ON FACTUAL MAY

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This paper discusses the semantic and pragmatic characteristics of “factual may” (e.g., He may be a professor, but he sure is dumb). After examining Sweetser’s (1990) and Papafragou’s (2000) analyses, I first argue that factual may occurs before unexpected clauses and the two clauses are linked by “concessives,” such as but or however and that its occurrence is further restricted with respect to the preceding context. Then, I argue (against Sweetser and Papafragou) that this may is neither an extension of deontic may nor the same as epistemic may; I present an alternative analysis based on Papafragou’s basic meaning of may, in which factual may concerns not only the speaker’s beliefs but also the addressee’s beliefs. Finally, I argue that factual may has a “procedural” function in discourse.*

Keywords: concessive, factual proposition, the basic meaning of may, compatibility, procedural function

1. Introduction

This paper focuses on the use of may, exemplified by the following:

(1) a. He may be a professor, but he’s an idiot. (Kay (1997: 51))

   b. There may be a six-pack in the fridge, but we have work to do. (Sweetser (1990: 70))

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c. It may be a comfortable car, but it uses a lot of petrol.

(Swan (1995: 335))

The may's in the first clauses of the above sentences are called the “colloquial concessive use of may” (Leech (1987)) or “speech-act may” (Sweetser (1990)), and are generally regarded as different from deontic (or root) may, which expresses permission, and from epistemic may, which expresses possibility. These modal clauses are generally interpreted to express concession—i.e., “I admit (or concede) the first clause is true, but that doesn’t mean I also admit a certain implication of this clause” (e.g., “professors are all smart” for (1a)). As is evident from this interpretation, this use of may is distinct from the other uses of may in that the speaker (henceforth, SP) acknowledges the described state of affairs to be a fact. In the cases of epistemic and deontic may, it is only the possibility of occurrence or existence of the state of affairs that is acknowledged. Based on this factual property of the proposition (henceforth, P), in this paper I will call the may in question factual may.

Another distinct characteristic of factual may, as is often recognized, is that this may usually occurs in clauses preceding but (Kay (1997)). In this regard, Kay (1997: 51) claims that the meaning of concession, as stated above, is reducible not to may itself but to the pairing of may and but, and that sentences such as (1a) constitute a construction (i.e. a “may...but...construction”). Kay further argues that the may in this construction has lost the meaning of possibility, assuming in the first place that the basic meaning of may is possibility.

There is, however, some question about Kay’s Construction Grammar approach. First, there are some sentences that are not interpreted to express the meaning of concession (i.e. conceding the truth of P), in spite of the fact that they contain a pairing of may and but, as in the following:

(2) a. He may be a university professor, but I doubt it because he’s so dumb.

b. There may be a six-pack in the fridge, but I’m not sure

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1 I will use the terms “deontic may,” “epistemic may,” and “factual may” to refer to may as it appears in clauses which convey permission, possibility, or concession, respectively. By use of these terms I do not imply that there are three may’s, or that each may expresses such a meaning in and of itself.
because Joe had friends over last night.

(Sweetser (1990: 70))

These *may* clauses receive an epistemic interpretation. This indicates that the pairing of *may* and *but* sometimes conveys a meaning other than concession (or factual meaning). Kay does not give an account of the conditions under which *may* preceding *but* “retains or loses” the meaning of possibility. However, in order to describe the characteristics of factual *may* it is necessary to consider factors other than form alone.

In contrast to Kay (1997), Sweetser (1990) and Papafragou (2000) analyze the meaning of concession in terms of the basic meaning of *may* and pragmatic factors.

The aim of this paper is to examine closely the analyses of Sweetser (1990) and Papafragou (2000) and to give a more comprehensive account of the characteristics of factual *may*. I will examine the following three questions: (i) What are the contextual conditions for factual *may*? (ii) What is the meaning of factual *may* and how is it related to deontic *may* and/or epistemic *may*? (iii) What is the function of factual *may* in discourse? That is, the meaning of concession can be covered by the corresponding non-modal sentence (e.g., *He’s a professor, but he’s an idiot* for (1a)), so what is the difference between a factual-*may* sentence and its non-modal counterpart?

This paper is organized as follows. Section 2 outlines some previous analyses of factual *may*. Section 3 examines the conditions for the context of factual *may*. Section 4 contains a discussion of the meaning of factual *may* and its relationship with the other uses, and section 5 considers the function of *may* in discourse. Section 6 consists of concluding remarks.

2. Previous Analyses

2.1. Sweetser (1990)

Sweetser argues that the deontic, epistemic, and factual meanings of *may* concern the socio-physical domain, the epistemic (or reasoning) domain, and the conversational domain, respectively. Following Talmy

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2 Sweetser (1990: 19) also uses the term “domain of speech exchange” to refer to the conversational domain.
(1988), Sweetser (1990: 51–52) postulates that may basically expresses a kind of power-relation between two entities which is peculiar to the socio-physical domain, i.e. the absence of potential barrier (A does not bar B from doing such-and-such a thing). This meaning is expressed in the paraphrase for the following may clause:

(3) John may go. (John is not barred by my or some other’s authority from going.) (Sweetser (1990: 61))

Sweetser (1990: 73) argues that, in its epistemic and factual uses, may is used extensively in the reasoning and conversational domains, as in the following:

(4) John may be there. (I am not barred by my premises from the conclusion that he is there.) (Sweetser (1990: 61))

(5) There may be a six-pack in the fridge, but we have work to do. (I do not bar from our (joint) conversational world your offer of beer, but ...) (Sweetser (1990: 70))

The paraphrase for sentence (4) shows that epistemic may concerns the relation between the SP and the premises available to him/her, and the paraphrase for sentence (5) shows that factual may concerns the relation between the SP and some performed speech act. In short, each of these uses of may involves a mapping from the socio-physical (source) domain to the epistemic domain or conversational domain.

Sweetser thus assumes that factual may is more closely related to deontic may than epistemic may because this may is an extension of deontic may.

Let us now look at Sweetser’s analysis of speech-act may in detail. In addition to (5), she considers the following example:

(6) He may be a university professor, but he sure is dumb. (I do not bar from our (joint) conversational world the statement that he is a university professor, but ...) (Sweetser (1990: 70))

Sweetser (1990: 71) gives the following paraphrases for (5) and (6): “the speaker’s ‘admission’ of the first conjunct is not to be taken as indicating that s/he accepts the acknowledged offer,” and “the speaker’s ‘admission’ of the first conjunct not to be taken as indicating that s/he agrees that professors are all smart.” As indicated by these paraphrases, Sweetser identifies two meanings (i.e. granting and grudging attitudes on the part of the SP) as the meaning of factual may.

Sweetser states that (5) would be uttered in a situation in which someone has offered the SP beer for refreshment. She does not give any particular context for (6), but she says that the truth of the P is
presupposed in context (as it is in (5)). It should be noted here that Sweetser regards presupposition of the truth of P as one of the characteristics of speech-act *may*, but she does not assume that this property is shared by other modal verbs in speech-act use, such as the following:

(7)  
a. Editor to journalist: “OK, Peking can be Beijing; but you can’t use ‘Praha’ for Prague.” (OK, you can refer to Peking as Beijing ...)

b. Mondale advisor giving directions to speech writer: “Reagan will/must be a nice guy [as far as the content of the speech is concerned], even if we criticize his policies.” (The speech will/must talk about Reagan as if he were a nice guy ...)(Sweetser (1990: 71-72))

Sweetser’s analysis is more convincing than Kay’s in that she reduces the meaning of concession not to the pairing of *may* and *but*, but to a more general meaning of *may* and contextual information. However, there are some difficulties with her analysis in terms of speech acts and conversational worlds. First, let us look again at the paraphrase in (5). Is it really possible for a speech act which has been already performed by the addressee (henceforth, AD) to be the object of bar? It is arguable that, in fact, an offer can be accepted, rejected or neglected, but not barred.4

Secondly, the view that factual *may* concerns speech acts and conversational worlds is too restrictive to account for many examples of factual *may*. Factual *may* can be used in situations such as the following:

(8) Scully’s Short People Brigade—Scully may be short, but she’s the one person that we can look up to!5

3 Sweetser uses the term “speech act” ambiguously. On one hand, as we saw in the paraphrase for (5) (*I do not bar your offer* ...), this term is used to refer to what Searle (1969) calls “illocutionary acts,” which are acts one performs by uttering sentences, such as stating, questioning, commanding, promising etc. On the other hand, as we saw in the paraphrases in (7a, b) (*OK, you can refer to* ... and The speech will/must talk about *...*), it is also used to refer to what Searle (1969: 24) calls “utterance acts.”

4 This also seems to hold for the paraphrase for (6). However, it is not clear who Sweetser thinks is performing a speech-act in this example, since she uses the expression “the statement” in the paraphrase for (6), while she uses “your offer” for (5).

5 “Scully” is the name of a main character in the American TV program “The X-Files,” and “Scully’s Short People Brigade” is a fan club.
The may sentence in (8) appears on the internet and is used as a brief introduction to the site *Scully’s Short People Brigade*; hence, this example involves neither a speech act nor a conversational world. This example shows that Sweetser’s terms are insufficient to describe the properties of factual *may* in full.

A third problem concerns the gap between the paraphrases for (5) and (6) and the meanings conveyed. As shown in the paraphrases given above (p. 444, following (6)), Sweetser (1990: 71) recognizes two meanings for sentences with factual *may*: that is, the speaker’s granting and grudging attitudes, such as “I’ll allow this [1], but nothing further [2].” However, it is difficult to identify the connection between the latter meaning (i.e. the SP’s grudging attitude) and “not barring a speech-act,” especially when we consider the meaning of deontic *may*, as in the following:

(9) You may go. (You are not barred by my authority from going.)

In Sweetser’s analysis of deontic *may*, *not barring* only leads to the meaning of the SP’s attitude of admission, i.e. allowing the AD to do something. Why, then, does the same *not barring* lead also to a grudging attitude, in the case of factual *may*? It seems that this problem is related to Sweetser’s view that factual *may* is an extension of deontic *may* via mapping.

These observations make it clear that the characteristics of factual *may* cannot be fully accounted for in terms of speech acts, conversational worlds, and the extension of deontic *may*.

2.2. Papafragou (2000)

Although Papafragou (2000) gives a unified analysis of different meanings of modal verbs like Sweetser (1990), she also takes a monosemous approach to modal verbs, like Kratzer (1981), i.e., she postulates as the basic meaning of each modal verb a more abstract meaning which is neutral with respect to the deontic and epistemic meanings. Papafragou proposes (10) as the semantics of *may*:

(10) P is compatible with $D_{\text{unspecified}}$. (Papafragou (2000: 43))

That is, the embedded P ("P") is compatible with a set of P’s in a domain ("D"). The subscript symbol "unspecified" indicates that the domain of P’s is unspecified. (In contrast to *may*, the proposed meanings of some other modals are restricted in the domains of P’s; e.g., the
meaning of *can* is restricted to the "factual domain" and that of *should* to the "normative domain" (see Papafragou (2000: 48, 62) for a detailed description of these domains)).

In Papafragou’s account, different meanings which *may* is assumed to have, such as permission and possibility, are derived or inferred by the AD based on the way that s/he complements the different values of P and D in context, as in the following:

(11)  
   a. You may smoke in this room.
   b. \( p[\text{You smoke in this room}] \) is compatible with \( D[\text{a variety of propositions including, e.g., the speaker’s preferences}]. \)  
   (Papafragou (2000: 58))

(12)  
   a. Brian’s resignation may prove a big mistake.
   b. \( p[\text{Brian’s resignation proves a big mistake}] \) is compatible with \( D_{\text{bel}}. \)  
   (Papafragou (2000: 72))

(11a) is a deontic example, which is uttered by a SP who has some sort of authority over the AD. The logical form of this sentence (11b) shows that, in this context, the AD fills the SP’s preferences into the slot D. Papafragou says that in other deontic examples the value of D can be other types of authority or power, e.g. bank regulations, for the utterance *Our branch may convert your account into a student account; you just need to supply us with proof of student status* (Papafragou (2000: 55)). With respect to the epistemic interpretation, as (12b) shows, the value of D is simply \( D_{\text{bel}} \), which is a part of the SP’s beliefs, i.e. evidential assumptions which support his/her possible conclusion.

In addition to clarifying the value of D, Papafragou (2000: 68–71) also clarifies the distinction between the deontic and epistemic meanings (or readings) of modal verbs, based on the difference between the type of embedded P. Adopting the classification of P’s by Sperber and Willson (1995: 224–231), Papafragou argues that the deontic interpretation involves the "descriptive use" of the P, i.e. the use in which the P is used as a truth-conditional representation (description) of a state of affairs in the external world, while the epistemic interpretation involves the "interpretive use," the use in which the P is used as a representation of another representation or "abstract hypothesis" (in the case of the epistemic *may*, the SP’s set of beliefs are compatible with an abstract hypothesis).

Let us now look at Papafragou’s analysis of factual *may* (in her terms, “so-called speech-act *may*”). Papafragou (2000: 132) says that
this *may* is “felicitously used as a rejoinder to a previous utterance,” as in the following:

(13)  
A: I admire Jones immensely. I think he has contributed a lot to the intellectual life of this country.  
B: I don’t agree at all. In fact, I think the guy is completely incompetent.  
A: Look, he’s a university professor.  
B: He may be a university professor, but he sure is dumb.  

(Papafragou (2000: 128))

Papafragou (2000: 132) observes that factual *may* concerns a P which is attributed to a source other than the SP at the time of utterance, i.e. an utterance of the AD’s (e.g., *Look, he’s a university professor* in the case of (13)).\(^6\) Therefore, she argues that the embedded P of factual *may* is an “attributive interpretive proposition,” in the sense that this P is a representation of another P contained in the AD’s utterance. She further says that, the SP disagrees with an easily accessible implication of the embedded P—e.g., “Jones is intelligent” for (13) or “the interlocutors should have some beer” for (5) (p. 444).

The significant difference between Sweetser (1990) and Papafragou (2000) is that Papafragou (2000: 133) argues that factual *may* is a sub-case of epistemic *may*.\(^7\) Although Papafragou admits that the SP is taken to subscribe to the truth of the P in examples of factual *may*, she claims that her treatment has more advantages than one which sets up a

\(^6\) This view is expressed in the following statement: *What is typical of so-called speech-act examples ... is simply that the assumption in the complement of modal has been picked up from the interlocutor’s previous contribution to the exchange, ...* (Papafragou (2000: 193)).

\(^7\) Papafragou (2000: 133) claims that *may* in (5) and (6) (or (13)) “has its normal epistemic interpretation” and that “[i]ts complement is an assumption which is derived by deliberate inferencing, and as such has come to belong to the SP’s ‘belief-box’ with a degree of strength attached to it” (italics added). This indicates that Papafragou is claiming that the embedded P of factual *may* is an attributive interpretive P not only in the sense that it is a representation of another P attributed to the AD, but also in the sense that it is the representation of a hypothetical *assumption*. However, the claim in the latter sense is not convincing, since it is not likely that the P ‘Jones is a professor’ involves inference in the context of (13), where the content of this P seems to be regarded as fact by both A and B. In this paper I will limit discussion to Papafragou’s claim that the P of factual *may* is an interpretive P in the former sense.
third category, since it is sometimes difficult to make a clear distinction between factual may and epistemic may in may clauses which have concessive overtones, such as the following:

(14) a. Harry may be a genius; I don’t care. I never liked him.
    b. The story of her life may be very sad—but I’m not interested in that. It’s her work as an artist that I’m interested in.
    c. This allegation may well be true, but it doesn’t affect the rights of the defendant.

(15) X: I hate modern art. Look at this: what is it supposed to mean?
    Y: Well, this sculpture is famous. It was the winner in the Royal Academy contest last summer.
    X: It may be the masterpiece of the century, but I still don’t understand it. (Papafragou (2000: 134))

Papafragou (2000: 134) argues that the degree of the SP’s commitment to truth in these sentences ranges from strong (as in (13)) to weak (as in (15)), and that this degree depends on pragmatic inference (or contextual assumption). Hence, she concludes that it is more appropriate to consider all these examples as epistemic examples, leaving the degree of factual commitment unspecified, than to consider only (13) and (5) to constitute another group.

On the basis of this classification, Papafragou also reduces the meaning of the SP’s disagreement with the contextual implication to a semantic property of epistemic may. Papafragou (2000: 133) presupposes that epistemic may indicates that “further evidence could conceivably bear on the truth of the embedded proposition, but that such evidence is unavailable to the SP at present.” On this presupposition, she argues that in a context in which the truth of the embedded P is undisputed the use of may conveys that the SP communicates less than what s/he knows. That is, s/he does not want to commit him/herself to the whole array of “cognitive effects” the stronger P would produce, as in (16).⁸

⁸ Papafragou does not explain “the whole array of cognitive effects” that the P in (16) would produce. Although this description suggests that she assumes that (16) and its modal counterpart are different in interpretation or cognitive effect, she also says that these sentences attain more or less the same range of effects (Papafragou (2000: 129)). In fact, as I will discuss later, my informants observe that there is virtually no difference between these sentences.
The close correlation between these two uses of *may* is also indicated by the fact that there are no restrictions on the time referred to by the embedded P. It is known that deontic *may* is restricted to description of an unrealized (future) event, while epistemic *may* has no such restriction. As we can see in the following, factual *may* is not restricted either; it can refer to past, present, and future states of affairs:

17. a. She *may have had* a lovely voice when she was younger, but ... (Swan (1995: 335))
   b. Phx *may've lost* to Empire but they’re still among the top 3 clans in the West. (http://games.speakeasy.net/kow/article-10may2002.html)
   c. I *may be* a woman, but I’ve got strong legs. (*Nausicaä of the Valley of Wind 4*)
   d. He *may be* coming tomorrow, but he cannot help you. He said that he was flying to Tokyo on business after visiting us. (Attested example)

There are, however, several problems with Papafragou’s (2000) account. One problem can be found in her description of context. She claims that the P of factual *may* is attributed to a preceding utterance of the AD. However, as we saw in (8), factual *may* also appears in contexts in which there is no preceding utterance that contains the same P as the modal clause.

Secondly, Papafragou’s claim that factual *may* is a subcategory of epistemic *may* is untenable, since this claim conflicts with her characterization of epistemic meaning. To clarify the property of epistemic meaning, Papafragou compares a sentence that contains *must* and its corresponding non-modal sentence, as follows:

18. San Marino {is/must be} the country with the highest life expectancy in the world. (Papafragou (2000: 73))

Papafragou observes that epistemically modalized sentences, which con-
vey an assumption based on evidence available to the SP, allow for the possibility of the existence of evidence beyond the SP’s beliefs which could contradict the P. On the other hand, non-modal sentences, whose P the SP believes to be true, do not imply such a possibility.

These observations clearly show that in Papafragou’s account the implication of the possibility of counter-evidence is essential to epistemic meaning. Therefore, she cannot claim that factual may is a sub-category of epistemic may, since, as she admits, the SP of factual may subscribes to the truth of the P (i.e., there is no implication of the possibility of counter-evidence in this interpretation).

With respect to her argument concerning (14a–c) and (15), there are some leaps of logic that are difficult to follow. If the SP’s commitment to the truth of the P is in fact pragmatically determined, then—since she takes a monosemous approach to modal verbs, in which different meanings of a modal verb are reducible to differences in P and context—it would be a more logical next step to specify contextual factors which allow for the factual interpretation of may clauses, rather than grouping together the factual and epistemic uses of may.

As we can see from the above, neither Sweetser (1990) nor Papafragou (2000) provides a detailed description of the contexts or conditions for factual may. In the following section, I will specify several conditions for factual may in terms of the context preceding and following the may clause.

With respect to the relationship between the three uses of may, it is clear from the above that, although factual may has a semantic property in common with epistemic may (i.e. the SP’s negative attitude), these two may’s cannot be regarded as the same. On the other hand, we cannot ignore the similarity between deontic may and factual may—i.e. that the SP expresses an attitude of admission. In section 4 I will analyze the meaning of factual may, using Papafragou’s basic meaning of may, and explain its relationship with both deontic may and epistemic may. I will also argue that factual may has a closer relationship to epistemic may than to deontic may, due to the meaning of negative attitude.

3. The Contextual Conditions for Factual May

3.1. Premise: The SP’s Commitment to the Truth of the P

First I will present a specific premise regarding factual may. The
premise is as follows:

(19) The SP him/herself is committed to the truth of the embedded P.\(^9\)

In other words, clauses that contain factual may can be paraphrased truth-conditionally with their non-modal counterparts. For example, B in (13) (p. 448), who uses factual may in his/her last utterance, could alternatively use the non-modal sentence, *He is a university professor, but he sure is dumb*. With this premise, examples such as (2a, b), in which the AD can easily infer that the SP takes the P as possibly false, are eliminated from consideration.

3.2. Condition 1: Factual *May* is Followed by an Unexpected Clause.

Let us first consider a condition that involves the clauses that follow may clauses. In the literature (e.g. Kay (1970) and Sweetser (1990)), it is tacitly assumed that factual may cannot occur in a simple clause, and that the may clause is always followed by a but clause. This is confirmed by the acceptability differences between (20a), (20b), and (20c).

(20) (Replying to a person who said “You are single? What’s wrong with you?”)
   a. Yeah. I’m single.
   b. #Yeah. I may be single.
   c. Yeah. I may be single, but I’m happier than when I was with my ex-boyfriend.

In (20b), in which may appears in a simple clause, the state of affairs (i.e., that the SP is single) is not interpreted as definite but as possible, unlike the non-modal counterpart to this sentence in (20a). The reading of possibility leads to unacceptability, since we can hardly imagine a person who is not sure whether s/he is single or not. In contrast, as (20c) shows, the same may clause is acceptable when it is followed by a clause introduced by but. Consequently, it can be tentatively assumed that factual may does not appear in independent clauses; the may clause must be followed by another clause introduced by but.

However, what is important for the occurrence of factual may is not

\(^9\) In this paper, I use the terms “SP” and “AD” to refer to someone who utters or writes a may clause and someone who interprets this may clause, respectively. Therefore, in some contexts these terms refer to a writer and reader, respectively.
that the *may* clause is followed by *but*, but that it is followed by an unexpected clause which is introduced by some kind of connective expression (or *connective*). This is evident from the fact that clauses following *may* clauses can be introduced by connectives other than *but*, as is pointed out by Papafragou (2000: 128). For example,

\[(21)\]  
\[a. \text{ I may be single; however, I'm happier than ...}\]  
\[b. \text{ I may be single, yet I'm happier than ...}\]

(21a) and (21b), which contain *however* and *yet*, have virtually the same meaning as (20c). According to Schourup and Waida (1988: 196), these connectives are all "concessives" and indicate the SP's view that the second clause is in some way "unexpected or surprising" in relation to the first one.\(^{10}\)

Schourup and Waida's (1988) description of the property of concessives is consistent with Lakoff's (1971) and Blakemore's (1989) accounts of the property of *denial-of-expectation but*. Lakoff (1971) and Blakemore (1989) also observe that, in addition to denial-of-expectation *but*, there is one more use (or reading) for *but*, i.e. *contrast but*. (22a) and (22b) illustrate these two uses of *but*.

\[(22)\]  
\[a. \text{ John is tall, but he is not good at basketball.} \]  
(b) *denial-of-expectation but*  
\[b. \text{ John is tall, but Bill is short.} \]  
(b) *contrast but*

Unlike denial-of-expectation *but*, contrast *but* does not relate to any expectations based on the first clause; it simply indicates that the subject in the second clause has a contrasting or different property from the one in the first clause.\(^{11}\) As we can see from the following exam-

\(^{10}\) Schourup and Waida (1988: 195) use the term "concessive" in the sense that "the speaker or writer [who uses a concessive] concedes the truth of one conjunct or sentence while stating a contrasting truth in the other one." They also classify *even though*, *(although)* and *in spite of*, etc. as concessives.

\(^{11}\) Lakoff (1971: 141–142) states that contrast *but* can be replaced by *while* but not *although*; on the other hand, denial-of-expectation *but* is replaceable by *although* and, with less acceptability, by *while*, as in the following:

\[(i)\]  
\{While/*Although*\} John is poor, Bill is rich.  
\[(ii)\]  
{?While/Although*} John is a Republican, he voted for Humphrey.  
(question mark added by this author)

Regarding the use of *while*, the present study found that certainly some informants do not accept the use of *while* as a concessive; however, other informants accept it as easily as *although*. For example, the latter informants judge the following sentence, as well as the corresponding sentence with *although*, as acceptable:

\[(iii)\]  
While I’m single, I’m happier than when I was with my ex-boyfriend.
pies, factual *may* co-occurs with denial-of-expectation *but* but not with contrast *but*.

(23) a. John may be tall, but he is not good at basketball.
    b. #John may be tall, but Bill is short.

Based on the observations outlined above, I will now propose the following condition for the context of factual *may*:

(24) Condition 1: the factual *may* clause has to be followed by an unexpected clause and the two clauses have to be linked by a concessive.12

In the following sections, I will use the terms C1 and C2 to refer to the two clauses and the terms P1 and P2 to refer to the P’s described by the clauses.

(25) C1, BUT C2
    MAY [he is a professor (=P1)], BUT [he sure is dumb(=P2)]

### 3.3. Conditions Concerning the Preceding Contexts

We have seen above that factual *may* occurs only in contexts which meet Condition 1. However, this is not the whole story. The occurrence of factual *may* is further restricted by the preceding context. In this section, I will show that there are two more conditions for the context of factual *may* and that the context of factual *may* must meet at

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12 Papafragou (2000: 133) gives the following example and suggests that factual *may* is acceptable here even though there is no concessive, because the AD can inferentially work out the implication-denying aim of the second clause from the two clauses.

(i) He may be a professor; he sure is dumb.

However, according to my informants, this sentence is not as acceptable as those with concessives, such as (20c) and (21a, b). Therefore, I include the restriction of the presence of a concessive in this condition.

The acceptability of factual *may* in *although* clauses and *while* clauses such as (ii) differs among native speakers.

(ii) {While/Although} I may be single, I’m happier than when I was with my ex-boyfriend.

Some say these sentences are acceptable, but others say they are not because of the presence of *may* in the first clause (it should be noted that some speakers do not accept the concessive use of *while* itself, and these speakers do not accept this sentence in its non-modal form either (see Note 11)).

However, the consideration of factual *may* in subordinate clauses is beyond the scope of this paper, which has as its object of study the characteristics of factual *may* in independent clauses.
least one of these in addition to Condition 1.\textsuperscript{13}

\subsection*{3.3.1. Condition 2: The SP’s Assumption that the AD Acknowledges the Truth of P1}

With respect to the contextual conditions for factual \textit{may}, Papafragou (2000) says that P1 is attributed to a preceding utterance of the AD’s. In other words, the context of factual \textit{may} includes a preceding utterance by the AD that contains P1, as in (13), which is repeated below (in part) as (26).

\begin{quote}
(26) A: Look, he’s a university professor.
B: He may be a university professor, but he sure is dumb.
\end{quote}

However, this is not an essential condition for factual \textit{may}, since there are many examples (such as (27a, b)) in which the context does not include such an utterance on the part of the AD.

\begin{quote}
(27) a. I’ll run, too. Let’s go. I may be a woman, but I’ve got strong legs. Don’t underestimate me and fall behind.\textsuperscript{14} (\textit{Nausicaä of the Valley of Wind 4})
b. I may be dying, but I am surrounded by loving, caring souls. How many people can say that?
\end{quote}

(Tuesdays with Morrie)

The context of (8) above (p. 445) also lacks such a preceding utterance.

A common property can be found in these examples: thinking that the truth of P1 is self-evident to the AD, the SP assumes that the AD has tacitly acknowledged P1 to be true in the preceding context. For example, the SP in (27a) assumes that the AD acknowledges P1 (i.e., ‘I am a woman’) to be true. It can thus be assumed that factual \textit{may} is acceptable if the SP assumes that the AD (tacitly or explicitly) acknowledges the truth of P1 in the preceding context. This reasoning is confirmed by the acceptability difference between the following examples:

\begin{itemize}
\item Conditions 2 and 3 are not true “conditions,” because they are not always met for the factual use of \textit{may}; as we will see later, only one of these conditions has to be met for this use (in addition to Condition 1). Here I will use the term “condition” in a broad sense, to refer to contextual factors which allow for the use of factual \textit{may} (and not to those factors which are necessary for this use).
\item The context of this utterance is that the SP, who was riding a horse, is expressing her willingness to dismount and run with her male followers.
\end{itemize}
A: Do you know Professor Smith?
B: Yeah.
A: What’s he like?
B: He {may be/is} a university professor, but he sure is dumb.¹⁵

A: Who is that man over there?
B: He is Jones.
A: What’s he like?
B: He {#may be/is} a university professor, but he sure is dumb.
A: Oh, why is he dumb?

The SP (B) in (28) assumes that the AD (A) acknowledges the truth of P1 (‘he is a university professor’) in the preceding context because of A’s question, “Do you know Professor Smith?” On the other hand, the SP (B) in (29) cannot plausibly assume that the AD (A) acknowledges the truth of P1, given A’s initial question. Factual may is acceptable only in the context of (28).

Let us consider another piece of evidence:

A: How are the Giants doing this year? They won last year, didn’t they?
B: They {may have won/?won} last year, but they’re terrible this year.

A: How are the Giants doing recently? I haven’t seen their games for years.
B: They {#may have won/won} last year, but they’re terrible this year.

These preceding contexts differ in whether or not B assumes that A knows that P1 is true. Factual may can occur only in (30), in which B assumes that A knows this P to be true.

Based on the preceding observations, I now propose the following

¹⁵ In this paper, a question mark “?” attached to non-modal sentences, as in (28), signifies that even though the non-modal sentence is acceptable, the modal sentence is preferred. On the other hand, the symbol “#” attached to modal-sentences, as in (29), signifies that the modal-sentence is not pragmatically acceptable.

The non-modal sentence in (28) becomes acceptable to the same degree as the modal sentence if the word is is stressed, as in He IS a university professor, but he sure is dumb. However, in this paper I will not discuss the effect of this kind of stress.
condition for factual *may*:

(32) Condition 2: The SP must assume the AD to have acknowledged the truth of P1 in the preceding context.

3.3.2. Condition 3: The AD’s Expression of Opinion

There is another contextual condition which restricts the occurrence of factual *may*. This condition can be seen at work in the following example:

(33) A: Who is that man over there?
B: He is Jones.
A: He seems pretty bright.
B: He {may be/?is} a university professor, but he is really dumb.
A: Oh. Why is he dumb?\(^{16}\)

This example does not meet Condition 2 because B, the SP, has no basis for assuming that A acknowledges the truth of P1 in the preceding context. To identify the distinguishing characteristic of this context, let us here compare (33) and (29), in which factual *may* cannot occur. What makes (33) different from (29) is that in the preceding context of (33) A conveys the opinion, *He seems pretty bright*, which is opposed to B’s opinion, *he is really dumb*, which is conveyed in C2. It can thus be assumed that there is another condition which can license factual *may*, i.e., the AD must express an opinion opposed to the SP’s in the preceding context.

This assumption is supported by the acceptability of factual *may* in the following example:

(34) A: How are the Giants doing recently? I haven’t seen their games for years, but they’re doing well now, aren’t they?
B: They {may have won/?won} last year, but they’re terrible this year.

This context does not meet Condition 2, either. From comparison with (31) (an unacceptable example), it is clear that the acceptability of fac-

\(^{16}\) There seems to be idiolectal variation in the acceptability difference between modal and non-modal clauses in (33) and (34). In this paper, I will not explore the question of this difference in judgment.
tual *may* here is related to the AD’s expression of a guess which is opposed to the SP’s view.

On the basis of the preceding observations, I now propose another condition for factual *may*, as follows:

(35) **Condition 3**: the AD must have expressed an opinion, which is opposed to the SP’s opinion, in the preceding context. (In this paper, the term “opinion” includes expectation and guess.)

In sum, factual *may* can be used either in the context which meets Conditions 1 and 2 or in the context which meets Conditions 1 and 3. In the former context, the SP assumes that the truth of P1 is acknowledged (tacitly or explicitly) by the AD before the utterance of C1, and C1 is followed by an unexpected C2 introduced by a concessive. On the other hand, the latter context is as follows: in the preceding context the AD expresses an opinion, and C1 is followed by an unexpected C2 introduced by a concessive.

In the latter context the utterance of C1 seems to imply that the SP supports the AD’s view by virtue of the content of P1. C2, however, is unexpected to the AD in the sense that the SP conveys an opinion that seems to be opposed to his/her utterance of C1, and is thereby also opposed to the AD’s opinion.

The context of factual *may* as presented by Papafragou (2000) in examples such as (13) satisfies all three of the above conditions: (i) the *may* clause is followed by an unexpected clause; (ii) the SP assumes the AD to acknowledge that P1 (‘he is a university professor’) is true; and (iii) the AD expresses an opinion (i.e., *I admire Jones*) opposed to the SP’s in the preceding context. However, as pointed out above, the occurrence of factual *may* does not require an utterance on the part of the AD involving P1 or a contextual implication by the AD.

4. **The Close Relationship between Factual *May* and Epistemic *May***

4.1. **The Meaning of Factual *May***

As we saw in Section 2, factual *may* conveys the following two attitudes on the part of the SP:

(36) a. An attitude of “granting” toward C1 (i.e. the truth of P1 or the AD’s view).

b. A grudging attitude toward an implication of the admission expressed in C1.
Sweetser (1990) regards factual *may* as an extension of deontic *may* by virtue of meaning (36a). On the other hand, Papafragou (2000) relates factual *may* to epistemic *may* in terms of meaning (36b) by assuming that both *may’s* signify the SP’s weak commitment to P1.\(^{17}\) In the following, I will consider how these two attitudes (or meanings) are conveyed in the factual interpretation.

To begin with, I will assume that the basic meaning of *may* is the one proposed by Papafragou (2000), given in 2.2 as (10), and that all three types of interpretations of *may* clauses involve a relationship of compatibility between the embedded P and a set of P’s in a domain (D).

\[(10) \quad \text{P is compatible with } D_{\text{unspec}}.\]

For the deontic meaning of *may*, the value of D is regulations (or the SP’s preferences), and for the epistemic meaning, it is the beliefs of the SP which support his/her possible conclusion (i.e. \(D_{\text{bel}}\)).

For the factual meaning of *may*, I propose that the value of D is the SP’s beliefs; however, this value differs from \(D_{\text{bel}}\) (above). \(D_{\text{bel}}\) (above) consists of evidential assumptions based on which the SP judges that the embedded P is possibly or necessarily true and, as Papafragou says (2000: 72), does not contain knowledge based on which the SP can determine the truth or falsity of P. On the other hand, the beliefs of the SP which are relevant in the factual use of *may* include a broader range of beliefs: i.e., the SP’s knowledge and assumptions (what s/he believes to be true), and also his/her preferences or opinions (what s/he believes to be good or right). In this paper, I will use the term “\(D_{\text{bel}}\) (SP)” to refer to the value of D for the factual meaning of *may*—i.e. the SP’s beliefs which include his/her knowledge, assumptions, preferences, and/or opinions.

\(D_{\text{bel}}\) (SP) includes different types of beliefs, as stated above, but in

\(^{17}\) Papafragou (2000: 133) says that the granting effect in question is the result of the SP’s understatement by use of epistemic *may* of the P whose truth is undisputed in context, i.e. the result of his/her conveying less than what s/he knows, as in (13) (see p. 449).

\(^{18}\) Like Papafragou (2000), I follow Kratzer (1981: 43) and define the meaning of compatibility as follows: a proposition p is compatible with a set of propositions A if, and only if, A ∪ \{p\} is a consistent set of propositions (i.e., there is a world in W where A and p are all true (for a more precise description, see Kratzer (1981: 42–43))).
context the AD picks out the most relevant set of P’s. For example, the AD of the modal clause *He may be a university professor, but he sure is dumb* in (13) (p. 448) would choose the SP’s knowledge as the value of D.

On the other hand, in the following dialogue, in which the truth of P1 is already shared and is not relevant, the AD (i.e. A) would put the set of the SP’s preferences into the D slot and interpret B’s utterance to mean that B acknowledges his/her preference.

(37) A: I like John, because he’s tall. So what do you think of John and Bill?

   B: John may be tall, but Bill is rich.19

Based on the above observations, I now propose that the meaning of factual *may* can be described, in part, as follows:

(38) P is compatible with Dbel (SP)

Meaning (36a) is reducible to the meaning of compatibility in (38), but meaning (36b) needs further explanation. The factual interpretation includes, in addition to (38), the meaning that the SP entertains another P and that this P is incompatible with the embedded P, if s/he actually shares the AD’s beliefs. This other P corresponds to P2 in context.

For example, at the same time as the SP in (13) utters the *may* clause, s/he also entertains P2 (‘he sure is dumb’), which s/he considers to be incompatible with P1 (‘he is a university professor’) because of a shared assumption with the AD that university professors are intelligent. This meaning can be represented as follows:

(39) Dbel (SP) contains another P (P2) which is incompatible with P1 when taken together with Dbel (AD)

In (39) Dbel (AD) refers to the same kind of beliefs as Dbel (SP). That is, it includes different types of beliefs on the part of the AD, such as his/her knowledge, assumptions, preferences, and/or opinions. Meaning (36b) can thus be reduced to the SP’s entertaining another P

19 This context satisfies Conditions 2 and 3. With respect to Condition 1, however, it is difficult to find an unexpected relation between the two clauses without context. In this context, the utterance of C2 after C1 is unexpected to A in light of the flow of conversation: i.e., what is unexpected here is that B expresses a different opinion from A just after she has uttered C1, implying that she has the same preference as A. This example indicates that preceding contexts also affect judgment on whether C2 is unexpected or not.
which seems to be incompatible with P1.

Combining (38) and (39), I now propose the following as the meaning of factual may:

\[(40)\] P1 is compatible with Dbel (SP), which contains another P (P2) which is incompatible with P1 when taken together with Dbel (AD). (In this paper, “Dbel (X)” refers to the set of beliefs of X which include his/her knowledge, assumptions, preferences, and/or opinions.)

The may clauses in (13) and (37) can be paraphrased as (41) and (42), respectively:

\[(41)\] P1 (‘he is a university professor’) is compatible with my knowledge which contains another P (‘he sure is dumb’) which is incompatible with P1 when taken together with your assumption that university professors are intelligent.

\[(42)\] P1 (‘John is tall’) is compatible with my preferences, which contain another preference (‘I prefer rich men such as Bill’) which is incompatible with P1 when taken together with your assumption that I have the same preference as you (‘I prefer tall men such as John’).

4.2. The Relationship of Factual May with the Other Uses of May

As we saw above, the first part of the meaning of factual may which was proposed in (40), i.e. the compatibility between P and Dbel, leads to the interpretation that the SP “grants” something. I argue that this sense of “granting” is related not only to deontic may but also to epistemic may, since the three meanings of may all involve the concept of compatibility, and they also essentially involve an attitude of “granting” on the part of the SP. In the case of epistemic may, the SP manifests a certain degree of this “granting” attitude in that s/he grants the possibility of the truth of P.

On the other hand, with respect to the negative meaning (i.e. the SP’s commitment to another incompatible P), we can only identify a relationship between factual may and epistemic may. Let us here consider the epistemic meaning of may. Again, I will follow Papafragou (2000) and accept the following meaning as the epistemic meaning:

\[(43)\] P is compatible with D_{bel}. (cf. (12b) p. 447)

I assume that this epistemic meaning implies the meaning given in (44).

\[(44)\] \neg P is compatible with D_{bel}.

That is to say, when one utters a may clause, such as She may be
Japanese, one implies the possibility of the negation of P, i.e., “she may not be Japanese.”

This assumption is also seen in previous studies, including van der Auwera (1986), Swan (1995), and Papafragou (2000: 77). Papafragou considers the acceptability difference between may and can in (45), saying that in the case of epistemic may the SP’s current belief leaves open the possibility for either P or ¬P to come out as true.

(45) Do you think that James is hiding something from the authority(ies)?
   a. He may be, and then again he may not.
   b. ?He can be, and then again, he cannot.

(Quote from Papafragou (2000: 77))

It can be assumed that in contrast to epistemic may, deontic may does not have the implication of ¬P, since in a situation in which one grants permission, what matters is only whether one allows someone else’s activity or not, as in the following:

(46) “May I put the TV on?” “Yes, of course you may.”

(Quote from Swan (1995: 332))

In a situation like this, the communication of the sense that ¬P is also compatible (e.g., you may not-put the TV on) is regarded as meaningless or irrelevant; hence, it can be said that deontic may does not contain the implicature ¬P.

Let us now consider the relationship between factual may and epistemic may. The meanings of these two are related in that the SP’s of both entertain two incompatible P’s at the time of utterance: in the case of factual may, the two P’s are incompatible when taken together with the AD’s expectations or beliefs; on the other hand, in the case of epistemic may, they are incompatible in terms of truth value.

In sum, factual may is related to both deontic and epistemic may with respect to the sense of compatibility, while it is related only to epistemic may with respect to the sense of the SP’s commitment to two incompatible P’s. From this it can be concluded that factual may has a closer relationship with epistemic may than with deontic may.

On the basis of this conclusion and the semantic development pro-

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20 van der Auwera (1986) characterizes this meaning as “indeterminacy,” and Swan (1995) describes it as “perhaps a 50 percent chance.”
posed in Traugott and Dasher (2002), we may say that, from a diachronic viewpoint, factual *may* is an extension of epistemic *may*. First, *may* was used to convey the sense of possibility in contexts which satisfy Condition 1 (i.e. in clauses before unexpected clauses), such as (14a–c) and (15) (p. 449). After the repetition of this use of *may*, *may* in this context came to be interpreted as having the meaning of the SP’s partial agreement, and finally it came to be used with factual P’s. (This use, however, is restricted to the context in which the acknowledgement of the truth of P1 is assumed to be shared with the AD or the AD expresses some opinion opposed to the SP’s.)

5. The Function of Factual *May* in Discourse

Finally, I will clarify a function that factual *may* has in discourse. To do so, I will consider the interpretation of the *may* clauses which were discussed in Sections 3.3.1–3.3.2, i.e. *may* clauses in contexts in which the SP assumes that the AD acknowledges P1 (henceforth, Context A), and those in which the AD expresses an opinion (henceforth, Context B).

5.1. The Interpretation of Clauses with Factual *May*

Let us look again at (28), which is an example of Context A.

(28) A: Do you know Professor Smith?
B: Yeah.
A: What’s he like?
B: He {may be/?is} a university professor, but he sure is dumb.

This *may* clause is interpreted as follows:

(47) P1 (‘he is a university professor’) is compatible with my knowledge, which contains another P which is incompatible with P1 when taken together with your beliefs.

In short, the SP grants the truth of P1 (as the AD does), but s/he also acknowledges a P which the AD *may* consider to be incompatible with P1.

Let us now consider (34), which involves Context B:

(34) A: How are the Giants doing recently? I haven’t seen their games for years, but they’re doing well now, aren’t they?
B: They {may have won/?won} last year, but they’re terri-
ble this year.
The interpretation of this *may* clause is as follows:

(48) P1 (‘they won last year’) is compatible with my knowledge, which contains another P which is incompatible with P1 when taken together with your beliefs.

That is to say, the SP grants that P1 is true, but s/he also acknowledges another P which the AD may consider to be incompatible with P1. In the case of Context B like this, it is understood that the SP’s favorable response has the effect of indicating that the AD’s view regarding the Giants is plausible.

5.2. Function of Factual *May*

Let us now consider the function of factual *may*. What is important here is that in Contexts A and B the use of non-modal clauses could lead to a faulty interpretation.

In Context A (such as (28)), in which the truth of P1 is already known to the AD, the non-modal utterance of P1 could be considered as adding nothing; i.e., in Grice’s (1975: 45) terms, it flouts the maxim of Quantity (*Make your conversation as informative as is required*). Since non-modal sentences are generally used to inform the AD of P, it is understood that in examples such as (28) the use of factual *may* is preferable to make C1 more informative by virtue of the two meanings of this *may* (i.e. the SP’s granting and grudging attitudes).

Let us now consider Context B, as in (34). In this context the utterance of the non-modal clause could easily convey that B agrees with A’s opinion. Since B actually has an opposing view, it is understood that the use of factual *may* is more acceptable here because it suggests this view in C1.

From these observations it can be argued that factual *may* has a “procedural function” in discourse, i.e. to point the AD in the right direction for interpretation.21

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21 By the term “procedural function” I mean the function of an expression, such as *but, so, indeed,* or *in fact,* which gives AD’s instructions on how to relate the sentence or clause to which it is attached to other P’s in the discourse. See, for example, Blakemore (1992) and Grundy (2000) for discussion.
6. Conclusion

In this paper, I have clarified the following characteristics of factual may. First, factual may occurs in contexts with both of the following properties: (i) C1 is followed by an unexpected C2 and the two clauses are linked by a concessive; (ii) in the preceding context, the SP assumes that the AD acknowledges the truth of P1 or the AD expresses some opinion opposed to the SP’s. Secondly, I have proposed that factual may expresses the following meaning: “P1 is compatible with the SP’s beliefs, which contain another P which is incompatible with P1 when taken together with the AD’s beliefs.” Based on this meaning, I have argued that deontic may, epistemic may, and factual may are all related with respect to the sense of “granting,” but that factual may is closer to epistemic may in that SP’s of both hold two incompatible P’s. Finally, I have argued that factual may is used to prevent faulty interpretation and thus has a procedural function in discourse.

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Source of Examples


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