "Why?", the question can only refer to why something bothers George, not why Mary is upset.

It is not impossible, of course, for a listener to discuss the information in the complement of a factive, but as I note above (see (14)), in order to do so, he must restate the complement pretty much word for word, and in some cases introduce it with special words such as but or because. For example:

(25) George: I'm sorry Mary is upset.
     Susan: But she's not upset! She's just tired.

(26) John: Are you happy that your paper is finished?
     Mary: No, I'm not, because it's not finished!

4.2 Causes of inarguability

There are two reasons a speaker may consider a proposition to be inarguable. One is that he believes it to be old information for the listener, as well as for himself. The concept of <u>old information</u> has been used in different ways (cf. Chafe 1976), so let me clarify my definition. By <u>old information</u> I mean information the speaker expects to be easily retrievable, even if it's not in the forefront of the listener's mind. For example, consider (27):

(27) I'm upset that California has seceded from the Union.

It would be strange for me to utter (27) if none of my listeners have ever heard that California had seceded. If they <u>had</u> already known it, then it would be acceptable for me to say that as the first sentence in a discourse on the subject of California's secession.

The other reason for a factive complement to be inarguable is that the speaker firmly believes that the complement is true and expects his listener to believe it also. So if I say (28), I believe that John did not, in fact, finish his homework, and I expect my listener to believe the same:

(28) When John realized he hadn't finished his homework, he panicked.

It is often the case that these two causes of inarguability are both present in any given context. However, it is not necessarily so. One of the five situations described in section 3.1, situation IV, is a case where the factive complement contains information that is old, but not true. On the other hand, sentence (28) could be said even if the listener didn't already know John hadn't finished his homework. In that case, the information in the complement would be true, but not old information. The independence of these two factors becomes important when we divide factives into subclasses.

5.0 Subclasses of factive expressions

Factives can be divided into two groups based on their meaning. One group I call <u>cognitive factives</u>, because they generally involve the subject's state of knowledge. Examples of such factives are <u>know</u>, <u>realize</u>, <u>find</u> <u>out</u> and <u>discover</u>. The other factives I call <u>emotive factives</u>, since they tend to deal with the subject's emotions. Emotive factives often are of the form <u>to be X</u>, where X is an adjective like <u>angry</u>, <u>upset</u>, <u>surprised</u>, <u>happy</u>, <u>sad</u>, <u>sorry</u> and so on. This division based on meaning is mirrored in the behavior of the two classes.

5.1 Emotive factives

There are cases in which emotives seem to lose their factivity (that is, their complements are no longer presupposed), and cognitives do not lose it. Consider (29):

(29) Susan speaking to Karen: It's too bad that Mary is so upset about not passing the test. I wish we could tell her that we know she got an A.

The complement of be upset is denied in the following sentence without a resulting contradiction. Notice that if a cognitive factive is used, the discourse becomes contradictory:

(30) ?It's too bad that Mary has realized that she didn't pass the test. I wish we could tell her that we know she got an A.

This is the type of case described in situation IV described in section 3.0 above, where speaker and listener both know Mary believes the complement of the first factive to be true, even though they don't. These cases of cancelled presupposition which only occur with emotive factives, are possible because, while the complements of emotives are always old information, they are not always true information, in that they do not have to reflect the speaker's or the listener's beliefs about the world.

5.2 Cognitive factives

The cognitives, on the other hand, lose their factivity in a different set of contexts. Karttunen (1971) has called many of the cognitive factives "semi-factives", pointing out that these verbs lose their factivity in such sentences as:

(31) If I realize later that I have not told the truth, I will confess it to everyone.

Compare (31) with (32):

(32) If I am sorry later that I have not told the truth, I will confess it to everyone.

In (32) the complement of the emotive factive be sorry is in fact presupposed by the whole sentence. The difference in behavior in this sentence of the two types of factives can be characterized once again in terms of the characteristics of factives mentioned above. The cognitive factives, unlike the emotives, do not always introduce old information, and when they do not, they are subject to having their presuppositions cancelled.[2]

5.3 The notion of focus in relation to factive subclasses

Sentences can be divided not only into new and old information, but also into focus and background, and the two pairs are generally held to be correlated; that is, the focus is new information and the background is old information. (For a discussion of this and other possible correlations, see Chafe 1976.) For example, consider (33):

(33) Remember John? Well, John's living in New York now.

In (33), John is the background, and his living in New York is the focus, in the second sentence. In other words, John's existence is background information, and his new location is the new information the speaker is interested in conveying to the listener. In the case of sentences with emotive factives, the main clause contains the focus of the sentence, and the complement is the background information. That is, the emotive factive carries the new information the speaker wants to focus on, and the complement

is old information that merely provides the context for the factive, sets the stage. This suggested division between background and focus in emotive sentences seems to be supported by looking at paraphrases of factive sentences where what is the focus and what is the context is more overtly indicated:

(34) I'm upset that the president's acting like a jerk.

Sentence (34) can be paraphrased with sentences (35) and (36). Clauses introduced by such phrases as <u>as for</u>, or <u>you know</u>, <u>heard</u>, <u>remember</u>, etc. contain the background information of the sentence.

(35) As for the president acting like a jerk, I'm really upset.

(36) You heard the president's acting like a jerk; well, I'm really upset.

If you try to paraphrase a sentence with a cognitive factive in the same way, so that the cognitive is the focus of the sentence, the results leave a lot to be desired:

(37) I realize the president's acting like a jerk.

(38) ?As for the president acting like a jerk, I realize it.

(39) ?You heard the president's acting like a jerk; well, I realize it.

Why is it that a cognitive verb cannot be the focus of the sentence? Consider the following sentences:

(40) a. John is a jerk.
    b. I realize John is a jerk.

(41) a. John is a jerk.
    b. I am upset that John is a jerk.

In each of these pairs, the sentences express roughly the same information with the sole exception of whatever additional information is provided by the main verbs in (b). The additional information contained in (40b) seems to be much less than the additional amount in (41b), in that the pair of sentences in (40) seem to mean almost the same thing, unlike the sentences in (41). In fact, the verb <u>realize</u> and indeed the cognitives in general, seem to contribute less information to the sentence as a whole than do the emotives. In this sense, we can say that they have less <u>semantic weight</u> than the emotives.

This lack of weight appears to be what is precluding cognitive factives from being the focus of the sentence. Instead, the focus switches back and forth between the subject of the sentence and the complement. Consider (42):

(42) Hildegard has finally realized that the president is an idiot.

In this sentence, the complement is usually interpreted as being presupposed; that is, the president's being an idiot is old information. It is Hildegard's realizing it that is the focus. Compare this to sentence (43):

(43) ...And then I realized I'd forgotten my key!

In (43) the complement is the focus of the sentence, and thus is new information.

To summarize, the emotive factives carry enough semantic weight to be the focus of the sentence. As a result, the complement is always the part of the sentence that is the background, the old information. In contrast, the cognitives cannot carry enough weight to be the focus and as a result, at times the complement takes on that role, and becomes the new information in the sentence.

These cognitives whose complements are the focus of the sentence are very important because they provide the only exceptions to the description of factive expressions I posited in section 3.0 above. Notice that in these sentences, the complement does not form part of the background of the discourse. One would expect from this that in sentences with these cognitives, restrictions on the listener's ability to comment on the complement would be relaxed. This proves to be the case. Compare (44) and (45) with (22) and (24) above:

(44) A: Then I realized John had left the key at home!
     B: Oh, he couldn't have been that stupid!

(45) A: Any interesting news?
     B: Well, I know that George just got married.
     A: Oh, really? When? (where when refers to George getting married, not B's knowing about it)

6.0 Implications of this characterization of factives

There are several different types of constructions that affect the presuppositional nature of factive expressions. One of them, either-or sentences, was already mentioned in section 2. Another, if-then sentences, was touched on in section 5.2, but I would like to examine it again along with some of the others, in light of what we know about emotive factives. It turns out that the characteristics of emotives can be used to explain the peculiarities of several of these constructions. Consider (10), repeated here as (46), versus (47):

(46) If John gets a Ph.D., he'll be happy that he got it.

(47) If John is happy that he got a Ph.D., he'll let it show.

Sentence (47) preserves the presupposition of the complement of be happy, but (46) does not. Karttunen (1973) comes up with a complicated set of rules to predict this difference. However, it actually follows naturally from what we know about emotive factives. When an emotive factive is

used, the information in the complement must be old information. In (46), the presupposition of be happy, that John got a Ph.D., is old information simply because it has just been stated in the first part of the sentence, and that statement is clearly within the scope of if, and is thus hypothetical, and not true in the real world. In (47), since the presumably old information that John got a Ph.D. has no antecedent within the sentence, it must have been known to the listener before the sentence was said, and is thus unaffected by the if.

In addition, we can now explain why the same type of sentence as (46) with a cognitive factive like realize does not keep its presupposition:

(48) If I realize that I have been a jerk, I'll apologize.

Because it is possible that realize does not introduce old information, this complement may be the first time my being a jerk has been mentioned. If that is the case, this information is clearly within the scope of if, and therefore not necessarily true in the real world.

In addition to if-then sentences, there are some very interesting cases involving factive complements in sentences containing dream, imagine and want. Consider:

(49) George dreamed that he won the prize and his family was upset that he did.

(50) Mary imagined that she was married to a famous linguist and her friends were upset that she was.

(51) Mary wanted to be a famous linguist, and for her family to be proud that she was.

It's not surprising that the complements of these factives are limited in truth to the realm of dream, desire or fancy, since they are clearly within the scope of those verbs. However, in the following sentences, many people feel that the complements of the factive verbs are true in reality:

(52) George dreamed that his family was upset that he won the prize.

(53) Mary imagined that her friends were upset that she was married to a famous linguist.

(54) Mary wanted her family to be proud that she was a famous linguist.

Why should this be so? Again, it is because emotive factives introduce already known information. In the cases of sentences (49), (50) and (51), the complement of the factive verb is known because it has its antecedent immediately before it, clearly within the scope of the main verb. However, in (52), (53) and (54), there is no mention of the information contained in the complements of the factives until the complements themselves. Therefore, the complements must contain information known to the listener before

the sentence was ever uttered. If this is the case, that information is not within the scope of the main verb, but is part of the real world.

Thus, not only does my characterization of factives allow an explanation of the behavior of if-then sentences, but it links their behavior with that of the complements of dream, imagine and want, which was previously considered to be unrelated.

7.0 Conclusion

In my treatment of factive expressions, I have opted for a pragmatic rather than a logic-based approach, and have formulated a definition of factives that employs the characteristics of being true and being old information. I have then used these characteristics along with the idea that truth is context-dependent to explain several previously unrelated phenomena--the cancellation of factives' presuppositions in if-then sentences, either-or sentences, sentences with dream, imagine and want, and sentences involving beliefs different from those of speaker and listener.

Footnotes

1. There are, of course, a number of other possible situations parallel to situation V, e.g. the speaker is sure X is true, but the listener is not, the listener is sure, but the speaker is not, neither of them is sure, and so on. However, I have not yet found any of these other situations to have any bearing on the behavior of presuppositional phenomena.

2. In order for the classifications of emotives and cognitives to be completely symmetrical, cognitive complements should always be true, even if they are not always old information. Unfortunately, this does not always seem to be the case. For example, in sentence (31) it is obviously not necessarily true that I have not told the truth. It does seem to be the case, however, that the complements of cognitives cannot be known by the speaker to be false. That is, sentence (31) could not be said if the speaker was absolutely convinced that he had in fact told the truth.

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