*CONSTRAINTS ON FREE RELATIVE CLAUSES IN TURKISH**

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O. Introduction:

This paper investigates aspects of Turkish relative constructions that have attracted little, or no, attention previously: 1. the order of morphemes--in particular, of agreement morphemes of the participle and of the plural morpheme of the (understood) head--in the verbal complex of Free Relative Clauses (FRCs) with regular factive participial morphology; 2. the lack of so-called "matching effects" in Turkish HRCs; 3. lack of genuine infinitival relative clauses (both headed and non-headed) and the existence of (headed) "future tense" or "irrealis" relative constructions instead; 4. lack of FRCs in the irrealis.

I shall suggest that the the explanation for the observations in 1, 2 and 4 has to do with a constraint on empty operators originally proposed in Levin (1983): Empty operators cannot be governed. If on the right track, this study provides an additional piece of evidence in favor of head government--a notion abandoned in recent work (e.g. Chomsky 1993) but very recently defended again (cf. Rizzi 1995). This paper also attempts to provide evidence for the existence of syntactic rules that are motivated by the necessity to overtly mark the scope for certain rules taking place at LF.

I now turn to individual discussions of the four observations listed above.

1. "Reordering" between participial agreement and inherent plural:

Note the order of the morphemes between the inherent plurality marker **-lAr** and the agreement marker in (1)a.:

(1)a. [Geçen yaz ada-da gör-dük-**ler**-**im**] bu yaz gel-me-di (-ler)
last summer island-Loc. see-Partic.-pl.-1.sg. this summer come-Neg.-past(-3.pl.)
'(Those) who(m) I saw on the island last summer didn't come this summer'

This order is unexpected. The expected order would be for agreement to precede plurality, given the corresponding relative construction with an overt head:

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(1)b.[[Geçen yaz ada-da gör-düğ-üm] kişi-ler]
last summer island-Loc. see-Partic.-1.sg. person-pl.
'The people who(m) I saw on the island last summer'

The agreement is on the embedded verb and expresses person and number features of the embedded subject. The plurality morpheme, on the other hand, expresses the inherent plurality feature of the head. Thus, in a FRC without an overt head noun, if the plural feature of the head is to be expressed at all, it should show up after the agreement morpheme and not before.

Why, then, is the original order between agreement and plural morphemes not preserved, i.e. why is the shape of the participle in (1)a. not as in (1)c.?

(1)c. *gör-düğ-üm-ler?

I will return to attempting an answer in the last section of this paper, and I now turn to an illustration of the second observation made in the introduction.

2. No matching effects in Turkish FRCs:
In Turkish relative clauses, there is neither an overt complementizer, nor an overt relative pronoun. Instead, the verb of the modifying clause bears participial morphology (in the examples above, the general factive morpheme -DIK), and there is a gap in the position of the constituent in the modifying clause that corresponds to the head. Now note the following example:

(2)[sevgili-m-in e sev-me-dik -ler-in]-den hediye al -ma-m
lover -1.sg.-Gen. love-Neg.-Partic.-pl.-3.sg.-Abl. present take-Neg.-Aor.+1.sg.
'I don't take presents from (those) who(m) my lover doesn't like'

A clash might be expected between the Accusative empty category in the modifier in (2) and the Ablative in the matrix--especially, if we assume (as would be quite reasonable) that there is an abstract operator instead of an overt wh-element which moves to Spec/CP. In this particular example, the operator would be marked Accusative; the whole NP (i.e. the FRC) would get Ablative case assigned in the matrix clause. No clash seems to arise, however, and this and similar examples are fine.

3. "Infinitival" Relative Clauses:

Turkish does not have infinitival relative constructions; this is illustrated by the ungrammatical (3):

(3) *Ahmet Ayşe$_j$ - ye [$_{NP}$ [$_{CP}$ PRO$_j$ e$_i$ oku - mak] bir kitap$_i$] al-dı
-Dat. read-Inf. a book buy-past
Intended reading: 'Ahmet bought Ayşe a book to read'

This is a surprising fact, given that infinitival complements with Control semantics are very productive in Turkish; e.g.:

(4) Ahmet$_i$ [PRO$_i$ bir kitap oku - mak] isti - yor
a book read - Inf. want - Pres. Progr.
'Ahmet wants to read a book'

Example (4) illustrates subject control; object control by accusative and dative objects is illustrated by the next two examples:

(5) Ahmet Ayşe-yi$_i$ [PRO$_i$ sinema-ya git-meğ]-e zorla - dı
-Acc. cinema-Dat. go-Inf. -Dat. force-past
'Ahmet forced Ayşe to go to the movies'

(6) Ahmet Ayşe-ye$_i$ [PRO$_i$ sinema-ya git-meğ]-i tavsiye et-ti
-Dat. cinema-Dat. go-Inf.-Acc. recommend -past
'Ahmet recommended to Ayşe to go to the movies'

Given these facts, the question becomes particularly intriguing why infinitival clauses in Turkish, which do seem to parallel their English counterparts so closely, allow neither type of WH-construction to penetrate them.

On the way towards an account of this mystery, we have to note that Turkish does have a relative construction which is equivalent to English infinitival relatives (cf. translation of (3)) semantically and which is formed by replacing the infinitive morphology by the morpheme for Future, which, in this case, has the semantics of irrealis/potentiality:

(7) Ahmet Ayşe$_j$ - ye [$_{NP}$ [$_{CP}$ PRO$_j$ e$_i$ oku - yacak] bir kitap$_i$] al-dı
-Dat. read-Fut. a book buy-past
'Ahmet bought Ayşe a book to read'

These "potentiality" relative clauses have the following properties: their modifying clause never has an overt subject, and the verb of that clause is never inflected for agreement. I claim in this paper that examples like (3) are ungrammatical due to Rizzi's WH-Criterion: the infinitive affix **-mAK** is marked as [-WH], as is the non-factive affix **-mA** of which the infinitive is a sub-class. The future affix, however, just like the factive **-DIK**, is [+WH].

These are not just idiosyncratic, arbitrary assignments of feature values: The factive markers (which show up in the morphological slot reserved for the tense morpheme(s) in fully finite verbs) do have tense connotations, albeit to an

impoverished degree. Complement clauses marked with one of these factive morphemes are, from the point of view of tense, independent from the matrix:

(8)a. [viski iç - tiğ - iniz]-i bil - iyor - uz
- DIK - 2.pl. -Acc. know -Pres.Progr.-1.pl.
'We know that you drink/drank whisky'

b. [viski iç - eceğ - iniz]-i bil - iyor - uz
- AcAK -
'We know that you will drink whisky'

Note that (8) a. and b. are identical, up to the nominalization marker on the subordinate ("nominalized") clause. In particular, the tense/aspect marking of the matrix clause is the same. Hence, it is clear that the different tense/aspect interpretation of the subordinate clauses is due to the different "nominalizers", i.e. **-DIK** and **-AcAK**. This type of complement is often referred to in the literature as "Factive Nominal" (cf. Lees 1963, Underhill 1976), and "Personal Participle" (Lewis 1967). While the rich array of tense and aspect of Turkish root clauses is not found in these complements, there is nevertheless a remainder of tense, as seen by comparing (8) a. and b.: we can describe this subsystem as having the (impoverished) tense array of future (-AcAK) and non-future (-DIK). It should be further pointed out that, despite the difference in shape, such examples do, indeed, form one type, since they are selected by the same matrix verbs (essentially, factive verbs), and they have, indeed, factive semantics themselves, as can be seen by their translations.

The independence of the tense of the complement from that of the matrix, which is typical for the "factive", is not true for the second complement type, illustrated in (9), where clearly the non-factive complement is dependent of the matrix where tense is concerned:

(9) a. [viski iç - me - niz] - e karşı - y - ız
- mA - 2.pl.-Dat. against-Cop.+Aorist-1.pl.
'We are against your drinking whisky'

b. [viski iç - me - niz] - e karşı - ydı - k
- mA - 2.pl.-Dat. against-Cop.+past-1.pl.
'We were against your drinking whisky'

c. [viski iç - me - niz] - e karşı ol-acağ - ız
- mA - 2.pl.-Dat. against be-Fut. -1.pl.
'We will be against your drinking whisky'

The same is true of infinitival complements:

(10) a. pro_i [PRO_i viski iç - mek] isti - yor - uz
drink- Infin. want-Progr.-1.pl.

'We want to drink whisky'

(10) b. pro_i [PRO_i viski iç - mek] iste - di - k
drink- Infin. want-Past-1.pl.
'We wanted to drink whisky'

c. pro_i [PRO_i viski iç - mek] isti - yeceğ - iz
drink- Infin. want -Fut. -1.pl.
'We will want to drink whisky'

The fact that, just like the non-factive complements, infinitival complements are also dependent on the matrix clause from the point of view of tense is not surprising, given that the verbs selecting for infinitival complements are a subset of those selecting non-factive complements. As a matter of fact, the non-factive morpheme **-mA** and the infinitival morpheme **-mAK** have an obvious formal resemblance. Some researchers (e.g. Kural 1993) have called the non-factive morpheme an inflected infinitive. There is some justification to that, given that the non-factive morpheme is, indeed, inflected for agreement with its subject, while the regular infinitive cannot be, since its subject is PRO. This would follow under the PRO-Theorem, if we assume that the subject is governed by AGR. On the other hand, it is not the full infinitival morpheme which is inflected, but the form without the **-K**. Hence, it makes better sense to view the infinitive as an agreement-less non-factive gerundive, and one which lacks, as all such gerundives in Turkish do, tense and aspect.

In what follows, I argue that the inflectional element raises to Comp at LF and offer arguments in favor. To this end, I discuss first WH-questions, and then relative clauses.

3. 1. WH-Questions in Turkish:

Wh-elements in Turkish are, essentially, in situ. In other words, there is no evidence of a syntactic movement to a clause-peripheral position--say, to Spec/CP. While the preferred position for these elements is immediately pre-verbal (like in Hungarian, cf. Horvath 1986), this is not obligatory (cf. Bechhofer 1975). Therefore, differences in the scope of wh-words, which are expressed in terms of surface order in a language like English with overt syntactic wh-movement, must be expressed differently in Turkish. This is done by intonational differences. In the following discussion, I shall be mainly concerned with narrow scope wh-questions (i.e. embedded wh-questions), but I shall also address their wide scope counterparts, i.e. matrix questions whereby a wh-element is "extracted" (but not overtly, only with respect to scopal semantics) out of a complement clause.

It appears that wh-constituents in both Factive and Action Nominals can have wide scope:

Factive Nominal:

(11) [Parti-ye kim -in gel - diğ - in] - i duy - du - n?
party-Dat. who-Gen. come-DIK-3.sg.-Acc. hear -Past-2.sg.
'Who did you hear came to the party?'

Action Nominal:

(12) [Parti-ye kim -in gel - me - sin] -e kız - dı - n?
-mA -3.sg.-Dat. angry-Past-2.sg.
'Who were you angry that came to the party (i.e. about whose coming to the party were you angry)?'

However, while some -DIK complements allow for narrow-scope questions, -mA complements never do for some speakers. While some other speakers are more permissive in this regard, only very few matrix verbs that select for -mA complements are allowed to take embedded wh-questions even by these more permissive speakers. In other words, embedded questions can always be of the -DIK-type, but they are heavily restricted at best when they are of the -mA-type:

(13) [Parti-ye kim -in gel-diğ-in] -i bil-iyor-um (sor-; duy-; etc.
party-Dat. who -Gen. come-DIK-3.sg.-Acc. know-Pr.-1.sg. (ask; hear...)
'I know (asked; heard ...) who came to the party'

(14) *[Parti-ye kim-in davet ed-il-me-sin]-i tembih et -ti-m
party-Dat. who -Gen. invite -Pass.-mA-3.sg.-Acc. insistently tell-past-1.sg.
'I insistently/urgently said who was to be/should be/for whom to be invited to the party'

A corresponding example with a similar, but more widely used verb is better:

(15) ?(?) [Parti-ye kim-in davet ed-il-me-sin]-i söyle - di - m
party-Dat. who -Gen. invite -Pass.-mA-3.sg.-Acc. say -past-1.sg.
'I said who was to be/should be/for whom to be invited to the party'

The contrast between Factive and Action Nominals with respect to embedded wh-questions can be seen in a particularly clear fashion with some of those matrix verbs that take either -DIK- or -mA-complements:

(16)a. [Parti-ye Ahmed-in gel - diğ - in] -i söyle - di - m
party-Dat. -Gen. come-DIK-3.sg.-Acc. say-Past-1.sg.
'I said/told that Ahmet came to the party'

b. [Parti-ye Ahmed-in gel - me - sin] -i söyle - di - m
- mA -

'I said that Ahmet should come to the party (for A. to come to the party)'

Now, while the -DIK-complement in (16)a. can always host a narrow-scope WH-element with the same ease for all speakers, the -mA-complement in (15) and in (16)b. is not accepted by all speakers:

(17)a. [Parti-ye kim - in gel - diğ - in] - i söyle-di-m
who - Gen. - DIK -
'I said/told who came to the party'

b. ?(?)[Parti-ye kim - in gel - me - sin] - i söyle-di-m
who - Gen. - mA -
'I said who should come/for whom to come to the party'

As mentioned before, infinitivals occur with a subset of those matrix verbs that select -mA complements. Even those speakers who are otherwise rather permissive with respect to narrow-scope wh-questions in -mA complements under widely used matrix verbs like söyle 'say' don't allow for infinitival narrow-scope wh-questions. I give some further examples for the sake of convenience, using one of the matrix verbs which were introduced earlier:

(18) a. pro_i [PRO_i doktor -a git - meğ] - e karar ver - di - m
physician-Dat. go -Inf. - Dat. decision give-past-1.sg.
'I decided to go to the doctor'

b. *pro_i [PRO_i kim -e git - meğ] - e karar ver - di - m
who -Dat. go -Inf. - Dat. decision give-past-1.sg.
'I decided to whom to go'

3. 2. Relative Clauses:

Turkish relative clauses are head-final, as are all phrases. The modifier clause is headed by a "nominalized" predicate--indeed, our familiar **-DIK** form, i.e. what I have called "Factive Nominal" earlier in this paper:

Non-future:
(19) a. [Hasan - ın iç - tiğ - i] viski
-Gen. drink-DIK-3.sg. whisky
'The whisky that Hasan drinks/drank'

Future:
(19) b. [Hasan - ın iç - eceğ - i] viski
-Gen. drink-AcAG-3.sg. whisky
'The whisky that Hasan will drink'

Note that not only is the verbal morphology the same as that of our Factive Nominals, we also have the same division into future/non-future forms, and the Genitive marking on the subject.

While the morphology is different for those instances where a subject or part of a subject is "relativized", those intricacies are not relevant for our purposes here. What is relevant and interesting, however, is the fact that neither the "Action Nominal" with **-mA**, nor (as we saw earlier in the paper) the infinitive with **-mAK** are ever part of the verbal morphology that heads the modifier clause of a relative clause:

(20) *[PRO çal - mak] bir sonat
play-inf. a sonata
Intended reading: 'A sonata to play'

(21) *[Cem-in çal - ma - sı] bir sonat
-Gen. play-mA -3.sg. a sonata
Intended reading: 'A sonata for Cem to play/which Cem should play'

The corresponding constructions with the **-DIK** morphology (and the factive semantics that go along with it) are perfect:

(22) a. [pro çal - dığ - ım] bir sonat
play -DIK-1.sg. a sonata
'A sonata which I play/played'

(23) a. [Cem-in çal - dığ - ı] bir sonat
-Gen. play -DIK-3.sg. a sonata
'A sonata which Cem plays/played'

Both of these examples are fine with the Future version of the Factive Nominal, as well:

(22) b. [pro çal - acağ - ım] bir sonat
play -Fut.-1.sg. a sonata
'A sonata which I will play'

(23) b. [Cem-in çal - acağ - ı] bir sonat
-Gen. play -Fut-3.sg. a sonata
'A sonata which Cem will play'

Note that both the Action Nominal and the infinitival, although they cannot head the modifier clause in a relative clause construction, can both be found on intermediate predicates:

(24) [pro$_i$[PRO$_i$[PRO$_i$ çal - mağ]- a başla - mak] iste - diğ - im] bir sonat
play -Inf. -Dat. begin -Inf. want-DIK -1.sg. a sonata
'A sonata which I want/wanted to begin to play'

(25) [[[Cem - in çal - mağ]- a başla - ma - sın]-ı iste - diğ - im] bir sonat
-Gen. play-Inf. -Dat. begin-mA -3.sg.-Acc. want-DIK -1.sg. a sonata
'A sonata which I want/wanted that Cem should begin to play'

3. 3. Towards an Explanation:

In attempting to account for the lack of infinitival (as well as "subjunctive", i.e. non-factive) embedded wh-questions and relative clauses in Turkish, I would like to explore a proposal by Rizzi (1991), where the following principle is proposed:

(26) The Wh-Criterion

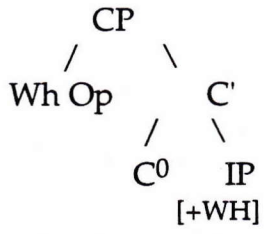
A. A Wh-Operator must be in a Spec-head configuration with an X^0 .
[+WH]

B. An X^0 must be in a Spec-head configuration with a Wh-operator.
[+WH]

I shall first discuss how the Wh-Criterion might provide an explanation for the facts we discussed concerning wh-questions before turning to relative clauses. Also, I shall first disregard the permissive dialect which freely accepts narrow-scope wh-questions with non-factive complements but shall return to that dialect later on.

In an attempt to make the Wh-Criterion more intuitive, Rizzi offers the following explanation:

"As the feature +WH on a clausal head (most typically a C^0) designates the fact that the projection of that head (CP) is a question, the Wh-Criterion simply expresses the fact that at the appropriate level of representation interrogative operators must be in the spec of CPs which are interpreted as questions and, reciprocally, CPs interpreted as questions must have interrogative operators as specifiers. The Wh-Criterion thus requires configurations of the following shape:

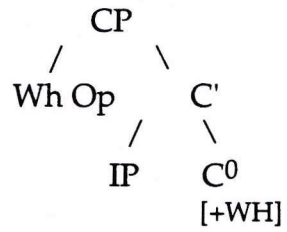


As a general well formedness principle on the scope of wh-operators, [the Wh-Criterion] can be taken as a criterial condition applying universally at LF. So, in languages lacking syntactic wh-movement, such as Chinese and Japanese, question

operators must be moved in the syntax of LF to satisfy the Wh-Criterion at this level, ..." (Rizzi 1991, p. 24)

I would like to claim that Turkish, as a language where, at least for wh-questions, LF-movement has to be posited, applies the Wh-Criterion at that level--i.e. at LF; the lack of infinitival (as well as non-factive) narrow-scope wh-questions follows as a consequence. The LF-configuration in which the Wh-Criterion would apply in Turkish would be as follows:

(27)



I do not take the fact that Spec/CP and the head of CP are at opposite peripheries of the CP to be a problem. There is nothing about the Wh-Criterion (or other principles of grammar, for that matter) which would render it (or them) inapplicable in such a configuration.

There might not be very much overt evidence in favor of this particular configuration, as opposed to one where C^0 and Spec/CP would be on the same side of CP, given that the language has no overt complementizers (although this is open to debate, as we shall see shortly), and also given that the wh-movement I am assuming here is syntactically abstract. As a matter of fact, such an alternative configuration can be assumed, as well, as far as the purposes of this paper are concerned. My main reason for positing the configuration in (27) is my assumption that the directionality between the Spec and the head of a phrase should be the same as the directionality between the head and its complement[1], and the latter configuration is doubtlessly head-final.

My specific proposal is quite simple at this point: The C^0 of non-factive complements and, as a special subset, of infinitival complements is [-WH]. Thus, wh-movement at LF to Spec/CP in non-factives (and infinitivals) gives rise to a violation of the Wh-Criterion. On the other hand, the C^0 of factive complements is [+WH], and thus the same type of movement will lead to a felicitous result--and, indeed, will be obligatory.

This particular interpretation does need some further motivation and justification, however, since the C^0 I am assuming is empty for all the "nominalized" complement types under discussion in this paper, and we shall therefore need some means to differentiate between [+WH] and [-WH] C^0s in a motivated way.

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[1]For a similar view, see Georgopoulos 1991.

Before turning to such motivation, let me first mention--and then dismiss--another logical possibility that comes to mind. Suppose we said that while Factive complements are, indeed, CPs, non-factive and infinitival complements are not. The latter claim would be in line with traditional views which treat **-mA** and **-mAK** complements as verbal nouns and thus not fully clausal.

First of all, it was mentioned earlier that the verbal predicates of these complements do not lose their transitivity (if the verbs in question are, indeed, transitive); thus, they are not really verbal nouns, strictly speaking, and the complements in question can have complex clausal characteristics: a full array of verbal arguments, passive, causative, negation etc. In other words, the internal structure of these complements is, indeed, clausal and not different syntactically from that of factive complements.

Secondly, assume that non-factive and infinitival complements were not CPs. Depending on what we take the lower maximal projection under CP to be, such complements would be IPs of some kind--AgrPs or T(ense)Ps. Given that there is no tense in these complements, and that infinitivals don't have any agreement, such (a) lower projection(s) would obviously be of a defective type. We should therefore expect that such complements would be easy to penetrate from the outside--in particular, they should be transparent to government by the matrix verb whose complement they are.

This would mean a governed PRO-subject of infinitivals, leading to a violation of the PRO-Theorem, and subjects of **-mA** complements that bear the Case assigned by the matrix verb. However, we have seen earlier that there is no reason to assume that the PRO-Theorem can be successfully violated in Turkish, and we have also seen that the subjects of **-mA** complements are marked Genitive within their clause and never bear the Case assigned by the matrix verb (the latter being assigned to the complement as a whole).

Thus, we conclude that non-factive and infinitival complements are CPs, just as their factive counterparts.[2] If so, we do have to posit a C^0-head for them.

In order to differentiate between the C^0-head of factive complements on the one hand and the head of "action" and infinitival complements, on the other, I shall adopt a suggestion made in Rizzi (1991), namely that the basic locus of the [+WH] feature can be, in some languages, Tense. Rizzi hypothesizes that, while [+WH] features are "scattered" in the clausal structure, they can "gravitate", metaphorically speaking, to Tense in those languages (or structures) where that element is, indeed, a rich "gravitational center". In a language (or structure) where there is no Tense, or where that element is weak, that graviation will not take place.

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[2]For a similar conclusion about German infinitivals, based on careful argumentation, see Sabel (1993).

Once we make this assumption, we have to somehow transmit the [+WH] features to the C^0-head of the clause. There are a variety of ways to implement this. We could move the verb to Tense, Agr, and then to C^0, if we are working within a system where we build morphologically complex words in the syntax, or we could percolate the relevant features up.

Note, incidentally, that whatever mechanism we choose, we will need to use it for more purposes than just for applying the Wh-Criterion. Given that matrix verbs select for certain complement types and not others, we must make sure that those verbs have access to Tense (and perhaps Aspect, Modality etc.) features in the complement clause.

This problem (if it is one) might be circumvented, if we said that the locale of these features, i.e. the "nominalization" markers, are placed in C^0. In and of itself, this might be problematic, since we want to place these markers into the Tense position, to capture the fact that at least for factive complements, this is indeed where tense differentiations are made, and also to capture the fact that these markers show up in the same slot within the verbal complex where full-fledged tense markers occur in fully finite clauses.

An intriguing idea is advanced in Kural (1993), where it is proposed that the C^0 position in Turkish complements is filled by **-k**. In other words, while the remainder of the markers are, indeed, in Tense, their final **-k** is really part of a different category, namely of C^0. For **-mA** complements (which he claims are simply inflected infinitives rather than a distinct complement type), which have no **-k**, Kural assumes that they are not CPs. He still assumes, as I have done, that the Genitive marking on the subjects of such complements is assigned by Infl (or Tense), but he follows Raposo (1987) in claiming that an infinitival Infl (i.e. Tense or Agr) cannot assign Case to its specifier unless it is Case-marked by the higher verb.

Obviously, this is against Stowell's (1981) Case Resistance Principle. There are further problems with this proposal (one of which was mentioned before, namely that the putative **-dI**, which would be the simple past in an embedded context, denotes both past and present in complement clauses, but is limited to the past in root contexts, thus casting doubt on the claim that it is one and the same morpheme), the most serious one being the order of morphemes: Agr would have to be outside of IP, since it follows the putative C^0. While Kural does recognize this problem, and devises ways to deal with it, the proposal remains problematic, especially with respect to the various relationships between Agr and the subject within the complement--e.g. Case assignment, the possibility of PRO in infinitives but not elsewhere, and, most seriously, the role of Agr in the licensing and identification of pro-subjects (since, being outside of CP, Agr would be too far removed from the subject of the embedded IP to qualify as a local identifier). If Agr is analyzed as the head of IP, all these problems disappear, and syntax as well as the morphology become straightforward.

I shall therefore retain my analysis with empty C^0s and with either projection of Tense (and the corresponding wh-) features to that C^0, or else with V-to Tense-to Agr^0-to C^0-movement; I shall not take a stand between these alternatives in this paper. Once the C^0 has the appropriate features, the explanation for the facts we have encountered follow: If C^0 has received [+WH] features, wh-movement to Spec/CP will be possible (and necessary), since it is both allowed and enforced by the Wh-Criterion; if C^0 has received [-WH] features, such movement will be ruled out by the same criterion.

The same account will also explain the fact that matrix wh-questions are always possible--both when limited to simple questions and when applying, in a complex construction, to move an embedded wh-constituent at LF, giving it wide scope. The account does need some modification, however.

This modification will rely on Rizzi's notion of "dynamic agreement". The problem is as follows: In order to land in Spec/CP of a matrix clause, a wh element will need a C^0 head with [+WH] features; however, since a matrix CP is never selected by another verb, the head of such a CP will not have "inherent' [+WH] features. How can the head of a matrix CP acquire the relevant features?

Rizzi advances a notion of "dynamic agreement", in order to account for some facts in French, whose nature do not concern us for our purposes. He proposes that some languages have available an extra option of an agreement process between a wh-operator and a licensing head:

(28) Wh-Op X^0--> Wh-Op X^0
[+WH]

This "dynamic" agreement between the element in Spec and the head in terms of features is not the same as the "static" agreement between the same elements that we had seen earlier. Static agreement for the purposes of the Wh-Criterion obtains always; there, each element has features inherently, and independently from each other; those features must agree in a given configuration. In a situation of dynamic agreement, on the other hand, the specifier is able to transmit its own features to the head. This type of agreement is limited to certain languages and certain syntactic contexts.

We have to make sure, however, that we do not run into problems. In particular, we have to block dynamic agreement from applying in embedded contexts where the head of CP lacks [+WH] features, because otherwise we would undo the beneficial, explanatory effects of the WH-Criterion.

What we shall say is that complement clauses lacking such features are specified for [-WH] features; the morphological markers **-mA** and **-mAK** express just that specification. In other words, it is not the case that such complements simply lack

[+WH] specification; rather, they are actually specified, namely for [-WH]. Such inherent specification cannot be overridden by dynamic agreement. Matrix CPs, on the other hand, are not selected for either [+WH] or [-WH], and they simply lack such inherent specification. However, having rich Tense, Aspect, and Modality, they have the potential for receiving the positive value of the [WH] feature. Therefore, in a configuration where dynamic agreement can apply, the C^0 head of such CPs can receive the [+WH] specification from a [+WH] element in Spec/CP. In this fashion, we account for both simple and complex matrix questions, without endangering the explanation we had achieved with respect to embedded complements.

There is one apparent problem that emerges with respect to matrix wh-questions involving a wh-element in a [-WH] complement. How does such an element manage to escape its own clause? Is LF-movement not restricted by Subjacency?

There are various ways to address this issue: We might say, along with Huang (1982), that LF-movement does indeed not obey Subjacency. However, in recent years more evidence has emerged to show that this view is probably not correct. Alternatively, we might say that intermediate traces are not operators (cf. Kornfilt 1984) and are therefore not affected by the Wh-Criterion. Lastly, we could say that the LF-moved embedded wh element actually does not leave the Spec of its own clause, but rather induces Pied Piping of the whole complement clause to Spec/CP of the matrix clause [3]. I shall leave the decision between these last two alternatives to future research. At any rate, we see that there is no real problem in this regard.[4]

I now turn to a brief discussion of the permissive dialect, i.e. the dialect which allows for narrow-scope wh-questions in non-factive complements.

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[3]Such an approach based on Pied Piping is adopted by Nishigauchi (1990) for Japanese, Ortiz de Urbina (1992) for Basque, and Özsoy (1991) for Turkish.

[4]There seems to be a typological difference between Turkish and some other languages--e.g. Romance and Basque--in this respect. In Picallo (1984), it is reported that in Catalan, QPs embedded within subjunctive complements (which seem to correspond to the Turkish non-factive complements in general) cannot take wide scope over a matrix quantifier, while QPs embedded within indicative clauses (roughly corresponding to the Turkish factive complements) can. The difference is related, according to Picallo, to ECP-effects: the INFL-node of a subjunctive clause, lacking Tense, cannot act as a proper governor, while the corresponding node of an indicative clause, possessing Tense, can do so. Ortiz de Urbina (1992) reports that in Basque, certain complement clauses overtly marked for [-WH], and thus not allowing for narrow-scope wh-questions, also do not allow for wide-scope questions. This interesting typological difference between Romance and Basque, on the one hand, and Turkish, on the other, will have to be addressed in future work.

If we look at the examples for such questions and their attempted (and, depending on speaker, successful) readings in their English translations, we see that there is an aspectual or modal meaning attached to them. As a matter of fact, there is a root modal suffix, which is used to express the same meaning, and which is overtly related to the **-ma/-mAK** suffixes of the non-factive and infinitival complements: **-mAlI**. Thus, we get examples like the following:

(29) Bugün doktor - a git - meli - yim
today physician-Dat. go-Necess.-1.sg.
'I have to/I must/I am to go to the doctor today'

(30) Bugün kim - e git - meli - yim?
today who -Dat. go-Necess.-1.sg.
'Who do I have to/mustI/am I to go to today?'

This modal cannot show up in nominalized complements. Factive complements, however, by virtue of having Tense, retain some aspectual properties nevertheless, and thus can "summon" the wh-features in the clause and transmit them to the head of CP, as we saw earlier. However, non-factive and infinitival complements, devoid of both Tense and Aspect/Modality, lack a "gravitational center" to attract and transmit wh-features.

Suppose, then, that we have, in addition to--and higher than--Tense, also a Mod(ality) or Asp(ect) node, which is empty in **-mA** complements. Since Tense is empty, as well, no [+WH] features are attracted, and consequently there is nothing to transmit to the head of CP. However, for some speakers, **-mA** does have similar modality features as the corresponding root **-mAlI**. For such speakers, the Mod-node has features, although there is no distinct marker for them. Such a feature-filled Mod-node acts as Rizzi's gravitational center with respect to [+WH]-features, which end up in the CP-head, thus enabling LF-movement of the WH-element to Spec/CP.

Remember that even for such permissive speakers, however, it is impossible to have narrow-scope wh-questions in infinitivals, i.e. complements marked with **-mAK**. I suggest that the **-k** occupies the Mod (or the higher Agr) node, thus making it impossible for the modality features to get realized and transmitted, and thus also blocking the "gravitation" of the [+WH]-features to the location of modality. The usual Wh-Criterion effects will follow from this, i.e. no narrow-scope wh-question will be permitted due to lack of licensing of any wh-element in Spec/CP. Note, incidentally, that if this explanation is on the right track, non-factive complements wouldn't just be inflected infinitives, since they would have aspectual and modal features which infinitives, presumably, lack.

To summarize what we have done so far: We have posited a principled distinction between factive complements on the one hand, and non-factive and infinitival complements on the other, based on a difference in Tense and Aspect/Modality. We have adopted Rizzi's suggestion that an INFL node (or cluster of nodes) which have

rich tense (or other relevant) features attract the wh-features in the clause and make them somehow accessible to the head of the CP. Further, we have also adopted Rizzi's Wh-Criterion and have used it to explain the fact that Turkish does not allow for embedded infinitival wh-questions (and, for some speakers, for embedded non-factive wh-questions, either).

Let us now turn to a discussion of relative clauses.

It is not immediately obvious how we can apply the Wh-Criterion to explain the lack of infinitival (and non-factive) relative clauses in Turkish. This is because the CPs, i.e. the modifier clauses of the head of the relative clause, are not selected complements, and we are not dealing with question semantics. Hence, it is not plausible to posit inherent [+WH]-marking to the head of the CP.[5]

I would like to suggest nevertheless that the explanation is provided by the Wh-Criterion. First of all, subsequent work has shown the relevance of something like Rizzi's Wh-Criterion to other phenomena than questions--most notably, to negation (cf. Haegeman & Zanuttini 1990, Haegeman (1994)). Thus, perhaps, the most appropriate and general label for Rizzi's principle might be the Operator Criterion. If we treat the wh-element in relative clauses as operators, we would expect these constructions to exhibit appropriate effects.

Turning to the feature specification of the head of the CP, it will have to be in agreement with the features of the "relative operator". Since the CPs in these constructions are not selected, their head would not have inherent features, and we could exploit, once again, Rizzi's notion of "dynamic agreement", which we had used for matrix wh-questions. If we pursue this direction for an explanation, we would, once again, expect for such a head to have properties which, even though not inherently [+"Relative"], would have the potential to be thus marked under dynamic agreement. This potential could not come from non-factive or infinitival complements, which would be inherently marked with the negative value of the feature, and thus would have to come from complements with some tense and aspect/modality marking; this is what we find.

Alternatively, we might exploit the idea that there is some kind of predication relationship between the head of a relative clause and the modifying CP. We would have to specify that this kind of predication cannot take place between a head of a relative clause and a CP devoid of Aspect and Modality features. This relationship would impart the relevant positive feature to the head of CP, which would then have

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[5]Sabel (1993) makes a suggestion which is akin in spirit to the one in the text. He suggests the existence of a [+rel] operator, on a par with [+WH] operators in questions.

to agree with respect to that feature with the "relative operator" which moves to Spec/CP.[6]

Once again, intermediate traces don't count as operators, only the wh-element in the highest Spec/CP of the relative clause does. This, then, accounts for the fact that the wh-element in a relative clause can be part of a non-factive or infinitival complement, as long as it ends up in the Spec of a CP which is headed by a "factive" marker. However, the operator cannot end up in Spec/CP of a non-factive or infinitival, for the obvious reasons spelled out above.

Now, a WH-element which moves to Spec/CP at LF has to obey Rizzi's WH-criterion, i.e. the element in C of that CP must be [+WH]. Therefore, constructions with the Future morpheme **-AcAK** are grammatical in a relative construction, since it is [+WH], while constructions with the [-WH] infinitive morpheme are ungrammatical.

4. The "potentiality" relative clauses have no counterparts as FRCs:

We have seen in the previous section that Turkish does not have genuine infinitival relative clauses, and why. We have also seen that, instead, there are irrealis relative clauses, morphologically marked with the Future tense marker, but with the syntax (PRO-subject, no agreement) and semantics (potentiality/irrealis) of infinitival relative clauses in better-studied languages like English. An example for this construction was (7), repeated here for convenience:

(7) Ahmet Ayşe$_j$ - ye [$_{NP}$ [$_{CP}$ PRO$_j$ e$_i$ oku - yacak] bir kitap$_i$] al-dı
-Dat. read-Fut. a book buy-past
'Ahmet bought Ayşe a book to read'

Interestingly, such irrealis relative clauses do not have FRCs as counterparts:

(31) *Ahmet Ayşe - ye [$_{NP}$ [$_{CP}$ PRO e$_i$ oku - yacak] Op$_i$] al-dı
-Dat. read-Fut. buy-past
Attempted reading: 'Ahmet bought Ayşe what (i.e. something) to read'

Given that Turkish does have FRCs otherwise, as we saw at the beginning of this paper, this restriction looks mysterious and calls for an explanation.

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[6]For arguments to the effect that, although Turkish lacks relative pronouns and overt complements, its relative clauses involve some kind of operator movement which obeys Subjacency, see Kornfilt (1984).

5. Towards an Explanation:

I claim that the phenomena in 1, 2, and 4 are linked via one common explanation, sketched below: Turkish FRCs have a structurally realized, but phonologically empty head position.[7]

In addition, there is LF movement of the agreement morpheme to head position of the relative construction, motivated by the requirement that empty operators (like the abstract WH-element in Turkish) should not be governed. That there is such a requirement has been also proposed (for English) by Levin (1983), who uses it to explain contrasts like the one between the following two examples:

(32) a. * I know [$_{CP}$ op$_i$ [$_{IP}$ PRO to talk to t$_i$]]
b. I know [$_{DP}$ [$_{DP}$ the man] [$_{CP}$ op$_i$ [$_{IP}$ PRO to talk to t$_i$]]

In (32)a. the operator is governed by the matrix verb, yielding a violation of the non-government requirement on operators posited by Levin. In (32)b., on the other hand, the operator is not governed by any head. (Note that, if such an approach is on the right track, the notion of head government is a central one and cannot be subsumed under the notion of antecedent-government.)

Why should the phonologically empty operator in Turkish FRCs be governed by a governor (usually a verb) outside the DP? Even if we assume that Spec/CP is accessible to government from the outside in principle, it is not clear that it should be thus accessible in FRCs, if these constructions are analyzed as DPs with a DP head. Groos & van Riemsdijk (1979) suggest an analysis according to which FRCs have an empty head position, and that COMP (i.e. Spec/CP) in FRCs is universally accessible to government from outside in principle. They claim that languages differ with respect to whether government (and "rules" that would refer to government) refers to lexical material or structural positions, whether lexically filled or not. The Matching Effect would thus be explained.

Suppose, now, that Turkish is a kind of language where government would, in fact, refer to lexical material. Where the head of a relative clause is filled overtly, the Spec/CP position would be inaccessible to government from the outside. However, where the head would be phonologically empty, the Spec/CP position would be accessible to such government, and the prohibition against governed empty operators would be violated.

There are a number of conceptual and empirical problems with this account, pointed out in Bonneau (1990). I will not discuss those here and refer the reader to that paper. I do want to mention, however, Bonneau's alternative proposal, which has some appeal. He posits a rule of "wh-hopping" at LF, which shifts a wh-element from

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[7]For a more detailed discussion of this particular claim, see Kornfilt (1984).

Spec/CP in a relative clause to the head position of the FRC. Matching Effects are thus explained, and the account has the virtue of treating those effects as a local phenomenon.

For the purposes of Turkish and the facts studied in the present paper, we do not have to take a stand between these two analyses. We saw in section 3 that there are good reasons to assume LF movement of a wh-operator to Spec/CP in embedded and matrix questions. Clearly, the same must be true for LF movement of an operator to Spec/CP in relative clauses.[8]

Now, whether we assume that this empty operator is accessible to outside government while located in Spec/CP, or whether we want to claim that if undergoes further movement to head position of the FRC, we have to ensure that it gets protected from such outside government, so as to avoid violating the constraint against governing empty operators.

I am suggesting here that such protection comes from the AGR morpheme, which moves to the head of the head position of the FRC (or else, under an analysis like Bonneau's, where the operator would occupy the head of the FRC, would adjoin to the head). In order to mark the scope of that LF movement, the corresponding morpheme must move to that position in the syntax. Thus, the agreement morpheme "protects" the empty WH-operator from government and thus also from Case assignment from outside. No Case clash can thus arise between the Case on the WH-element and the Case assigned from the matrix governor, and there are no Matching Effects as a result. In addition, the movement of Agr into the head position explains why we see the unexpected morpheme order **plural-agreement**, rather than the expected **agreement-plural**. Finally, the irrealis/potentiality construction cannot occur as a FRC, because it has no agreement morphology; therefore, there is no possibility for the rescue operation of moving the agreement morpheme into the head. As a result, the empty operator in Spec/CP is accessible to (indirect) government, leading to ungrammaticality as seen in (31).

One further property of Turkish FRCs should be mentioned here, albeit very briefly: They have a definite/specific interpretation, as opposed to an "operator-interpretation",[9] by which I mean the interpretation linked to elements like "whatever" in examples as the following one:

(33) I will wear whatever you will wear

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[8]For arguments in favor of such movement of an empty operator in relative clauses, based in part on island-sensitivity, see Kornfilt (1984).

[9]Turkish does have a FRC construction with an "operator-interpretation". That construction is unrelated to the "regular" construction discussed in the body of this paper; it is not nominalized, but rather fully finite and bears the morphology of the conditional.

I would like to claim that this interpretation is due to the fact that Turkish FRCs are headed by AGR, which acts like a pronominal clitic. Had he construction been headed by an operator, the "operator-interpretation" would have obtained.[10]

Note that some irrealis participials have been relexicalized as full lexical nominals; under such readings, examples very similar to (31) are fine:

(33) Ahmet Ayşe - ye [$_{NP}$ [$_{CP}$ PRO e_i giy - ecek] Op_i] al-dı
-Dat. wear-Fut. buy-past

'Ahmet bought Ayşe some clothes' (rather than: 'Ahmet bought Ayşe what (i.e. something) to wear')

As such, these irrealis FRCs are sources of new lexical formations (e.g. yiyecek 'food=eat+Fut.', içecek 'drink=drink+Fut.', açacak 'can or bottle opener=open+Fut.', tutacak 'potholder=hold+Fut.'). Once lexicalized, we are not dealing with a relative construction any longer, and there is no (empty) operator present in the construction that needs to be protected from government.

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[10]A language which appears to be typologically the opposite of Turkish in this respect is Modern Greek, where the canonical FRC construction can only have "operator-interpretation", rather than the definite/specific interpretation. For a detailed study of Greek FRCs, see Alexiadou & Varlokosta (1995).

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