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The Semantic Interpretation
of Unconditionals

ILAN HAZOUT

1. Introduction

This paper will be concerned with the semantic interpretation of sentences such as in (1):

- (1) a. Whatever Mary wears, she looks pretty.
b. Whoever comes in we (will) remain seated.
c. However rich Mary might be, John will not marry her.
d. Wherever you go, you will always have to pay taxes.

The sentences in (1) all consist of two parts: a main clause ("she looks pretty" in (1a)) and an "unconditional clause" headed by WH-ever preceding it. This order is in fact not essential to the construction and an unconditional clause can also follow the main clause as in the following examples.

- (2) a. Mary looks pretty, whatever she wears.
b. We (will) remain seated, whoever comes in.
c. John will not marry Mary, however rich she might be.
d. You will always have to pay taxes, wherever you go.

The main feature of the interpretation of these sentences has to do with the conditional relationship between the meaning of an adverbial clause headed by "WH-ever" and the meaning of the main clause. In particular, such sentences are interpreted as claiming the truth of the proposition expressed by the main clause independently (or "unconditionally") of the choice of any particular value for the variable represented (or bound) by the WH-phrase in the adverbial clause. Following Zaefferer (1987) I will refer to such adverbial phrases as unconditional clauses.

Let us first try to clarify what an unconditional interpretation is. Consider example (3).

- (3) Wherever John lives, he will always have to pay taxes.

(3) has at least the two following readings. The first reading may be paraphrased as follows: "In the place in which John lives he will always have to pay taxes". Such an interpretation may be intended in a situation where a certain place was mentioned in previous discourse, the name of which the speaker does not remember at the moment of utterance. Under a second interpretation a statement is made about a conditional relationship between John's living somewhere and John's having to pay taxes, namely, a statement is made that such a relationship does not exist, that is, John will have to pay taxes wherever he lives. The following examples may serve as a further illustration.

- (4) a. Whoever wins the election I will invite for dinner.
 b. Whoever wins the election, the situation will be bad.

The sentence in (4a) talks about the specific, or unique, winner of the election whose identity is not known at the moment of utterance. That person will be invited for dinner. The interpretation of (4b) on the other hand is radically different. (4b) makes the claim that a certain relationship holds between two entities that are propositional in nature, namely, the proposition that the situation will be bad, on the one hand, and "Whoever wins the election" on the other. Obviously, we will have to clarify in what sense this second entity is propositional. However, it is not hard to see what the minimal difference between (4a) and (4b) is. Whereas in (4a) an NP free relative (FR)

is related by syntactic movement to a gap in the main clause, such a relationship does not exist in (4b). Thus, if the FR in (4a) was related to the same position in the main clause with only the difference that that position was occupied by a pronoun instead of a gap, the interpretation indicated for (4a) would not be available and the only possible interpretation would be the unconditional one as demonstrated by (5).

- (5) Whoever wins the election, I will invite him for dinner.

(5) says that the person who wins the election will be invited for dinner regardless of who it is. Thus, whereas the pronoun occupying the object position of "invite" in the main clause is anaphorically related to the subject position "of win the elections" in the unconditional clause, the FR in (4b) is related to that object position by movement, that is, it is an argument of the verb. If this observation is supposed to lead to any generalization, we would expect that the same fact would hold for unmoved FRs in argument positions. This is certainly true for the following example, to be compared with (5).

- (6) I will invite whoever wins the election for dinner.

This seems to be true also for FR's figuring as subjects (7a) or objects of prepositions (7b).

- (7) a. Whoever wins the election will raise taxes.
b. They will talk with whoever is willing to talk with them.

Thus, it seems that for a constituent to be interpreted as an unconditional clause it must not be related to an argument position in the main clause, either by occupying such a position or by being moved from it.

Let us summarize the two main observations presented above. Our first observation concerned a distinction between two types of interpretation available for phrases headed by WH-ever. The first, the "unconditional" interpretation, will be the main interest of this paper. The second is the regular interpretation available for any constituent type, either headed by WH-ever or not. Given this distinction, we then observed that the unconditional interpretation is not available for a "WH-ever phrase" which is syntactically

related to an argument position. It is possible that a syntactic account could be provided for this observation. Such an account could simply consist of indicating that, given the nature of the unconditional interpretation, such an interpretation could only be assigned to sentential constituents. It would then follow that phrases which must be construed as NP's (or other category types) subcategorized for by a verb cannot qualify for this kind of interpretation. Since this question is basically syntactic in nature no attempt will be made to resolve it here. Rather, the main interest of this paper will be the nature and derivation of the unconditional interpretation.

2. The discourse function of unconditionals

An important notion that, as I will try to show, is central to the analysis of unconditionals is the one of conversational background. This notion is related to what has been referred to in the literature as "common ground", "speaker presupposition" and possibly other terms. As suggested by Stalnaker (1978) and Heim (1982), the presuppositions of the speaker are the propositions whose truth he takes for granted as part of the background of the conversation and which he assumes that his audience believes or assumes to be true as well. One may assume that in an ideal communication situation there is a certain set of presuppositions that are shared by all participants. This is the common ground of a context. Assuming a possible worlds framework, a set of speaker's presuppositions may be defined as a set of all and only possible worlds which are compatible with everything that the speaker presupposes. Such a set of possible worlds is referred to by Stalnaker (1978) as the "context set." The effect of an assertion made in a conversation situation is to reduce the context set in a particular way. Assuming the willingness of the audience to accept the assertion, a new context set is created by eliminating all the possible worlds that are incompatible with the proposition asserted. It is assumed by Stalnaker that a proposition asserted is always true in some but not all of the possible worlds in the context set. This follows if one assumes that a speaker does not felicitously assert something which is already presupposed (that is, true in all the worlds of the context set). Thus, the effect of a felicitous assertion is always a reduction of the context set.

It will be seen later in this paper how the notion of conversational background can be integrated into a more general theory of conditional modality, but given this notion as presented so far, a simple conditional as in (8) may help to illustrate the interaction of unconditionals with the conversational background.

(8) If I scratch this match, then it will light.

Given normal circumstances, in particular, circumstances in which this match is dry and not wet, the conditional in (8) would be normally taken to be true. That is, given a certain set of implicit background assumptions and the antecedent clause "I scratch this match," the consequent "it will light" is claimed to follow.

The conditional statement made in the following example is clearly different:

(9) If I scratch this match and it is wet, then it will light.

In (9) the assumption of normal circumstances in which matches are dry is explicitly denied. (9) certainly does not follow from (8). It makes a different statement. Consider now the following unconditional:

(10) Whichever match I scratch, it will light.

Assuming that by "whichever match" one means to include any kind of matches, including both wet and dry, then, among other claims, it makes also the one that the match will light even if it is wet. A background assumption as to normal circumstances in which matches are dry is not explicitly denied, but it is clear that such an assumption is not made. Rather, the proposition expressed by the main clause ("it [the match] will light") is asserted to be true regardless of what kind of match (wet or dry) is scratched. That is, as far as the background is concerned, no assumption is made with respect to this particular detail. One may say that the background is free to vary over all possible values with respect to this parameter.

The important observation that the interpretation of unconditional clauses is associated with this particular discourse mechanism of "opening the background" was first made by Zaefferer (1987). It is this observation that will serve as our point of departure. Our

task in this paper will be to demonstrate how it can be derived from a general theory of conditional modality.

One may relate the above observations to the fact that unconditional sentences are easily paraphrasable as even-if conditionals, as in the following pair:

- (11) a. However tall John is, he will be a great basketball player.
 b. Even if he is short, John will be a great basketball player.

Given a set of background assumptions which includes the one that in order to be a basketball player, being tall is normally a required condition, an unconditional such as (11a) can be paraphrased as in (11b), since (11a) is understood as a rejection of such a background assumption. Clearly (11a) does not claim that if John was tall, he would be a great basketball player. Rather, what it claims is that whether or not he will be a great basketball player does not depend on how tall he is.

Thus, assuming a certain pragmatic scale varying over the property of "being tall" and which goes from the value "very tall" all the way down to "short", then our average real world knowledge includes the assumption that a certain value within this scale has to be assigned to a person in order for that person to be able to become a great basketball player. However, as soon as any assumptions with respect to this scale are rejected as irrelevant, it is immediately implied that one can go all the way down on this scale and the proposition expressed by the main clause ("John will be a great basketball player") will still be true.

Given this view of the implicational relation between (11a) and (11b) and assuming the same kind of background knowledge, in particular an assumption such as "If a person is (very) small then he can never be a great basketball player", then a reversed implication such as in (12) is expected:

- (12) a. However tall John is, he will never be a great basketball player.
 b. Even if he is very tall, John will never be a great basketball player.

A detailed analysis of how the interpretation of unconditionals is derived will be attempted in the following sections.

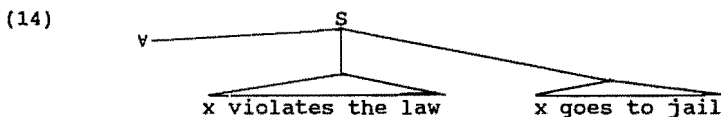
3. Unconditionals and conditionals

In trying to develop a semantic analysis of unconditionals, I will first indicate why and how such an analysis should differ from the analysis of regular conditionals.

In presenting the data in Section 1 we noted the difference between FR's occupying an argument position inside the main clause and WH-constituents that function as unconditional clauses and are not syntactically related to any argument position. We observed the contrast between pairs such as the following:

- (13) a. Whoever violates the law will go to jail.
 b. Whoever violates the law, he will go to jail.

Assuming the framework developed by Lewis (1975) and Heim (1982), among others, a logical representation of (13a) would be a tripartite structure which looks roughly as follows:



In this representation, the "propositional function" derived from the FR serves as a restrictive clause while the "propositional function" derived from the matrix clause by extracting the FR from it serves as a nuclear scope. The subject-FR is understood as universally quantified, therefore the universal operator. The interpretation of logical forms such as this one is such that for the sentence to come out true, it must be the case that every value assignment which satisfies the restrictive clause also satisfies the nuclear scope.

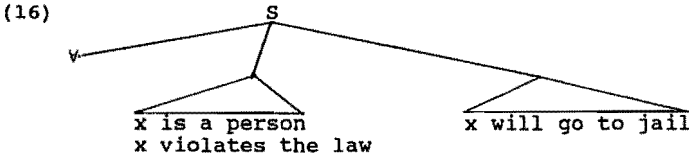
(13a) is identical in meaning to (15a) and (15b).

- (15) a. Every person who violates the law will go to jail.

UNCONDITIONALS

- b. If a person violates the law, he will go to jail.

The logical form of (15a,b) is basically identical to (14) except for the maximally general additional condition that "x is a person", a condition which changes nothing with respect to the truth value of (15a,b). (16) would be the logical form that incorporates this additional condition.



In both (14) and (16), the variable x is directly quantified over. The logical formulae corresponding to (14,16) will be (17a) and (17b), respectively.

- (17) a. $\forall x$ [violates the law(x)] [will go to jail (x)]
 b. $\forall x$ [person(x) & violates the law(x)] [will go to jail(x)]

There is a subtle but still visible difference in meaning between (13b) (the unconditional) on the one hand, and (13a) and (15a,b) on the other, namely, in (13b) the sense of generality and exceptionlessness is stronger than it is in the other three forms. There are, however, examples in which the contrast between a conditional and an unconditional is much clearer. (The following pairs are from Zaefferer (1987)).

- (18) a. If we pay him something, Max does his job.
 b. Whatever we pay him, Max does his job.
- (19) a. If she wears something, Amanda looks pretty.
 b. Whatever she wears, Amanda looks pretty.

The (a) and the (b) members of the pairs above differ clearly in truth conditions. Whereas in the unconditionals (b) the proposition expressed by the main clause is claimed to be true, this is not the case in the (a) sentences. In these examples only a conditional relationship is claimed to hold between the main clause and its antecedent. Given our framework, the (a) examples will be assigned the usual logical form as indicated for previous examples (16). If the same

logical form is assigned to (18b) and (19b), the question that arises immediately is how this difference in meaning can be accounted for. In the next pages I will try to provide an analysis of unconditionals which will be in conformity with the general analysis of conditionals. In this analysis, unconditionals are limited to tripartite structures in which modals function as operators. The difference in meaning between conditionals and unconditionals is derived, on this view, from the different way in which these logical forms are semantically interpreted. Such an analysis of unconditionals will be shown to follow from a general theory of modality. In particular, I will make use of the theory of conditional modality as developed by Kratzer (1979, 1987). I will therefore proceed first to a somewhat detailed presentation of Kratzer's theory of modality.

4. A theory of conditional modality

In the framework of possible worlds semantics, a proposition is defined as the set of possible worlds in which it is true. Given such a conception we may think about worlds in terms of the sets of propositions that are true in those worlds. We can further use these notions to give a model theoretic definition of what was referred to earlier as the conversational background. In these terms, a conversational background is just a function from possible worlds to sets of propositions. A further step along these lines consists of a distinction between different kinds of conversational backgrounds, accounting for the different meanings a modal (explicit or implicit) can have. For example, a modal like "must" can have (among others) a deontic, an epistemic, or a preferential meaning, as exemplified in (20-22).

(20) Deontic:

Soldiers must obey their orders (in view of what is legally prescribed)

(21) Epistemic:

It must be hot on the surface of the sun (in view of what is known)

(22) Preferential:

We must have that hat (in view of what our preferences are)

Thus, a deontic conversational background consists of a certain set of propositions which define a certain moral code or legal system. In our terms, a deontic conversational background is a function H which assigns to each world a set of propositions defining a moral code or a legal system in that world. The same would apply for all other sorts of conversational background.

Modals in this theory specify some logical relation between the proposition which is the meaning of the sentence which they modify and the set of propositions of which the background consists (the set of propositions assigned to a world W by H). For example, must specifies a relation of logical consequence. Thus, (20) is true in a world W if the proposition; "witnesses swear to tell the truth" follows logically from the set of propositions assigned to that world by the function H, interpreted deontically. The kind of conversational background involved in the interpretation of a sentence may be either implicitly or explicitly stated. Things get a little bit more complex when it comes to modal conditionals such as (23) (with a deontic conversational background).

(23) If they are convicted, defendants must appear in court for sentencing.

In this case, it is the union of the antecedent clause with the conversational background which is relevant. However, given that the relationship between the set resulting from this union and the proposition expressed by the main clause is that of logical consequence, one must be careful about what the resulting union set is. In particular, if the resulting set is inconsistent, anything will follow from it. Since this part of Kratzer's theory will turn out to be crucial for the analysis of unconditionals, I will illustrate it with the following example. Suppose that a deontic conversational background consists of the propositions in (24).

(24) a. No one serves as captain of an oil tanker while drunk.
b. Anyone serving as captain of an oil tanker while drunk loses his license.

Given a conditional with the antecedent clause in (25) below, since (25) is inconsistent with (24a), any of the propositions in (26), if used as the consequent

clause of (25), will follow from the union of (24) and (25).

(25) If John serves as captain of an oil tanker while drunk

- (26) a. he must lose his license
 b. he must not lose his license
 c. his license must be displayed at the national gallery
 d. he must be distinct from himself.

Clearly, this is an undesirable result. To solve this problem, Kratzer proposes to adjust the interpretation of modal conditionals in the following way: Consider a scheme such as (27) representing a modal conditional with must as its modal verb and with p and q being the propositions expressed by S_1 and S_2 respectively.

(27) If S_1 must S_2

Given a set of propositions A serving as the conversational background for (27), then must specifies that q should follow from every maximal consistent subset of the union of A and p , ($A \cup \{p\}$) which includes p . Applied to our example, since (24a) and (25) are inconsistent, the only maximal consistent subset of the union of (24) and (25) will be the one including (24b) and (25) from which only (26a) follows logically, so that the conditional (28) will come out true.

(28) If John drives down a one-way street the wrong way, he must lose his license.

For a modal like "can", the analogous requirement would be that q should be compatible with the set of all maximal consistent subsets of ($A \cup \{p\}$) which include p , that is, it should follow from at least one of them. Stump (1985) applies this theory of modality to the semantic analysis of free adjuncts and develops some useful notation.

For sentences in which a modal is unaccompanied by a conditional clause, so that the sentence is interpreted relative to a certain conversational background, a function C is assumed which takes as input a constant of type $\langle s, \langle \langle s, t \rangle, t \rangle \rangle$ which denotes the conversational background and gives as output the set of all its consistent subsets, that is, a constant of type $\langle s, \langle \langle \langle s, t \rangle, t \rangle, t \rangle \rangle$. C is thus a constant of type

$\langle\langle s, \langle\langle s, t \rangle, t \rangle \rangle, \langle s, \langle\langle\langle s, t \rangle, t \rangle, t \rangle \rangle \rangle$. A modal is a function which takes as its two arguments the output of C ($\langle s, \langle\langle\langle s, t \rangle, t \rangle, t \rangle \rangle$) and a proposition $\langle s, t \rangle$ and yields a truth value.

Thus, the modal must is a function of type $\langle\langle s, \langle\langle\langle s, t \rangle, t \rangle, t \rangle \rangle, \langle\langle s, t \rangle, t \rangle \rangle$ which gives the truth value 1 if for any proposition p and any set S of maximal consistent subsets s, p follows from S for every $s \in S$. A modal like can would be defined in an analogous way.

For the case of conditional modals a function D is assumed which takes as its input a constant of type $\langle s, \langle\langle s, t \rangle, t \rangle \rangle$ denoting the conversational background and a proposition and yields the set of all consistent subsets of these two which include the given proposition. Thus, D is a constant of type $\langle\langle s, \langle\langle s, t \rangle, t \rangle \rangle, \langle\langle s, t \rangle, \langle s, \langle\langle\langle s, t \rangle, t \rangle, t \rangle \rangle \rangle \rangle$. Given these formalisms, the sentences in (29a) and (30a) will be translated as in (29b) and (30b) respectively (where cb stands for the conversational background).

- (29) a. John must write his paper.
 b. Must (C(cb)) (John writes his paper)
- (30) a. If John has enough money, he can buy this car.
 b. Can (D(cb))(John has enough money) (He buys this car).

5. The interpretation of unconditionals

Coming finally to the analysis of unconditionals, the first thing to note is that unconditional clauses are incorporated into the overall interpretation just like if-clauses and free adjuncts. Thus, the truth functional import of the whole expression is evaluated with respect to the union of the set of background assumptions A and p, with the difference that p in this case is a universally quantified expression of the form: "Fx". Everything in the interpretation of unconditionals follows from this difference. One problematic issue needs to be mentioned before we present the interpretation mechanism. On the analysis of unconditionals proposed here, their interpretation always involves the conversational background in the precise sense defined earlier. As "concrete objects" figuring in a semantic representation, conversational backgrounds are arguments of operators, in particular,

modal operators. It is only in this way that they can fit into well formed semantic representations such as, for example, the ones given in (29b) and (30b). However, examples of unconditional sentences which have no overt modal operator are not too hard to find. (1a), repeated here as (31), is one such example.

(31) Whatever Mary wears, she looks pretty.

It will therefore be necessary to assume that unconditional sentences such as (31) always involve an implicit modal operator of some sort. As to the actual mechanism of interpretation, the semantic representation of the unconditional clause which serves as input to the function D is an expression of the form "Fx". For example, the unconditional clause in (32a) is translated as in (32b).

(32) a. However tall John is, he will never be a great basketball player.
b. [John is x tall].

Given a conversational background, the question is now how a set of maximal consistent subsets including (32) is formed. The notion of consistency for a set of propositions A and a set of worlds W is defined in Kratzer (1979) as follows.

(33) Consistency: A set of propositions A is consistent if and only if there is a world $w \in W$ such that all propositions of A are true in W. Otherwise, A is inconsistent.

The above definition of consistency makes use of the notion of truth which is defined as follows:

(34) Truth of a proposition: A proposition P is true in a world $w \in W$ if and only if $w \in P$, otherwise, P is false in w.

Obviously, the notion of consistency is only defined for propositions. To see how an expression such as in (32b) can be incorporated into the background, in order for a set of maximal consistent subset to be formed, some additional machinery will be needed.

Assuming a domain of quantification D to be a contextually relevant set, then given a domain D, we can define a set P' of propositions, as follows.

$$(35) P' = \{p \mid \exists d \in D \ \& \ [p = [\mid \phi \mid]^{d/x}] \}$$

Assuming the definitions formulated above, no additional adjustments are needed with respect to the definition of the function D (not to be confused with the domain D). Thus, D operates on its arguments as represented in the following expression.

$$(36) D(cb) (\tilde{p})$$

Given that p in our case is the propositional function Fx (the translation of the unconditional clause), with x in the scope of a universal quantifier (signaled, or represented, in English by the morpheme "-ever"), the function D applies for each one of $p' \in P'$, thus exhausting the contextually given domain D.

The output of the operation in (36) (for $p = Fx$) is a set S of maximal consistent subsets $s \in S$ such that (for some s') $s = s' \cup \{p'\}$ for all $p' \in P'$.

To illustrate, consider example (32). p is the expression given in (32b). The set P' corresponding to p ($\{[John \text{ is } x \text{ tall}]\}$) is the set of propositions p_1, p_2, \dots, p_n as follows.

- (37) p'_1 : John is 4 feet tall
 p'_2 : John is 5 feet tall
 " "
 " "
 p'_n : John is n feet tall

Thus, for any subset of the set of propositions given by the background to be consistent with $[John \text{ is } x \text{ tall}]$, it must form a union set with each one of p'_1, \dots, p'_n such that each one of the resulting sets is consistent. Note now that if no assumption with respect to John's height is included in the conversational background, then no inconsistency arises. However, if there is in the conversational background an assumption with respect to John's height, for example: "John is 6 feet tall", then, given that it is impossible for a person to be both x feet tall and y feet tall, (for $x \neq y$), at one and the same time, this assumption will be inconsistent with all the propositions in P' except for one. Therefore, it does not figure in any of the sets $s \in S$ except for one. It is this computational mechanism that gives rise to the special

effect of "opening the background", associated with unconditionals.

Moving one step further, a modal operator in an unconditional sentence defines a relationship between the output of the function D and the proposition Q expressed by the main clause (as in (29b), (30b)). Given the set of maximal consistent subsets S which is the output of D , a modal like must imposes the requirement that Q logically follow from all $s \in S$: As was said before, for all $s \in S$ there is some $p' \in P'$ such that $p' \in s$. Thus, all the sets $s \in S$ are identical except for $p' \in P'$ which figures as a member of each one of them. The propositions $p \in P'$ were defined as the set of propositions of the form Fa_1, Fa_2, \dots, Fa_n , with the set of constants a_1, a_2, \dots, a_n , denoting each and all of the individuals in a contextually relevant domain D . Thus, for Q to follow from $s \in S$ its truth must not depend on the denotation of any of a_1, a_2, a_n . That is, as far as any particular value in the relevant domain D is concerned, Q must be true. It is by this mechanism that the particular "unconditional" interpretation of these constructions is derived.

6. Conversational backgrounds, modal operators and Logical Form

In view of the analysis presented above, in particular the proposal that unconditional clauses function as arguments of operators, two issues need to be discussed. First, it might be expected that unconditional clauses would be interpretable equally well with all types of conversational backgrounds. This seems to be fairly unproblematic. The following examples illustrate unconditional clauses interacting with deontic, epistemic and preferential conversational backgrounds, respectively.

- (38) (Deontic) Whoever comes in, you must remain seated.
- (39) (Epistemic) Whatever you find in that drawer, it must belong to John.
- (40) (Preferential) However expensive it might be, I must have this book.

Note that (38) is in fact ambiguous between (at least) a preferential and a deontic reading. Thus, a

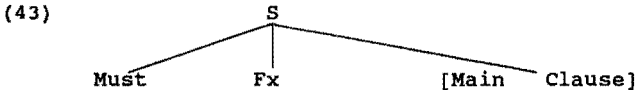
deontic reading is relevant under circumstances in which a certain requirement or obligation to have the book is imposed on the speaker. We also find examples that show ambiguity between an epistemic and a deontic interpretation.

- (41) Whoever teaches in this department must have received a Ph.D.

One also finds acceptable cases of unconditionals cooccurring with the existential modal "may". The following is such an example in which the modal operator is most naturally interpreted deontically.

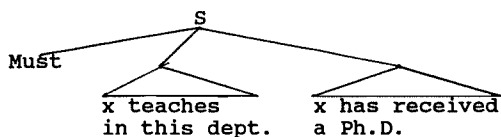
- (42) Whoever comes in, you may remain seated.

The discussion in the previous sections of this paper concentrated on the semantic interpretation of these constructions. It was assumed, however, that at the level of Logical Form unconditional clauses are represented in conformity with the general analysis of conditionals. Within such a framework unconditionals are represented as tripartite structures in which modals function as operators. Given this approach, we assume the basic logical form for an unconditional sentence, with the modal "must", to be a configuration such as the following:



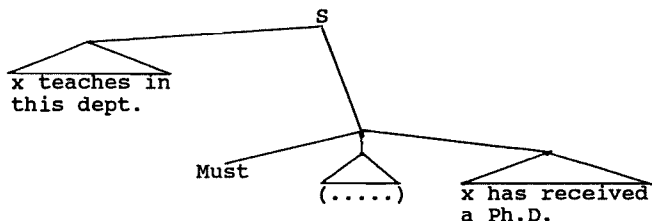
In this configuration the propositional function Fx, representing the unconditional clause, figures as a restrictive clause. It is also assumed that in the basic case of (43) a universal operator is implicit in the interpretation of the modal "must". A universal operator is always involved in the interpretation of an unconditional. It is assumed that the morpheme "-ever" serves as a signal to this effect. Given this approach, we may attribute to (41) the following LF configuration.

(44)



In such a representation, the possibilities (necessity, in this case) are claimed in terms of the values of the restrictive clause (x teaches in this department). However, (41) may also have an interpretation in which necessity is claimed in terms of each particular value (roughly: for all x, if x teaches in this department, then, given certain regulations, it must be the case that x has received a Ph.D.). A representation of such a reading could look like (45) in which one tripartite structure is embedded inside the other.

(45)



In this configuration a universal quantifier figures explicitly as an operator with the unconditional clause as its restrictor. The restrictive clause for the modal operator would consist of background assumptions specifying a certain set of regulations (university regulations in this case). Note now that, given the two possible configurations above, only (45) would be available for unconditionals with an existential modal (e.g. "may") since such a modal is incompatible with an implicit universal operator. Accordingly, one expects to find cases for which it is arguable that such a modal statement is incompatible with the restriction by the unconditional clause. The following (due, like much of the discussion in this section, to B.H. Partee) is possibly an example of such a case.

(46) *Whatever you find in that drawer, it may belong to John.

7. Relevance and the conversational background

Consider the following example:

- (47) Whenever you come to the restaurant, we will serve you.

As was noted above, adverbial clauses headed by WH-ever are free to have both the unconditional and the regular adverbial interpretation. We will concentrate here on the unconditional reading, which seems to be the more salient. The interpretation of (47) implies an assumption on the part of the speaker that there is normally some connection of relevance between the time of the day and whether or not a person will be served. That is, given normal background assumptions, food is served in the restaurant only during certain hours. As Kratzer (1979) notes, generalizing her own statement, a conversational background (in the precise sense assumed here), reflects in a certain way the assumptions which are relevant in the situation of utterance. Thus, let us assume the following conversational background for (47).

- (48) a. If a person comes to the restaurant during opening hours, he will be served.
b. A person comes to the restaurant during opening hours.

Note that, given this background, the following modal conditional is true as predicted by our mechanism, since none of the propositions conflicts with its antecedent clause.

- (49) If John comes to the restaurant during opening hours, he will be served.

I would like to claim that (48) is also the conversational background relevant for (47). In this case, the proposition with respect to which consistency is checked is the following:

- (47') [you come at x] (for x ranging over times).

Given our mechanism, (48b) is eliminated from all of the resulting maximal consistent subsets, but (48a), the general conditional statement, is not. This kind of effect is more striking in examples such as the following.

(50) However tall you are, you will make a good cook.

(51) Whoever is elected president of the U.S.A, there is going to be a tornado in Florida.

(50) implies an assumption made by the speaker that how tall a person is is somehow relevant for the property of being a good cook. That is, there is an implicit conditional such as: "If a person is tall to such and such a degree, he is a good cook". (50) is interpreted in such a way that such a conditional still holds, except that it does not hold with respect to the person to which (50) is addressed.

In (51) again, the (I assume) absurd assumption is made by the speaker that the identity of the president of the U.S.A. is somehow relevant to whether or not there will be a tornado in Florida. Thus, (51) has in its background a proposition such as: "If a certain (type of) person is the president of the U.S.A., then there is a tornado in Florida." This conditional assumption remains in the background. But any assumption with respect to any specific person x such as, " x is the president of the U.S.A" is eliminated.

Appendix : Unconditionals in Hebrew and the Syntax of Unconditionals

Unconditional constructions in Hebrew are identical to their English counterparts in most relevant respects. However, it seems to me that the problem of their correct syntactic analysis can be better illustrated with the Hebrew data. Before going into this question it would be useful to mention one important fact. Note that in English the morpheme -ever is obligatory in an unconditional clause in order for it to fulfill this particular function. The absence of -ever results in ungrammaticality unless the clause from which it is missing can be construed with an argument position in the main clause. As for Hebrew, to signal the function of a constituent as an unconditional clause it makes use of the negation word lo (not).

- (1) mi Se *(lo) yenatseax ba- bxirot ha-
 who that *(not) will win in the election the
 matsav yihye ra
 situation will be bad

"Whoever wins the election, the situation will be bad."

As can be seen from the translation above, (1) contains no negation in its interpretation. This use of negation is traditionally referred to as "pleonastic negation".

Coming back to our main issue, except for the obligatoriness of the negation lo, Hebrew unconditional clauses are identical in their surface appearance to FRs of all category types. The examples in (2-3) illustrate identical sequences figuring as unconditional clauses (a), as FRs moved out of an argument position in the main clause (b), or as occupying that position (c). As one may see, the difference of function of the same sequences is correlated with a different interpretation of the negation word lo.

- (2) a. ma *(Se) Dan lo yikne ze yihye
what *(that) Dan not will buy it will be
 yakar
 expensive
 "Whatever Dan buys, it will be expensive."
- b. ma *(Se) Dan lo yikne Dina tikne
what *(that) Dan not will buy Dina will buy
 "What(ever) Dan will not buy, Dina will buy."
- c. Dina tikne ma *(Se) Dan lo yikne
 Dina will buy what *(that) Dan not will buy
 "Dina will buy what Dan will not buy."
- (3) a. im mi *(Se) Dan lo yedaber hu
with whom *(that) Dan not will talk he
 yargiS meSu'amam
 will feel bored
 "Whoever Dan will talk to, he will feel bored."
- b. im mi *(Se) Dan lo yedaber Dina
with whom *(that) Dan not will talk Dina
 tedaber
 will talk
 "Dina will talk with those who Dan will not talk to."
- c. Dina tedaber im mi *(Se) Dan lo
 Dina will talk with whom *(that) Dan not
yedaber
will talk
 "Dina will talk with those who Dan will not talk to."

As the examples above show, the occurrence of the complementizer Se is obligatory both for unconditional

clauses and for FRs. The occurrence of Se is typical also for restrictive relatives in Hebrew.

- (4) ha-sefer Se tikne
the book that you will buy

Se is also obligatory in non-WH sentential complements (5) as opposed to interrogative complements (6). (OM = Object Marker).

- (5) Dan omer *(Se) hu kara et ha-sefer
Dan says *(that) he read OM the-book
- (6) Dan Sa'al mi (*Se) kara et ha-sefer
Dan asked who (*that) read OM the book

Thus, with respect to the distribution of the complementizer Se, unconditional clauses pattern like relative clauses and unlike WH-sentential complements. The distribution facts in (2-3) would also support a view of unconditional clauses as FRs (possibly headed by a nominal or a prepositional WH-element, respectively). Viewing unconditional clauses as sentential would immediately raise the question as to the contrast with the sentential complements in (6). Whereas in (6) the cooccurrence of a WH word with Se (presumably the head of COMP) is strictly prohibited, exactly the opposite is true of unconditionals, as demonstrated in (2-3). However, viewing unconditional clauses as syntactically sentential would certainly be preferable given the facts about their interpretation and their formal analysis presented in this paper. It is certainly desirable to maintain a certain correlation between syntactic and semantic categories. However, it is hard to see how the restrictions on the distribution of Se could be correlated with the semantic function of unconditionals. It is possible that these facts, in particular the contrast between unconditionals and sentential WH-complements, would follow from some adequate theory of the structure of COMP and a particular analysis of the structure of COMP in Hebrew. One might wonder whether such an analysis is feasible, relating the syntactic and the semantic facts in a way which would be more than just a statement of the facts.

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