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A Note on Extraction from Conditionals*

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1. Introduction

Consider the following two conditional sentences:

- (1) a. If the student does poorly, the teacher will fire the TA
- b. If the student does poorly, then the teacher will fire the TA

The only overt difference between these two sentences is the presence of *then* in (b). The question arises as to whether the (a) sentence has the same structure as the (b) sentence.

This paper examines a number of standard extraction tests which are applied to conditionals to determine their syntactic structure. The conclusion is that in conditionals where the protasis and the apodasis are "linked" by the word *then* there exists an extra barrier to movement. I will speculate on the source of the extra barrier at the end of the paper, using data on the order of constituents in conditionals and the selection of conditional clauses.

In this paper I will consistently use non-counter-factual conditionals, even though all the contrasts below can be found with counter-factual conditionals as well. Furthermore I will not offer rules of semantic interpretation for the structures I propose for the conditional.

In section 2, I will examine a number of extraction differences between conditionals with *then* and conditionals without *then* and conclude that in conditionals with *then* there is an extra barrier movement present. In section 3, I will examine the selection possibilities of conditionals in embedded contexts, and conclude that in conditionals with *then* there is a functional projection present that dominates the protasis, apodasis, and *then*. In section 4, I will return to the extraction facts and show how they follow from the analysis of the constituent structure of conditionals made in section 3.

* I wrote this paper in 1989. I am publishing this paper now with only minor editorial changes since a number of people have found it useful. Hopefully, its appearance in CPWL will make it more widely available. I hope to work on this topic once more in the near future.

2. Extraction

Consider the following sentences:

- (2) a. ?It is the TA that if the student does poorly, the teacher will fire.
b. ?*It is the TA that if the student does poorly, then the teacher will fire.
- (3) a. ?Which TA did John say that if the student does poorly, the teacher would fire?
b. ?*Which TA did John say that if the student does poorly, then the teacher would fire?
- (4) a. This is the TA that if the student does poorly, the teacher will fire.
b. This is the TA that if the student does poorly, then the teacher will fire.

For a large number of speakers there is a systematic contrast between the (a) and the (b) sentences above. A number of speakers do not get the contrast between the (a) and the (b) sentences. I will return to this fact, although I will offer no satisfactory reason why some people do not get the contrast. I have arranged the above sentences in order of the strength of the contrast of the (a) and (b) sentences, i.e., clefting produces a stronger contrast than long distance question formation and the latter produces a stronger contrast than relative clause formation.

The only difference between the (a) and (b) sentences above is the presence of *then*. This indicates that when *then* is present there is an extra-barrier to movement. In section 4, I will show how exactly the presence of *then* is responsible for the extra barrier to movement.

The (a) sentences are awkward perhaps because of the preposed "if" clause in combination with movement from the main clause leading to a small PCC (Path Containment Condition) violation. Note that preposed "if" clauses in embedded contexts are in general allowed as in the following two sentences.

- (5) It is with absolute certainty that if the student does poorly, then the teacher will fire the TA.
- (6) I know that if John comes home, Mary will be upset.

In the first sentence above, the conditional is embedded in a cleft construction. The PP "absolute certainty" is associated with the whole conditional and not with either the protasis or apodasis. In sentence (6) the conditional is embedded under the verb "know".

Now consider another extraction from conditionals:

- (7) a. It is if Bill comes home that Mary will leave.
b. *It is if Bill comes home that then Mary will leave.
- (8) a. It is if Bill comes home that John said Mary would leave.
b. *It is if Bill comes home that John said then Mary would leave.
- (9) a. It is if Bill comes home that John thought Mary would leave.
b. *It is if Bill comes home that John thought then Mary would leave.

In the sentences above, the protasis has been clefted from the conditional. In all cases the clefting is worse if *then* is present. The (a) sentences represent adjunct movement, given the assumption that the protasis in a conditional without *then* is adjoined to either VP or IP (this is an assumption that I will return to and justify later in section 3). The (b) sentences are worse than the (a) sentences. This indicates that there is an extra barrier to government in the case of the (b) sentences. I will assume that the (b) sentences are fully unacceptable, and that therefore the contrast above should be accounted for as an ECP violation. This judgment can be disputed. If the (b) sentences were taken to be only slightly unacceptable then the analysis below would have to be changed slightly.

The next sentences examine whether there is a *that* trace effect when the protasis is extracted from the conditional.

- (10) 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.

The contrast between (a) and (b) seems comparable to the contrast between (9a) and (9b). Therefore it does not seem that the presence of *that* above adds another barrier to the movement or antecedent government of the protasis when only the *then* is present.

Another contrast that supports the claim that an extra barrier to antecedent government is added by the presence of *then* comes from the extraction of adjuncts. Consider the following paradigm.

- (11) a. How did John say that Bill would fix the car if Mary brought the tools?
 b. How did John say that if Mary brought the tools, Bill would fix the car?
 c. *How did John say that if Mary brought the tools, then Bill would fix the car?
- (12) a. Why did John say that Bill would be upset, if Mary left?
 b. Why did John say that if Mary left, Bill would be upset?
 c. *Why did John say that if Mary left, then Bill would be upset?

The (a) sentences above are examples of adjunct extraction from a conditional. The (b) sentences are examples of adjunct extraction from a conditional with a preposed protasis. In both cases the (b) sentences seem less acceptable than the (a) sentences. The (c) sentences are examples of adjunct extraction from a conditional with *then*. It seems to me, that whereas the (b) sentences are awkward, the (c) sentences are not at all acceptable. This would follow if antecedent government takes place under 0-subjacency and the *then* in some way adds a barrier.

Lastly, notice that it is impossible to extract the apodasis from a conditional construction whether or not a *then* is present.

- (13) a. *It is that Mary would leave that John said if Bill came home.
 b. *It is that Mary would leave that John said if Bill came home then.

In the next section I will examine the constituent structure of the conditional from another point of view, keeping in mind that the extraction facts of the above section indicate that an extra-barrier to movement is present when *then* is present. Finally, in section 4, I will come back to each of the extraction possibilities above and show how they follow from the structures postulated in section 3.

3. Constituent Structure of Conditionals

3.1 The Conditional Without *Then*

In this section I will propose an analysis of the structure of the conditional without *then* based in part on the above extraction facts. Consider the paradigm below.

- (14) a. If Bill leaves, I will too.
 b. I will leave, if Bill leaves.

The relative ease of preposing in the above sentences suggests that the protasis is optionally an IP adjunct (note that VP movement suggests that the protasis is optionally a VP adjunct as well).

Further support for the adjunct status of the protasis is offered by the following extraction facts.

- (15) a. ?It is if the student fails that Bill said that the teacher would fire the TA.
 b. **It is if the student fails that Bill wonders why the teacher will fire the TA.

The above sentences indicate that extraction of the protasis is not possible over a WH-island. The severity of the violation indicates that what is involved is the ECP. Therefore the protasis must be an adjunct.

For comparison, consider the analogue with *then* present to the sentence immediately above.

- (16) **It is if the student fails that Bill wonders why Mary said that then the teacher will fire the TA.

This sentence seems as unacceptable as sentence (15b). This is not surprising since from sentences (7) - (9) we know that extraction of the protasis from a conditional with *then* is prohibited.

3.2 Word Order

To determine the constituent structure of conditionals with *then*, first consider some basic word order facts below.

- (17) a. If John leaves, I will come home.
 b. If John leaves, then I will come home.
- (18) a. I will come home, if John leaves.
 b. *Then I will come home, if John leaves.

The sentences above illustrate that when the *then* of a conditional is present then the order of the protasis and apodasis is fixed. Our goal is to account for the fixed word order above,

while keeping in mind that there must exist an extra barrier to movement to account for the extraction effects noted above.

One explanation is that *then* is the head of the conditional when present. There are several possibilities for the constituent structure of conditionals that are consistent with this idea. A conditional could be ternary branching with the protasis, the apodasis and *then* on each branch. This is inconsistent with Binary Branching, therefore suppose that that *then* is the head and the structure is not ternary branching. The only possibility consistent with this last assumption is that *then* has the apodasis as its complement and protasis as its specifier, as in the structure in figure (1).

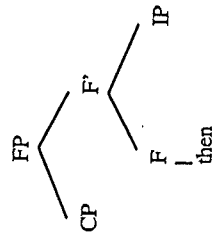


Figure 1: Functional Projection

Here FP stands for functional projection. A number of particulars of this structure are open to debate. For example it could be that the complement to *then* is CP and not IP. I will address this issue in the next section on selection of conditional clauses. Note that the structure in Figure 1 will provide an extra barrier to movement from the embedded clauses and this could account for the extraction facts noted above. I will get back to the details of the extraction facts in section 4.

There is another structure that yields the word order effects a little differently from the one above. Suppose that *then* were actually in the SPEC of a functional projection dominating the apodasis, as in the structure in Figure 2.

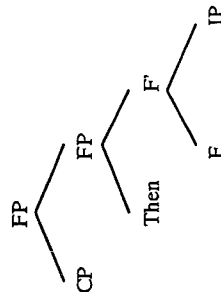


Figure 2: Adjunction To A Functional Projection

In this structure the CP is the protasis and the IP is the apodasis. If this were the correct structure then the word order would be accounted for by positing an adjacency requirement between the *then* and the adjoined CP needed for the rules of interpretation. Again note that this structure provides the additional barrier for movement needed for the extraction data above.

This structure might be similar to the constituent structure of a Topicalization sentence on the assumption that the topicalized constituent is adjoined to CP and accompanied by the movement of an empty operator, as in Figure 3.

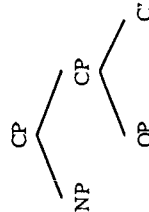


Figure 3: Topicalization

Both of these ideas are plausible and I will not attempt to choose between them, adopting the first analysis as a matter of concreteness. One potential piece of evidence suggesting the first analysis over the second is the sentences in (7-9). If the protasis was adjoined (in the sense of May 1985) to the FP, then extraction of the protasis from the conditional to the matrix clause would cross no barriers and there should be no difference between the (a) and (b) sentences in (7-9) above. Since there is a difference I provisionally take the first analysis of conditional to be correct where the protasis occupies the SPEC of the *then* projection.

3.3 Selection

In the following section, I will analyze the selectional possibilities with conditionals and use the results to further support the analysis proposed above that the conditionals with *then* involve a further functional projection. Consider the paradigm below.

- (19) a. Mary wonders who will get mad at the TA if the student fails.
 b. Mary wonders if the student fails who will get mad at the TA.
 c. Every parent knows if their child fails who will get mad at the TA.
 d. *Mary wonders if the student fails then who will get mad at the TA.

Sentence (a) above is an example of an embedded conditional without *then*. Sentence (b) above has the protasis preposed in the embedded conditional clause. Most speakers find (b) more awkward than (a), the question then arises whether (b) is just a case of a parenthetical *if* clause. Sentence (c) shows that this cannot be correct since bound variable anaphora is possible for a pronoun in the *if* clause (this test was suggested to me by D. Pesetsky). Sentence (d) shows that it is not acceptable to construct a sentence with the embedded question as the apodasis of a conditional with *then*.

There are a number of possible explanations for the sentence in (d) above. One suggestion is that the sequence *then who* is not allowed, so there is a *then-WH* filter. Another suggestion is that it is never possible to embed a question as the apodasis of a conditional with *then*. Both of these possibilities cannot be correct as the following sentence shows.

- (20) a. If Mary comes home, who will do the dishes?
 b. If Mary comes home, then who will do the dishes?

In the sentence above, a matrix question is embedded in the apodasis of a conditional with *then*. Therefore there can be no surface filter of *then-WH* sequences.

Another suggestion to account for (19d) is that *then* is the head of a functional projection that can only take an IP complement, as in Figure 1 above. If this were the case, sentence (19c) would be acceptable since there is no *then* that selects an IP complement. Sentence (19d) would be unacceptable since the embedded question is a CP and therefore does not meet the selectional requirements of *then*. The immediate objection to this analysis is the sentence in (20). Here *then* takes a matrix question complement, which might be

supposed to be a CP. The only way to maintain this account is to postulate that matrix questions are actually IP's (see D. Pesetsky "Earliness" for evidence that supports this conclusion).

One last suggestion that would also account for the sentence (19d) is again to postulate the presence of a functional projection headed by *then* as in Figure 1 (or F in Figure 2). Given this figure, in sentence (19d) the sister to the verb *wonder* is the FP and not the embedded question. If we suppose that selection takes place under sisterhood, then in sentence (19d) *wonder* is not a sister to the embedded question. Therefore the selectional requirements of *wonder* are not met. This also explains the matrix question in (20) above; in a matrix question there is nothing selecting the FP dominating the matrix question.

Note that under either of the last two analyses above we had to postulate the existence of a FP. In one analysis it was postulated that *then* selected (c-selection) an IP, which implies that *then* is the head of its own projection. For concreteness I will assume the analysis where *then* takes an IP complement.

4. Extraction Revisited

The following section gives the details of an account of the non-extractability from conditionals containing *then* in the Barriers system. This is not meant to be a definitive account, it is only meant to show that the central insight that *then* gives rise to an extra barrier to movement can be given a concrete treatment in an existing framework.

Given the structure in figure (1) above and the extraction facts noted in section (1), if we suppose that *then* does not L-Mark its IP complement (the apodasis) then the IP is a BC for any constituent in the embedded IP. The dominating FP becomes a barrier by inheritance. If we assume that the most embedded tensed IP is a barrier for extraction (Chomsky, 1986, pg. 37) then any constituent extracted from the apodasis will yield a subadjacency violation. This accounts for the sentences in (2-4) above. As I mentioned above, there is a set of people that do not find any difference in extraction from the conditionals with *then* and without *then*. One possibility (pointed out to me by C. Tancredi) is that the (a) sentences in (2-4) above are structurally ambiguous between a structure such as that in figure (1) and an adjunction structure. Then it would be predicted that for certain people only the structure in figure (1) would be available for conditionals with and without *then*. For these people, it is predicted that the (a) and (b) sentences in (2-4) are both subadjacency violations.

This account supposes that the *then* does not L-Mark the subordinate IP. L-Marking is defined as follows: A L-Marks B iff A is a lexical category that theta-governs B. Therefore

that hypothesis that *then* does not L-Mark the apodasis would follow under one of two hypotheses. First, we could assume that the *then* does not theta-govern the IP, therefore it cannot L-Mark. This would be analogous to the fact that in the Barriers system, COMP does not L-Mark IP even when it is lexically filled with *that* or *if* or *whether*. Second, we could assume that the *then* theta-marks IP, and then stipulate that *then* is not lexical. This would be analogous to K. Johnson's (1988) treatment of prepositions in "Clausal Gerunds, the ECP, and Government." This would also be analogous to the treatment of VP dominated by INFL in the Barriers system.

To account for the sentences in (7-9) above, assume first that when the conditional is embedded, the COMP that it is embedded under does not L-Mark it. If we furthermore assume that the protasis in a conditional with *then* is not theta-governed by *then*, then it follows that extraction of the protasis clause as in (7-9) above will be prohibited since its trace will not be antecedently governed, FP being an inherent barrier. This will have the force of an ECP violation.

The structure in figure (1) also accounts for the data in (11-12), since the presence of *then* reflects the presence of another barrier to antecedent government.

The last extraction fact noted in (13) above could be blocked by stipulating that *then* does not theta-mark the embedded IP, in which case the trace of the moved IP would be neither antecedent nor theta-governed.

There are many other extraction facts to be noted about conditionals but the analyses above seem to capture the main extraction facts.

5. References

- Chomsky, N. (1986) *Barriers*. MIT Press, Cambridge.
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Quotative Inversion in French*

Tobey Doeleman

1. Introduction

Quotative inversion is illustrated in (1):

- (1) "Bonjour," dit le petit prince.¹ 8.34
 "Hello," said the little prince.
 "Hello," said the little prince.

Quotative Inversion (QI) in French refers to the inverted word order of the subject and finite verb in sentences in which there is a direct speech complement to the verb (a quote). In this paper, I will present and analyze data which illustrate the various forms of QI in French. These data have been collected from the French novels and children's books listed in the appendix. The analysis of the data is based primarily on Collins' (1996) analysis for QI in English, written in the Minimalist framework (Chomsky, 1995). Although English and French differ in some respects, I will argue that Collins' analysis can be extended to account for the bulk of the French data, given the parametric differences between the languages, in particular the strong Verbal feature of the functional category Tense in French.

The organization of this paper is as follows. In section 2, after a short introduction to the relevant aspects of the Minimalist framework germane to this paper, I will briefly present Collins' (1996) analysis of QI in English and then sketch the basic structure of QI in French this analysis suggests. I will then proceed to motivate this structure for French in sections 3, 4, and 5 by presenting data which indicate the positions of the principal constituents: the verb, the subject and the quote. In section 6, based on the preceding data

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¹ The French data in this paper have been gathered from various French novels and children's books. The first number to the right of the quote indicates the reference number in the appendix and the second number