

ON THE CONTRIBUTION OF CONDITIONAL *THEN**

This paper addresses the question of whether the appearance of *then* in a conditional construction has any effect on the meaning of the sentence as a whole. It will be suggested that *then* does make a contribution by way of a particular presupposition associated with it. This also results in *then* sometimes conflicting with the intended meaning of the sentence; in such cases its appearance is precluded. Certain aspects of the syntax of *then* will be discussed in parallel.

1. THE QUESTION: DO '*IF p, q*' AND '*IF p, THEN q*'
MEAN THE SAME THING?

It is widely assumed that the appearance of *then* in a conditional is optional and that it contributes nothing to the meaning of the conditional as a whole.¹ In other words, (1a) and (1b) are taken to be equivalent:

- (1) a. If Pete runs for President, the Republicans will lose.
b. If Pete runs for President, then the Republicans will lose.

Yet, there is the lingering feeling that (2b) cannot be used instead of (2a):

- (2) a. If I may be frank, John is not looking good today.
b. If I may be frank, then John is not looking good today.

In this paper I will try to make this lingering feeling precise by offering a specific proposal for the meaning of *then*, such that its presence is sometimes predicted to result in degraded sentences. My proposal should only be seen as a preliminary investigation and as an attempt to introduce this aspect of the behavior of conditionals to the relevant debates; it does not pretend to provide a conclusive solution. Since this study could not rely on much existing knowledge, further research is bound to find more data and more refined solutions. A few aspects of the syntax of *then*, which also regulates its appearance, will be discussed as well, but only as they become relevant for present purposes. For more details on the syntax

* I have greatly benefited from discussions with Kai von Fintel, Michael Hegarty, and Irene Heim. I cannot imagine having written this paper without their help. For very helpful comments I would also like to thank Noam Chomsky, Angelika Kratzer, Howard Lasnik, Young-Suk Lee, Kostas Marinos, David Pesetsky and a *NALS* reviewer. Parts of this paper appeared in the proceedings of *NELS 22* (1991) with the title 'If 'then' then what?'

¹ The only exception that I know of is found in the philosophical literature, Davis (1983).

of *then*, the reader is referred to Collins (1989), Iatridou (1991) and Iatridou and Kroch (1993).

Regarding the matter of the interpretation of natural language conditionals, I will follow Lewis (1975) and Kratzer (1986). In this line of reasoning, *if*-clauses function as restrictors of operators. Lewis (1975) argued that *if*-clauses restrict adverbs of quantification. Kratzer (1986) and related work have generalized this approach and argued that *if*-clauses always restrict operators. These operators include, in addition to overt adverbs of quantification, modals like *must* and *should* and quantificational determiners like *every* and *some*. For the cases where no overt such element is present, Kratzer argues that there is a covert *must* or a covert adverb of quantification with universal or generic force (Farkas and Sugioka (1983).

I will propose that due to the presence of *then*, a statement of the type in (3a) carries not only its assertion (3b) but also the presupposition (3c):²

- (3) a. *Statement*: if p, then q
- b. *Assertion*: O [p] q
- c. *Presupposition*: \sim O [\sim p] q

(In (3), 'O' is the operator restricted by the *if*-clause 'p'. For the purposes of the present discussion I will take O to be an operator with universal force, but the conclusions are the same for any other choice.) For example, a statement like (4a) carries the assertion (4b) and the presupposition (4c):

- (4) a. If it's sunny, then Michael takes the dog to Pastorius Park.
- b. In every case/state of affairs in which it is sunny, Michael takes the dog to Pastorius Park.
- c. Not in every case in which it isn't sunny does Michael take the dog to Pastorius Park.

And (4c) is identical to (4c') and (4c''):

- (4) c'. In some cases in which it isn't sunny, Michael doesn't take the dog to Pastorius Park.
- c''. There are some cases in which it isn't sunny and in which Michael doesn't take the dog to Pastorius Park.

² I will not address the question of whether (3c) is an implicature or a presupposition, nor what notion of presupposition would be most appropriate. What is clear is that (3c) is not an entailment, as can be seen by embedding all the conditionals where *then* cannot appear (to be discussed shortly) under the negated matrix "It is not the case that ..." and observing that the resulting sentences are still unacceptable. Following common reasoning, if (3c) were an entailment, then the sentences that violate it would be false and their negation should be true.

Sometimes the presupposition associated with *then* is not compatible with the intended meaning of the statement. In such cases, the appearance of *then* will alter the meaning of the statement or yield degraded sentences. In the next section I will discuss some examples of this kind.

According to my proposal, a conditional of the form 'if p, then q' can be uttered when the speaker believes that in some cases in which \sim p holds, \sim q holds as well. It cannot be uttered if the speaker thinks that q holds no matter what, i.e. that q holds in all cases in which either p or \sim p holds. But what if the speaker does not have any belief about what holds in the \sim p cases? In such instances, *then* can still be used:

- (1) b'. If Pete runs for President, then the Republicans will lose. If he doesn't run, I don't know what will happen. They might lose or they might win.

The first sentence in (1b') is a case where, according to Kratzer, an epistemic modal *must* is restricted, and the quantification is therefore over possible worlds. That means that this sentence is of the following form:

- (1) b''. *Assertion*: In every possible world epistemically accessible to me in which Pete runs for President, the Republicans lose.

Presupposition: In some possible world epistemically accessible to me in which Pete does not run for President, the Republicans win.

The presupposition in (1b'') permits me to use *then* even if I am agnostic about what \sim p will bring.

In fact, one might also want to be able to remain agnostic about the \sim p cases with sentences like (4). This could be done if (4) is taken to contain quantification over cases as well as over possible worlds, i.e. if the presupposition that *then* brings along in (4) is as in (4d):

- (4) d. In some cases in some epistemically accessible possible worlds in which it isn't sunny, Michael does not take the dog to Pastorius Park.

However, in order to avoid being cumbersome, I will be using statements analogous to (4c', c'') as paraphrases for the presupposition of *then* throughout this paper.

2. SOME CLEAR CASES

A. An *if*-clause can contain a disjunction and the conditional can still contain *then*:

- (5) If John is dead or seriously ill, then Mary will collect the money.

In other words, there is nothing inherently incompatible about a disjunction inside the antecedent and the appearance of *then*. Yet there are cases where *then* cannot appear:

- (6) a. If John is dead or alive, Bill will find him.
b. # If John is dead or alive, then Bill will find him.

The oddness of (6b) is predicted. Because of *then*, this sentence carries the presupposition given in (7):

- (7) In some cases in which John is neither dead nor alive, Bill will not find him.

But (7) clearly is false, since there are no cases where John is neither dead nor alive. Hence, *then* is not possible in (6). In other words, when the antecedent contains an exhaustive disjunction, (3c) can never be satisfied.

A sentence like (8) proves the same point. In order to accept the presence of *then* here, one has to assume that there exist more than just the two weather conditions under consideration:

- (8) If it's wet or dry outside, then John will visit Mary.

To make (8) acceptable, one is forced to assume the additional existence of something like "misty" as a possible weather condition, one which is *not* subsumed under "wet" or "dry". This is because (8) presupposes (9):

- (9) In some cases in which it is neither wet nor dry outside, John will not visit Mary.

Clearly, for (9) to be true and (8) to be a good sentence, there should be a weather condition that is neither wet nor dry. If the weather is exhaustively described by "wet or dry", the appearance of *then* in (8) yields a degraded sentence.

B. Conditional *if*-clauses introduced by *even if* can never take *then*:

- (10) a. Even if John is drunk, Bill will vote for him.
b. # Even if John is drunk, then Bill will vote for him.

It has been argued that an *even if* conditional entails its consequent (Bennett 1982 and others).³ In other words, (10a) says more or less that

³ When *even* is attached to a constituent, it can take as its associate that whole constituent or a subpart of it. The same holds when *even* is attached to an *if*-clause, as indicated by italics in (i):

Bill will support John no matter what. A conditional containing *even if* is similar to (6a) in the following way. The antecedent in (6a) contained an exhaustive disjunction, and we saw how that led to a false statement as the presupposition of *then*. The antecedent of (10a) is also exhaustive, so that the sentence can be paraphrased as (11):

- (11) If John is drunk or not drunk, Bill will vote for him.

The difference is that *even if* exhausts the universe scalarly (Horn 1969, Fauconnier's (1975) implicit universal quantification). The use of *even* is associated with the existence of a scale of expectation, with the associate of *even* — in our case the *if*-clause — as the lowest point. In other words, that Bill would vote for John is more expected in the case where John is sober than in the case where John is drunk. This is conveyed by the fact that *if John is drunk* is the associate of *even*. But what is also conveyed is that Bill will vote for John under any circumstances. So whereas in (11) the antecedent is exhaustive due to the disjunction it contains, in (10a) the antecedent is effectively exhaustive due to the scale associated with *even if*. In both cases the addition of *then* is precluded because it would induce the false presupposition given in (12):

- (12) In some cases in which John is neither drunk nor not-drunk, Bill will not vote for him.

Moreover, if we don't look at the paraphrase in (11) but just at the sentence in (10a), we find that the addition of *then* as in (10b) will add (13) to the meaning of (10a):

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- (i) a. *Even if John ate the potatoes*, Mary will be mad.
b. Even if *John ate the potatoes*, Mary will be mad.
c. Even if John ate *the potatoes*, Mary will be mad.
d. Even if John *ate the potatoes*, Mary will be mad.

As Bennett (1982) and others have pointed out, the main difference in interpretation between (i.a) and (i.b–d) is that in the former the consequent is entailed but in the latter it is not. Bennett calls cases like (i.a) 'introduced conditionals', because removal of *even* would also remove its associate, namely the entire *if*-clause. In effect, (i.a) asserts that Mary will be mad no matter what. Cases like (i.b–d) he calls 'standing conditionals', because after removing *even* there is still a conditional meaning. Sentences (i.b–d) do not assert that Mary will be mad no matter what; rather, they specify the circumstances under which she will be mad.

Throughout this section I will be referring to the reading of *even if* where the associate of *even* is the entire *if*-clause, and not a constituent contained therein. In the cases where the associate of *even* is a constituent of the *if*-clause, I have found the presence of *then* to vary from speaker to speaker. From the discussion in the main text, it will be obvious why the presence of *then* is expected to improve in the cases where the consequent is not entailed, i.e. in the cases where the associate of *even* is a proper constituent of the *if*-clause.

- (13) In some cases in which John is not drunk, Bill will not vote for him.

But (10a) clearly does not have (13) as part of its meaning; in fact, their meanings are incompatible. We therefore conclude that *then* is not possible in *even if* conditionals.

C. There are more ways to scalarly exhaust the universe:

- (14) If I were the richest linguist on earth, I (still) wouldn't be able to afford this house.

- (15) If he were the last man on earth, she wouldn't marry him.

Superlatives as in (14) are endpoints of scales, as are pragmatically set extremes like the one in (15) (Fauconnier 1975). As we saw in the previous section, association with a scale that yields an exhaustive antecedent makes the presupposition of *then* false and thereby precludes its appearance. The prediction is, then, that *then* cannot appear in (14) and (15) (putting matters of counterfactual interpretation aside). This is indeed the case:

- (16) # If I were the richest linguist on earth, then I wouldn't be able to afford this house.

- (17) # If he were the last man on earth, then she wouldn't marry him.

The contribution of *then* to (15) adds (18) as presupposition, which is obviously contrary to the intention of (15), and therefore makes *then* impossible in that sentence:

- (18) In some cases in which he were not the last man on earth, she would marry him.

To be sure, there are interpretations available for (16) and (17), but these interpretations are compositional and *not* the ones intended by (14) and (15). In effect, no concessive conditional permits *then*, because, as we saw in this and the previous section, the assertion is that the consequent is true no matter what. As a result, the presupposition contributed by *then* will never be satisfied.

D. *The antecedent is a presupposition of the consequent.* In the previous sections I suggested that there is a particular presupposition associated with *then* which limits the possibility of its appearance. In this section I

will discuss another context in which the presence of *then* is degraded. These are the cases in which the content of the *if*-clause is referred to in the consequent:

- (19) a. If [he smiles at her], (*# then*) Mary likes it.
b. If [there are clouds in the sky], (*# then*) it_i puts her in a good mood.

The judgments for the sentences in (19) are based on the reading where *it* refers to the subject's smiling, or to there being clouds in the sky. Care should be taken not to put contrastive stress on any constituent of the *if*-clause. In these sentences, the antecedent must be (assumed to be) true for the consequent to be able to be evaluated. When the antecedent is not true, the consequent will suffer from presupposition failure. In other words, the sentences with *then* in (19a, b) should be able to have (20a, b) as part of their meaning, respectively, which they cannot:

- (20) a. In some cases in which he doesn't smile, Mary does not like his smiling at her.
b. In some cases in which there are no clouds in the sky, there being clouds in the sky doesn't put her in a good mood.

Since the presupposition of *then* cannot be satisfied in these instances, its presence is predictably degraded.

Like the sentences in (19), the examples in (21) are also cases in which the antecedent is a presupposition of the consequent:⁴

- (21) a. If Mary bakes a cake, she gives some slices of it to John.
b. If Mary composes a sonata, she dedicates it to Bill.
c. If Mary writes an article on knots, it gets published in *Nature*.

On the readings where Mary gives some slices of the cakes she bakes to John, dedicates the sonatas she composes to Bill, and her articles on knots are published in *Nature*, the pronoun *it* is an E-type pronoun (Evans 1980, Heim 1982). For example in (21b), *it* refers to the sonata composed by Mary and thereby presupposes that Mary did compose a sonata,

⁴ When applying the test involving negation of the antecedent, all indexicals should maintain their original reference, i.e. the pronoun *it* should keep its reference to "if he smiles at her" and should not switch to "he doesn't smile at her" when the latter is substituted as the negated antecedent to satisfy (3c). Similarly, the pronoun *it* in sentences like (21b), *If Mary composes a sonata, she dedicates it to Bill*, does not refer to "the sonata Mary didn't compose" when the negated antecedent "Mary doesn't compose a sonata" substitutes for the actual one in order to test the presupposition of *then*.

i.e. it presupposes the truth of the antecedent.⁵ In other words, if Mary doesn't bake cakes, compose sonatas, or write on knots, the consequents in (21a–c) will suffer from presupposition failure. Again, the presupposition of *then* cannot be satisfied because the negation of the antecedent will make the consequent suffer from presupposition failure. The prediction is that *then* in (21a–c) will yield degraded sentences; this prediction is verified:⁶

- (22) a. If Mary bake a cake, (# then) she gives some slices of it to John.
 b. If Mary composes a sonata, (# then) she dedicates it to Bill.
 c. If Mary writes an article on knots, (# then) it gets published in *Nature*.

Now consider the sentences in (23). The presence of *then* in these sentences is more acceptable than it is in the ones in (19) (although some speakers perceive a "Necker cube effect" for these sentences, which I will argue later represents a true ambiguity):

- (23) a. If Mary reads an article on knots, (then) she gives it to John.
 b. If Mary sees a cake, (then) she buys it for John.
 c. If Mary finds a stray dog, (then) she feeds it.

The most obvious difference between the sentences in (19) and those in (23) is that in the former the *if*-clauses contain verbs of creation while in the latter they contain verbs of use (Erteschik-Shir 1981, Diesing 1991).

⁵ I disregard here the issue of the uniqueness presupposition of the E-type pronoun.

⁶ Again, care should be taken to interpret the antecedent without any focal stress whatsoever. Otherwise, complications such as the following might arise: In (22a), if the antecedent is interpreted as contrasting *baking* a cake to some other way of preparing it, negation of the antecedent will not make the consequent suffer from presupposition failure; a cake would still have come into existence, only just not through having been baked but through that other method. The E-type pronoun then would not refer to the cake that Mary baked but to the cake that Mary prepared through the other (non-baking) method. Similarly, there could be a contrast in (22c) between an article Mary wrote on knots and an article she wrote on special relativity theory. The negation of the antecedent would not cause the consequent to suffer from presupposition failure, since the E-type pronoun could still refer to an article that Mary wrote.

Irene Heim (p.c.) points out that these cases are similar to the behavior of the E-type pronoun in a sentence like (i), attributed to David Beaver:

- (i) John usually arrives in a black limousine, but sometimes it's blue.

This sentence clearly does not mean that the black limousine that John arrives in is sometimes blue but that the limousine that John arrives in is sometimes blue. In other words, the E-type pronoun can pick up less than the complete description available to it.

The sentences in (23) are ambiguous, in fact, due to two possible interpretations of the pronoun *it*. On one of its interpretations, *it* is interpreted as an E-type pronoun referring to the article read by Mary, the cake seen by Mary, or the stray dog found by Mary. On this interpretation, the negation of the antecedent will again make the consequent suffer from presupposition failure.

But on another interpretation, the pronouns in (23) do not depend on the truth of the *if*-clauses for satisfaction of their existential presuppositions. On this reading, the pronoun does not refer to, say, the stray dog found by Mary or the article on knots read by her, but instead seems to range over stray dogs and articles on knots in general. In other words, on this reading the pronouns in (23) are variables and as such do not have an existential presupposition.

The variation of judgments for (23a–c) reflects an ambiguity inherent in their *if*-clauses, one absent in the *if*-clauses in (19). This ambiguity is, in fact, predicted by Diesing (1991). According to Diesing, one of the differences between verbs of use and verbs of creation lies in the interpretations they permit for indefinite objects. Verbs of use, such as *read* in (24a), permit both what Diesing calls the 'quantificational reading' (24b) and the 'existential reading' (24c):

- (24) a. I always read a book by Robertson Davies.
 b. *Quantificational reading*: Whenever I see a book by Robertson Davies, I always read it.
 c. *Existential reading*: First thing in the morning, I always read a book by Robertson Davies.

The representation she gives for the quantificational reading involves unselective binding, following Lewis (1975) and Heim (1982):

- (25) *Quantificational Reading*:
 Always_x [x is a book by R.D.] I read x.

The representation in (25) is the result of Quantifier Raising (QR): the indefinite NP raises and adjoins to the IP, where it enters the restrictive clause of the adverb of quantification *always* (see Diesing (1991) for details). The representation given for the existential reading is:

- (26) *Existential Reading*:
 Always_t [t is in the morning] \exists_x [x is a book by R.D. & I read x at t]

In (26), the variable corresponding to the indefinite NP is not bound by the adverb of quantification but rather by Existential Closure (Heim

1982), i.e. an existential quantifier is attached to the VP (the VP being the domain of Existential Closure for Diesing). Crucially for this reading, the indefinite NP does not raise to a position outside the VP.

Unlike verbs of use, verbs of creation permit only the existential reading. So, as Diesing points out, (27a, b) are unambiguous:⁷

- (27) a. I usually write a book about slugs.
b. I usually draw a map of Belchertown.

Obviously, (27b) does not mean 'Whenever there is a map of Belchertown, I draw it' (the quantificational reading) but rather 'At most times, I am busy drawing a map of Belchertown'. As Diesing notes, "one might say that things which are only just brought into existence cannot be mapped into a Restrictive Clause, and are limited to only the cardinal (existential) reading" (p. 192).

This difference between verbs of creation and verbs of use also seems to be at play in the present discussion. The content of the *if*-clause in (23a) (repeated here as (28)) can give rise to two LF representations, corresponding to the quantificational reading (29a) and the existential reading (29b):

- (28) If Mary reads an article on knots, she always gives it to John.
(29) a. (IF) x is an article on knots & Mary reads x
b. (IF) $\exists x$ [x is an article on knots & Mary reads x]

Since the variable is free in (29a), it will be bound by the adverb of quantification which the *if*-clause restricts, as in (30) below:

- (30) Always _{x} [[x an article on knots] & M read x] [M gives it _{x} to J]

The variable in (29b), however, is bound inside the VP of the *if*-clause, and as a result will not be able to be bound by the adverb of quantification. In other words, when the *if*-clause of (28) is interpreted along the lines of (29b), there is no unselective binding and the pronoun *it* is an E-type pronoun. It is on this construal that the pronoun in (23a–c) refers to the article on knots read by Mary, the cake seen by Mary, or the stray dog found by Mary. And on this construal, if the *if*-clause of (23a–c) is not satisfied (as required by the presupposition of *then*), there will be no articles on knots read by Mary, or cakes seen by her, or stray dogs found by her, and therefore the consequent will suffer from presupposition

⁷ There should be no focus or contrastive stress on any constituent, or the force of Diesing's examples will be reduced. See the discussion in fn. 6 above.

failure. On this reading — the E-type pronoun reading — the presence of *then* is degraded. On the other hand, if the *if*-clause of (28) is interpreted along the lines of (29a), then the negation of the antecedent will not make the consequent suffer from presupposition failure: the pronoun *it*, being a variable, will have no presupposition to fail and will range over articles, cakes, and stray dogs in general. As a result, *then* is permitted. The availability of both of these interpretations is what accounts for the variable acceptability judgments on *then* in (23a–c), the difference between the two readings being subtle enough to give a Necker cube effect.⁸

According to Diesing, verbs of creation permit only the existential reading for an indefinite object. This means that in sentences like the ones in (21), the indefinite will be bound by existential closure and the pronoun will be an E-type pronoun. As a result of the presupposition associated with *then*, the negation of the antecedent will always make the consequent suffer from presupposition failure in these sentences, which explains why *then* is degraded.^{9,10}

⁸ Diesing provides contexts that help disambiguate between the two readings, such as antecedent-contained deletion; the use of free-choice *any* and the possibility for scrambling in German are compatible only with the quantificational reading, while extraction is only compatible with the existential reading. The test with free-choice *any* will not work for *if*-clauses, but that with antecedent-contained deletion will: the prediction is that whenever there is antecedent-contained deletion in the *if*-clause and a coreferent pronoun in the consequent, the presence of *then* should be acceptable, since it is always acceptable with the quantificational reading of verbs of use:

- (i) If John reads books that Bill does, (then) he gives them to Peter.

⁹ According to Diesing, experiencer verbs permit only the quantificational reading. This means that in sentences like (i.a–b) the pronoun *it*, along with the indefinite NP, is subject to unselective binding, so the negation of the antecedent will not make the consequent suffer from presupposition failure. As predicted, *then* is permitted:

- (i) a. If Mary likes a cake, (then) she buys it for John.
b. If Mary detests a film, (then) she makes John watch it.

¹⁰ A reviewer mentions the following data as problematic for the present discussion:

- (i) a. If John has any children, (then) they are not here.
b. If this house has a bathroom, (then) I sure can't find it.
c. If John ever smoked, (then) he quit a long time ago.

I agree with the judgments but have nothing to say about the contrast between the sentences in (i) and those of the text. However, I find the interpretation of these sentences different. Specifically, I find that there is an expectation or prior claim that John has children, that the house has a bathroom, and that John was a smoker. Maybe these expectations or claims are hard to detect because, for example, one would expect a house to have a bathroom. But consider the following sentences, which differ minimally from the

E. What is referred to as a 'relevance conditional' is incompatible with *then*:

- (31) a. If you're thirsty, (\neq then) there is a beer in the fridge.
 b. If I may be frank, (\neq then) John is not looking good.

Putting aside the exact nature of this type of conditional, its *if*-clause states a condition under which the consequent can be uttered and is not part of the assertion. What is asserted is that there is beer in the fridge and that John looks good. There is no implication that the speaker believes (32a, b), which would be the presuppositions for (31a, b) with *then*:

- (32) a. In some cases in which you are not thirsty, there isn't a beer in the fridge.
 b. In some cases in which I may not be frank, John is looking good.

Since the sentences in (32) are not part of the intended meaning of those in (31), the presence of *then* is ruled out.

One can of course force an interpretation on (31a, b) with *then*, but then these sentences are no longer relevance conditionals. For example, (31a) could be interpreted as saying that your being thirsty will cause the appearance of a beer in the fridge, and with this interpretation *then* can appear. Clearly, this type of re-interpretation is so implausible at times as to be virtually unavailable:

- (33) If you really want to know, (\neq then) 4 isn't a prime number.

In (33), your being curious will not change the properties of numbers, hence *then* cannot alter the meaning of the conditional.

3. A PROBLEMATIC CASE: ONLY IF CONDITIONALS

So far the proposal in (3) has made the right predictions for us. Now let's look at one case that appears to be problematic for (3). This is the conditional with *only if*, which also cannot contain *then*.¹¹

ones in (i) in that they have more farfetched antecedents, yet also trigger the feeling that some prior claim or expectation is under discussion:

- (ii) a. If John has any Fabergé eggs, (then) they are not here.
 b. If this house has a Picasso painting, (then) I sure can't find it.
 c. If John ever bungee-jumped, (then) he quit a long time ago.

¹¹ That they do not allow *then* is a similarity between *even if* and *only if* conditionals. Some differences are the following: with *only if*, there must be V2 in the consequent, but

- (34) a. \neq Only if it's sunny then will I visit you.
 b. \neq Only if it's sunny then I will visit you.

The problem that *only if* poses for the proposal in (3) is that not only is it compatible with (3), it satisfies a condition stronger than (3). *Only if* asserts that *any* antecedent other than the actual one will make the consequent false. Thus (35a) means the same as (35b), whereas according to (3) all that the presupposition associated with *then* requires is (35c):

- (35) a. Only if it's sunny will I visit you.
 b. In every case in which it isn't sunny I won't visit you.
 c. In some case in which it isn't sunny I won't visit you.

Since (35b) obviously (over-)satisfies (35c), we cannot apply the arguments here that we used in section 2 to explain other cases that do not permit *then*.

I will outline four possible accounts for the fact that *only if* does not take *then*. And although each has its merits, I will suggest that the last one is the most plausible one.

Option 1

I stated above that the assertion of an *only if* conditional is such that it not only satisfies, but in some sense strengthens, the presupposition of *then*. I went on to say that, therefore, *only if* would be predicted to take *then*, contrary to what one finds. But this might well be an ill-posed problem: it is possible that the fact that *only if* asserts what *then* presupposes is itself responsible for the unacceptability of sentences like (34). In other words, the fact that an *only if* conditional asserts what *then* presupposes might be taken to predict that *only if* and *then* should *not* co-occur, rather than that they should. This would be consistent with (or might follow from) a more general constraint against asserting things that are presupposed. In the words of Stalnaker (1970, p. 280):

The boundaries determined by presuppositions have two sides. One cannot normally assert, command, promise, or even conjecture what is inconsistent with what is presupposed. Neither can one assert, command, promise or conjecture what is itself presupposed. There is no point in expressing a proposition unless it distinguishes among the possible worlds which are considered live options in the context.

there may not be any topicalization, clefting, NEG-inversion, question or imperative; with *even if*, V2 is not possible but the other phenomena are. These differences would follow if the *only if if*-clause is in the [Spec, CP] of the consequent. See Iatridou (1991) for further discussion of these syntactic aspects.

While the earlier cases we discussed were cases of conditionals that cannot contain *then* because they violate what would fall under Stalnaker's "first side" in asserting or presupposing something that was inconsistent with the presupposition of *then*, the incompatibility of *then* with *only if* would appear to be due to the sentence asserting "what is itself presupposed."

But such an approach begs the very important question of how and whether a pragmatic violation can render a sentence ungrammatical. To paraphrase a reviewer, may the danger of a pragmatic/semantic anomaly motivate a grammaticized constraint against a specific construction? Surely this is not in general the case:

- (36) a. I exist.
 b. The text which is in front of me and which I am reading right now exists.

I therefore consider this option the least appealing account of the four I shall present.

Option 2

Another possibility would be to argue that the oddness of the sentences in (34) is due to *then* blocking a syntactic requirement of *only if*. *Only if* in English belongs to the class of 'NEG-inverters' or 'affective elements' in the sense of Klima (1964):

- (37) a. Never have I seen such good scores.
 b. Under no circumstances will John visit his ex-wife.
 c. Only if it's sunny will I visit you.

It has been argued that NEG-inverters stand in the specifier of the CP to whose head the verb must move. Thus the following account presents itself: if the *only if* constituent needs to be adjacent to the verb, it follows that if *then* is present, the verb would have to move over *then* to yield the order *only if* . . . V_i *then* . . . t Such movement is not possible though (see Collins (1989) and Iatridou (1991) for discussion of the fact that *then* blocks any movement from below it). Moreover, it is unclear whether there even is a position above *then* that the verb can move to. But if this (English-particular) account of the oddness of (34) is correct, the prediction is that in languages without NEG-inversion *only if* should be compatible with *then*. So far I have found no language that permits *then* with *only if*, even if the language has no NEG-inversion at all. In Modern Greek (MG), for example, V-movement with fronted negative elements is

not obligatory,¹² as (38) shows, yet the equivalent of *only if* does not permit *then*, as illustrated in (39a, b):

- (38) Se kamia periptosi o Kostas dhen prepi na mathi oth . . .
 in no circumstance Kostas NEG must learn that
 'Under no circumstance should Kostas find out that . . .'
- (39) a. Monaxa an vreksi o Kostas tha fighi.
 Only if rains Kostas FUT leaves
 'Only if it rains will Kostas leave.'
- b. Monaxa an vreksi tote o Kostas tha fighi.
 only if rains then Kostas FUT leaves

This means that the syntactic account for why *only if* and *then* cannot co-occur in English is not readily transferrable to MG.

We have seen that MG is a case where *then* is not possible with *only if*, even though there is no V-movement to be blocked by *then* in the relevant constructions. Conversely, there is evidence that blocking of V-movement cannot be the (sole) culprit in the unacceptability of (34), i.e. languages where *then* and V-movement to the head of CP are fully compatible. In Dutch, for instance, a sentence-initial *if*-clause serves as the first element in a V2 construction; it must be immediately followed by the verb, as in (40a). In such cases *then* is acceptable, as in (40b), with the *if*-clause being pushed to some higher, probably adjoined, position. Yet in Dutch as well, *only if* and *then* cannot co-occur, as (41) shows:

- (40) a. Als het regent zal ik naar school gaan.
 if it rains will I to school go
 'If it rains I will go to school.'
- b. Als het regent dan zal ik naar school gaan.
 If it rains then will I to school go
- (41) Alleen als het regent (#dan) zal ik naar school gaan.
 only if it rains then will I to school go

In other words, in Dutch V-movement and *then* are generally compatible,

¹² I say "is not obligatory" because MG word order is fairly free and will permit the subject to occur almost anywhere. The point is that unlike in English, or in MG *wh*-questions, V-movement is not forced with fronted negative elements.

except in the case of *only if*. This indicates that the unacceptability of (34) cannot be straightforwardly attributed to the incompatibility of *then* with V2.

David Pesetsky (p.c.) has suggested to me a modification of the NEG-inversion account which might explain the cross-linguistic incompatibility of *only if* and *then*, namely that NEG-inversion be treated as a universal; in English it would happen at S-structure, in a language like MG, at LF. This would mean that the fronted negative element ultimately requires the verb to be adjacent to it. This proposal would account for the Dutch case as well, because the *if*-clause in (40b) would not require adjacency to the verb; instead, *then* would be functioning as the V2 trigger, with the *if*-clause arguably adjoined to the rest of the sentence. In other words, in V2 languages like Dutch, the adjacency of a topicalized non-affective element, such as an *if*-clause, and the verb is merely the result of their respective occupying the specifier and head of the same maximal projection, namely the CP. If some other element can occupy the specifier of CP while the *if*-clause appears in some higher position, no harm is done. An affective constituent such as *only if*, however, requires the verb to be in the head of the maximal projection;¹³ the presence of *then* will lead to a violation of this requirement because the verb cannot climb over *then* to move into the head position.

It is possible that such an account is on the right track, but proving that NEG-inversion is universal is outside the scope of this paper.¹⁴

Option 3

Unlike the previous two options, the one discussed in this section is relevant to both *only if* and *even if*. This means that *even if* conditionals with *then* would violate the constraint proposed below, as well as (3c).

To lay out this third option, a digression into the syntax of *then* is required first. Collins (1989) and Iatridou (1991) conclude that *then* is contained in a maximal projection (XP) whose complement is the consequent/matrix clause:

$$(42) \quad [_{XP} \text{ then } [_{IP} \dots]]$$

¹³ This suggestion is in the spirit of the 'NEG-criterion' proposed in work by Liliane Haegeman.

¹⁴ In case anyone is interested in undertaking this proof, Rizzi (1990) makes a similar claim in attempting to explain the inner island effect observed in sentences with a negative quantifier in subject position.

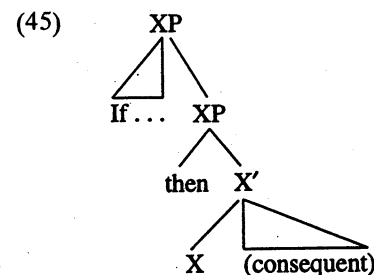
Their argument goes roughly as follows. In an embedded conditional, the *if*-clause by itself — without *then* — does not block government of the consequent by the higher verb. So for instance, the *if*-clause permits extraction from the consequent, as in (43a), as well as satisfaction of the selection requirements of the higher verb, as in (43b):

- (43) a. What does Sue think that if it rains we will eat?
b. Sue wants to know if it rains what will happen.

Since both extraction and selection rely on government, the embedded consequents *we will eat what* and *what will happen* must be respectively governed by the verbs *think* and *ask* above the *if*-clause, which therefore must be adjoined to the consequent. However, once *then* appears, the higher verb ceases to govern the embedded consequent:

- (44) a. *What does Sue think that if it rains then we will eat?
b. *Sue wants to know if it rains then what will happen.

This means that *then* is not adjoined to the consequent but is contained in a maximal projection which embeds the complement and blocks it from being governed.¹⁵ Moreover, because *then* is itself a maximal projection (like pronouns and other proforms) and because it is immediately followed by the verb in V2 languages, we may conclude that *then* is the specifier rather than the head of the maximal projection that contains it:



It is obvious that the construction in (45) will yield V3 sentences even in V2 languages.

Returning now to the *only if* problem, instead of asking, as we have done so far, why *then* cannot appear with *only if*, maybe we should be asking whether elements that are adjoined to the matrix can ever be

¹⁵ Iatridou (1991) and Iatridou and Kroch (1993) argue that this projection behaves like a CP and that the distribution of embedded conditionals with *then* is regulated by constraints on CP-recursion.

modified by *only* or *even*. In other words, it may be the case that if an *if*-clause gets "pushed up," so to speak — out of the highest Spec position and onto an adjoined position — it can no longer be modified by *only* or *even*. If so, it would not matter what element pushes the *if*-clause higher up; all that matters is that this element occupies the position in which *then* appears in (45), forcing the *if*-clause to adjoin above. This account would hold for English and other languages, but it is easiest to check in productive V2 languages, where it translates into the prediction that the initial elements in a V3 sentence cannot take *only/even*:¹⁶

- (46) 0 1 2
 a. *if*-clause verb
 b. *if*-clause verb

When the *if*-clause is in position 1, it can be modified by *only* or *even*; when the *if*-clause is in position 0 it cannot take *only* or *even*, independently of what occupies position 1. As we have seen, one element that can occupy position 1 in (46b) is *then*. Another instance can be found in *wh*-questions. In English, an *if*-clause can be followed by a question, which means that position 1 is filled by the *wh*-phrase and position 0 by the *if*-clause:

- (47) 0 1 2
 If it rains what will we eat?

This predicts that the *if*-clause in (47) cannot be modified by *only* or *even*, a prediction that is verified:

- (48) a. *Only if it rains what will we eat?
 b. *Even if it rains what will we eat?

One can imagine perfectly well what these sentences should mean:¹⁷

- (49) For which x will we eat x only/even if it rains.

And in fact, they become grammatical once the *if*-clause is in sentence-final position, since it is then no longer in position 0:

¹⁶ Ken Hale (p.c.) tells me that this prediction also holds in languages that obey Wackernagel's Law. That is, the element immediately preceding Wackernagel's position can be focused, but in constructions that make Wackernagel's position appear linearly in third place, the element in first position cannot be focused. Such cases include the "As for . . ." construction and other types of topic marking.

¹⁷ An alternative reading where "only/even if it rains" is quantified into the question is precluded due to general constraints against quantifying into questions (see Groenendijk and Stokhof 1984).

- (50) What will we eat only/even if it rains?

Another instantiation of (46b) can be found in German counterfactuals. Sentence-initial counterfactual *if*-clauses do not have to be immediately followed by the verb (data from König and van der Auwera 1988):¹⁸

- (51) a. Wenn ich in Paris wäre, würde ich zum Louvre gehen.
 if I in Paris were would I to-the Louvre go
 'If I were in Paris, I would go to the Louvre.'
 b. Wenn ich in Paris wäre, ich würde zum Louvre gehen.
 if I in Paris were I would to-the Louvre go

I have no explanation for this possibility, nor for why it should be available only to counterfactual conditionals. But what is relevant for present purposes is that in (51b) the *if*-clause is in position 0, with the subject of the matrix in position 1. This makes the right prediction, namely that the *if*-clause in (51a) can be modified by *only* whereas the one in (51b) cannot:

- (52) a. Nur wenn ich in Paris wäre, würde ich zum Louvre gehen.
 only if I in Paris were would I to-the Louvre go
 'Only if I were in Paris would I go to the Louvre.'
 c. *Nur wenn ich in Paris wäre, ich würde zum Louvre gehen.
 only if I in Paris were I would to-the Louvre go

At first glance, the analogous sentences with *even if* seem to be counterexamples, since either word order is permissible:

- (53) a. Sogar wenn ich in Paris wäre, würde ich nicht zum
 Even if I in Paris were would I not to-the
 Louvre gehen.
 Louvre go
 'Even if I were in Paris, I would not go to the Louvre.'
 b. Sogar wenn ich in Paris wäre, ich würde nicht zum
 Even if I in Paris were I would not to-the
 Louvre gehen.
 Louvre go

¹⁸ I am grateful to Kai von Fintel for pointing this construction out to me.

The interpretation of (53a,b) is that I would not visit the Louvre no matter what. In other words, the consequent is asserted by itself; it has the interpretation of a concessive, and concessives have their own idiosyncratic properties (see König and van der Auwera 1988). If we control for this, making sure that the statement still receives a conditional interpretation, then the *if*-clause in the V3 construction cannot be modified by *even*, just like it cannot be modified by *only*. Imagine, for example, that we are planning a trip from Philadelphia to Salonica and you are trying to convince me that since we will be in Europe we should go to the Louvre. I think that Salonica is too far from Paris, so now we are discussing how far northwest of Salonica we have to go for independent reasons. My sense is that even if we went to Zagreb, the distance to Paris would still be too large, but I am willing to go to the Louvre if we have to go as far as Grenoble anyway. Thus I could say:

- (54) Selbst wenn ich nach Zagreb führe, würde ich den Louvre nicht besuchen. Aber ich würde ihn besuchen, falls ich nach Grenoble führe.

However, I could not say (55) in place of the first sentence in (54):

- (55) Selbst wenn ich nach Zagreb führe, ?? ich würde den Louvre nicht besuchen.

This is because the first sentence in (54) is not a concessive; it does not entail that I will not visit the Louvre under any circumstances. In other words, if we ensure that sentences with *even* are interpreted as true conditionals, not concessives, *even* is subject to the same constraint as *only*. But it is unclear why concessives should escape this constraint.¹⁹

Obviously, this way of looking at the *only if* problem is entirely descriptive. Many crucial questions remain unanswered, for example the issue of

¹⁹ The case of relevance conditionals should also be considered in this context, although there is a lot more to be said about those. They share with concessive constructions the fact that only their consequent is asserted, but unlike concessives, they appear to fall under the descriptive generalization about (46b). It can be shown that they are syntactically higher than other types of conditional *if*-clauses (see Haegeman and Wekker 1984 and Iatridou 1991), and in V2 languages they too can yield V3 sentences. This would mean that relevance *if*-clauses are in position 0, and in fact, they cannot take *only* or *even*:

- (i) a. *Only/even if you want to know, 4 isn't a prime number.
b. *Only/even if I may be frank, you're not looking good today.

In sentence-final position as well, where they are still higher than normal *if*-clauses, they cannot take *only/even*:

- (ii) *4 isn't a prime number, only/even if you want to know.

what determines the boundary within which phrases can be modified by *only/even*.

Option 4

This option, like the previous one, is intended to preclude the appearance of *then* with both *even if* and *only if*. It is therefore not intended to substitute for the proposal in (3), which makes predictions about different conditionals as well. The appearance of *then* with *even if* might possibly violate both (3) and the constraint I will outline below. Moreover, the type of violation that this constraint will yield is more of a grammatical kind than the one resulting from violating (3), which is more of a pragmatic nature. This may prove a desirable result, given that the appearance of *then* with *even if* and *only if* yields much stronger violations than some of the other cases discussed so far.

Quantificational elements cannot be left dislocated:²⁰

- (56) a. John, I like him.
b. *Every boy, I like him.

Neither can NPs that are modified by *only* or *even*, which is unsurprising given the quantificational nature of these elements:

- (57) a. *Only John, I like him.
b. *Even John, I like him.

If we consider the relationship between an *if*-clause and *then* to be similar to the relationship between *John* and *him* in (57), then the fact that *only if* and *even if* clauses cannot co-occur with *then* would be expected in light of the ungrammaticality of the above examples. For an analysis along these lines to be complete we would need the answer to the following two questions:

1. Why can quantificational elements not be left dislocated?
2. To what extent can the relationship between an *if*-clause and *then* be assimilated to left dislocation?

I will not attempt to answer the first of these questions here. For the purposes of the present paper, I will only occupy myself with the second.

First of all, for an analysis of this kind to go through, *then* must crucially

²⁰ Actually, this statement is too strong. See among others Cinque (1990) for a discussion of the conditions under which certain quantificational elements can undergo (clitic) left dislocation. I will discuss some such cases later in this section.

act like a resumptive pronoun²¹ and not like an anaphor or nonresumptive pronominal, since these can take quantificational antecedents:

- (58) a. Every boy / (only/even) John likes his mother.
 b. Every boy / (only/even) John likes himself.

In a way, *then* could indeed be considered a resumptive 'pro-adverbial'²² in that it is felt to stand proxy for the conditions/situations referred to in the antecedent. This would be unlike the role played by an anaphor or nonresumptive pronoun, since these elements have an additional, separate, connection with the rest of the sentence (for example, nonresumptive pronouns and anaphors have their own theta-role, different from that of their antecedent).

But despite such support for the spirit of the desired assimilation of conditionals with *then* to dislocation, the technical implementation of this proposal meets with some difficulties. In English, a resumptive pronoun can appear far away from its antecedent; in fact, it is sometimes said that the more islands intervene between the two, the more acceptable the resumptive pronoun will be. By contrast, an *if*-clause cannot be separated from *then*. Sentence (59a) does not have a reading where the *if*-clause belongs to the embedded clause, i.e. where John thinks that if Bill comes home then Mary will leave (as always, on a reading without any contrastive stress):

- (59) a. *If Bill comes home John thinks that then Mary will leave.
 b. *If a farmer owns a donkey John thinks that then he beats it.

Such data have also been discussed in Collins (1989) (where the contrasts in (60a,b) and in (61a,b) were used to show that the presence of *then* blocks movement of the *if*-clause):

- (60) a. It is if Bill comes home that Mary will leave.
 b. *It is if Bill comes home that then Mary will leave.
 (61) a. It is if Bill comes home that John said that Mary would leave.
 b. *It is if Bill comes home that John said that then Mary would leave.

If simple assimilation to left dislocation were the correct move, with *then* as a resumptive for the *if*-clause, such sentences should be fine.

²¹ The term 'resumptive pronoun' is used rather vaguely here. It has been pointed out many times that there is more than one type of resumptive pronoun and that behavioral diagnostics can separate the different classes.

²² Obviously, since the *if*-clause is not a noun, *then* cannot be called a pronoun.

We thus need to concede that the relationship between *then* and the *if*-clause is much tighter than the one between a resumptive pronoun and its antecedent in English left dislocation. In fact, even parentheticals can only intervene with difficulty, if at all, and this is reminiscent of the relationship between a head NP and a relative pronoun.²³

- (62) a. ??If it rains, frankly/in my opinion/etc., then we can't go out.
 b. *The man, I fear/in my opinion, who Mary likes, is coming to dinner.

But whereas English does not provide a type of dislocation to which conditionals with *then* can be assimilated, German and Dutch do. The relevant type of dislocation is subject to a number of restrictions illustrated in the German examples below. For one, the pronoun must be at the beginning of the sentence, adjacent to the dislocated constituent, even if it is interpreted in a lower sentence:

- (63) a. Hans, den mag Maria.
 Hans him likes Maria
 'Hans, Maria likes him.'
 b. Hans, den glaubt Bill, dass Maria mag.
 Hans him believes Bill that Maria likes
 'Hans, Bill believes that Maria likes him.'

As with other types of dislocation, certain QPs cannot undergo it:

- (64) *Jemand, den mag Maria.
 somebody him likes Maria

²³ It is also reminiscent of the claim made by Geis and Lycan (1989) that *then* is an instance of a correlative construction, as exemplified in the following pattern taken from their work (judgments included):

- (i) a. ***Who steals my purse, him I won't like.
 b. **Where he goes, there I'll go.
 c. *When he leaves, then I'll leave.
 d. If he leaves, then I'll leave.

They suggest that "the correlative construction is going out of the language. . . [(i)] is its last remnant." So we could modify our original formulation of this section's proposal and say that structurally, the '*if . . . -then . . .*' construction is like a correlative, and that for some reason, correlative proforms and resumptive pronouns in left dislocation cannot take quantificational antecedents.

Although in Hindi correlatives, modification by *only* and *even* is acceptable, correlatives with quantificational NPs like *every girl* are not. Thanks to Veneeta Srivastav for this information.

It appears that NPs modified by *only* and *even* cannot undergo it either:

- (65) a. *Nur Hans, der hat es verstanden.
only Hans he has it understood
- b. *Sogar Hans, der hat es verstanden.
even Hans he has it understood

This means that treating a conditional with *then* along the lines of this type of dislocation is possible. But there is more. Irene Heim (p.c.) has pointed out to me that a sentence like (65a) is actually possible, but only in an environment that can be glossed as (66a), not (66b):²⁴

- (66) a. The material was so difficult that hardly anybody understood it.
Only Hans *der* understood it.
- b. *Only Hans *der* understood the lecture. Nobody else did. The material must have been very difficult.

This cannot be done for (65b):

- (67) The material was so easy that every student understood it.
?*Even Hans *der* understood it.

Interestingly, the above discussion, including the contrast between (66a) and (67), applies equally to conditionals, in English as well as in German.

- (68) a. John is such a homebody that he never leaves the house. Only if there is a heatwave, *dann/then* he'll go out.
- b. John is such a social butterfly, he goes out all the time. Even if there is a snowstorm (?*then) he'll go out.²⁵

Maybe the problem with (68b) is that it still does not satisfy (3c). In other words, whatever the context does to (68a) to deprive *only* of its quantificational force, it may very well be doing the same thing to *even* in

²⁴ Kai von Fintel (p.c.) has pointed out to me the following possible account for this observation: The environment in (66a) is such that it asserts part of the meaning of *only*, specifically, its quantificational meaning. And by asserting that aspect of the meaning of *only* in the preceding context already, we have preempted the quantificational force of *only*. (According to Horn's (1969) account, a sentence like *Only Max read the book* presupposes that Max read the book and asserts that nobody other than Max read it. It is in the assertion that the quantificational part of the meaning of *only* resides.) As a result, *only NP* in (66a) can appear in a position not normally available to quantificational elements. This is obviously an interesting possibility, but the details of how and when quantificational force can be lost would still have to be worked out.

²⁵ For some reason it is possible to say (i):

- (i) Even if there is a snowstorm, even then he'll go out.

(68b); however, the meaning of *then* still remains a problem for the latter. To (68a), *then* adds (68a'), which is fully compatible with its context, but to (68b) it adds (68b'), which is not:

- (68) a'. In some cases in which there is no heatwave, John does not go out.
- b'. In some cases in which there is no snowstorm, John does not go out.

So far we have seen that conditionals with *then* can be assimilated to a certain type of dislocation in German with which they share behavioral characteristics as subtle as those illustrated in (68). On this view, *then* is a proform, just like the pronouns in (63). And in analogy to the status of the pronouns in (63), *then* in conditionals takes on the function of the *if*-clause. By this I mean that just as the pronouns in (63) receive a theta-role and the dislocated *Hans* does not, similarly, *then* is the restrictor of an operator, the dislocated *if*-clause is not.

We can thus reduce the behavior of *only if* and *even if* conditionals with *then* to the larger issue of constraints on the dislocation of quantificational elements, i.e. to the first of the two questions posed near the outset of this section. Let us take our account one step further and assume that, indeed, *only if* and *even if* cannot co-occur with *then* because they are quantificational. We may also want to attribute the ungrammaticality of *then* with *whenever*-clauses to this reason:

- (69) Whenever it's sunny, (*then) Michael takes the dog to Pastorius Park.

But now we have worked ourselves into a corner. We earlier accepted the Lewis/Kratzer-approach, according to which *if*-clauses restrict operators, for the specific case we have been looking at — adverbs of quantification. But according to Kratzer, *if*-clauses always and only restrict operators.²⁶ In other words, even when there is no overt quantificational element, there is a covert one. For example, (70) would have a covert *always* and therefore would be of the same form as sentences like (69) and our *only/even if* cases. In other words, both (69) and (70) would mean (71):

- (70) If it's sunny, Michael always takes the dog to Pastorius Park.

²⁶ For Kratzer, all that *if*-clauses ever do is restrict quantificational elements. For Lewis (1975), *if*-clauses restrict adverbs of quantification when they are present; Lewis (1986) discusses material implication as (partly) underlying the right analysis for certain types of conditionals.

- (71) a. Every situation in which it is sunny is a situation in which Michael takes the dog to Pastorius Park.
 b. [every s: it is sunny in s] Michael takes the dog to Pastorius Park in s.

On this view, the antecedent in (70) would be no less quantificational than the antecedent in (69). So if the quantificational nature of the antecedent in (69) is responsible for the ungrammaticality of the expansion of that sentence with *then*, it is predicted that *then* should not be able to occur in (70) either, which is false. In fact, on Kratzer's approach it follows that *then* should not be able to occur in *any* conditional sentence, which is obviously the wrong result. This is a serious impasse; unless it is resolved, the present option cannot be adopted.

There does appear to be a way out, however. Notice the contrast between (72) and (73, 74):

- (72) a. If it is sunny (then) Michael usually goes into town.²⁷
 b. If it is sunny (then) Michael frequently stays indoors.
 (73) a. Usually, if it is sunny (*then) Michael goes into town.
 b. Frequently, if it is sunny (*then) Michael stays indoors.
 (74) a. Whenever it's sunny (*then) Michael goes into town.
 b. Only/even if it is sunny (*then) Michael goes into town.

Sentences like (73) are worse than (72) also in German, where sentence-initial adverbs are much more readily available than in English, and where the fronted adverb forms one constituent with the *if*-clause (Kai von Fintel, p.c.). In (73) and (74) the quantificational element is part of the dislocated constituent, but in (72) it is part of the matrix. This very same difference can be observed in NP dislocation:

- (75) a. *Keiner von uns, der war dort.
 none of us *der* was there
 b. Von uns, da war keiner dort.
 of us *da* was none there

²⁷ Actually, there are speakers, including myself, for whom the sentences in (72) with *then* are slightly deviant, although nowhere near as much as those in (73,74). If there is something to this judgment, it might mean that there is a difference between sentences with an overt adverb of quantification and sentences with a covert one — with which *then* is perfect — or even that there is a difference between different overt adverbs. I find (i), for example, somewhat worse than (72) with *then*:

- (i) ?If it is sunny then Michael rarely stays indoors.

I will not devote further attention to this at present, given the extreme subtlety of the judgments involved.

- (76) a. *Keiner von den Männern, der war dort.
 none of the men *der* was there
 b. Die Männer, von denen war keiner dort.
 the men of them was none there

In the (a) sentences, the element with quantificational force is part of the dislocated constituent, resulting in ungrammaticality. In the (b) cases, the quantificational force is part of the matrix and so these sentences are good.

This means we can maintain the position that *only/even if* conditionals cannot take *then* because they are quantificational, without thereby predicting that *then* should not be able to occur in any conditional at all. However, we are now in effect saying that (72) and (73,74) have different LF representations. The details of this account will have to be further worked out, possibly in a framework like von Stechow (1994) where a quantifier has both explicit and implicit domain variables. For the time being, it seems safe to at least conclude that conditionals with *then* share properties with a certain type of dislocation.

4. DOES IT ALL COME TOGETHER?

A natural question that arises at this point is whether the meaning of a *then*-conditional is in any way related to its form. Does it all come together, in other words? One could say that *then* has the particular meaning that it does because of its function in dislocation. This would suggest that rather than presenting the 'meaning' of *then*, (3) reflects the conditions under which dislocation may occur.

That in turn would mean that (3), repeated as (77), is parallel to (78) in NP dislocation:

- (77) a. *Statement*: if p, then q
 b. *Assertion*: O [p] q
 c. *Presupposition*: ~ O [~ p] q
 (78) a. *Statement*: NP_i der_i P
 b. *Assertion*: NP_i P
 c. *Presupposition*: There is some NP_i (NP_j ≠ NP_i) such that ~ P is true of NP_j, i.e. [NP_j ~ P]

In other words, a sentence like German (79a) would come with the presupposition (79b):

(79) a. Hans, der hat es verstanden.
Hans *der* has it understood

b. There is somebody other than Hans who did not understand it.

If this were correct, we would also have an explanation for the contrast between (66a) and (67). But unfortunately the story is not as simple as that, and more work is needed before this convergence is complete. For instance, one can say (80) (Irene Heim, p.c.), which should not be possible according to (79):

(80) Alle haben die Vorlesung verstanden. Hans hat sie verstanden.
Maria hat sie verstanden. Und unser Freund Peter, der hat sie auch verstanden.

'Everybody understood the lecture. John understood it. Mary understood it. And our friend Bill, *der* understood it too.'

Helas . . .

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