ON SOME INFINITIVAL WH-CONSTRUCTIONS IN TURKISH*

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0. Introduction

The aim of this paper is to present a syntactic phenomenon of Turkish concerning infinitival complements and to sketch a principled explanation which refers to more general characteristics of the language.

The phenomenon in question consists of a deficiency of infinitival constructions: Turkish has neither infinitival relative clauses, nor infinitival WH-questions; yet, it does have infinitives. Representative examples for each assertion follow, along with corresponding English examples:

Infinitival relative clauses:

(1) *Ahmet Ayşe - ye $[_{NP}$ $[_{CP}$ PRO 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'

(2) John bought Mary $[_{NP}$ a book$_i$ $[_{CP}$ PRO to read e_i]]

Infinitival WH-questions:

(3) *Ahmet Ayşe - ye $[_{CP}$ PRO nc oku - mak] söyle-di
-Dat. what read-Inf. say-past

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Intended reading: 'Ahmet told Ayşe what to read"

(4) John told Mary [PRO what to read]

Simple infinitives are fully grammatical:

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

(6) John$_i$ wants [PRO$_i$ to read a book]

The infinitive in Turkish is a productive construction and exhibits similar properties to its English counterpart: it has a distinct verbal form with no markings for tense or agreement; the infinitival clause lacks an overt subject, and, depending on the matrix verb and the syntactic context, the non-overt subject can be controlled by the matrix subject or by an object. Example (5) illustrates subject control; object control by accusative and dative objects is illustrated by the next two examples:

(7) 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'

(8) 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'

There is evidence that the "PRO-Theorem" of Chomsky (1981) holds in Turkish just as it does in English (cf. Kornfilt (1984), (1991)). Thus 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. In order to attempt an account of this mystery, I turn to brief descriptions of three areas in Turkish syntax: 1. Complement types in general; 2. WH-questions; 3. Relative clause formation.

1. Complementation

Clausal complements[1] in Turkish fall into two main types, illustrated in (9) and (10). Both types seem, at first glance, similar to each other as well as to English gerunds[2]:

(9)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'

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

Note that both types are "nominalized" in that they require overt Case marking on their predicate (which is true of infinitivals, as well, as seen in (7) and (8)). Furthermore, the embedded subjects are marked Genitive (in contrast to root sentences, whose subjects are marked Nominative). The subject agreement markers on the nominalized verbs in such complements come from a nominal paradigm, otherwise found in possessive NPs, rather than from a verbal paradigm as exhibited by the corresponding agreement markers of root clauses. Compare, for example, the agreement for second person plural on the nominalized Future tense predicate in (9)b. with the corresponding agreement on the fully finite Future tense in a root clause:

(11) Yarın akşam viski içecek - siniz
tomorrow evening whisky drink -2.pl.
'You will drink whisky tomorrow evening'

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[1]For the purposes of this paper, I am interested in complements (or their parts) in the strictest sense, i.e. in clausal constituents that have argument status in their matrix clause. In a future paper, I shall address the syntax of adjunct clauses.

[2]There are two more complement types, both of which exhibit fully tensed and finite predicates which otherwise occur in root clauses. While these two types have very interesting properties (cf. Kornfilt 1988), they do not concern us here directly.

In addition to the s in the agreement form for the finite predicate, which does not occur in its "nominal" counterpart, the properties of stress between these forms differ, as well: the "verbal" agreement forms are never stressed[3], while the nominal agreement forms are stressed, if they are in word-final position.

Let us turn to the verbal morphology of the nominalized complements.[4]

The first type of nominalized complement, illustrated in (9) a. and b., is often referred to as "Factive Nominal" (cf. Lees 1963, Underhill 1976), and "Personal Participle" (cf. 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 (9)a. and b., such that future (-AcAK)[5] and non-future (-DIK)[6] tenses are overtly differentiated. Despite the difference in form, 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.

It should be borne in mind that, since tense can be differentiated in this complement type, the tense of the complement is independent from that of the matrix, as is illustrated in (9)b. This is an important point, since the same is not true for the second complement type, which I now turn to.

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[3] with the exception of the third person plural agreement form, which does attract stress; however, this form is exceptional within its paradigm in other respects, as well.

[4] For an interesting survey of a typology of non-finite and infinitival complements in Finnish and Hungarian, see Kenesei (1992).

[5] Following general Turkological practice, I use capital letters to denote "archephonemes" whose full feature values are determined in their particular contexts via general phonological rules. For consonants, such rules involve voicing assimilation, syllable-final devoicing, and--possibly--intervocalic voicing. For vowels, the relevant values are filled in by Vowel Harmony.

[6] Calling the -DIK form "non-future" rather than "past", as is done in some relevant literature (cf., for example, Kural 1993), is better motivated in my view, because the action or event depicted by the "Factive Nominal" clause is not necessarily in the past with respect to the matrix, but can also be contemporaneous, as can be seen in the translation of (9)a. We see that the predicate with -DIK is ambiguous in this respect; such ambiguity can be disambiguated by the context. While these facts are very clear and robust, the persistance in calling -DIK "past tense" rather than "non-future" is probably due to the resemblance of the form to -DI, the finite simple past tense morpheme.

In this complement type, the embedded predicate is marked with the suffix -mA, whose order within the verb is the same as the corresponding suffixes of the Factive Nominals, namely after the stem and before the agreement marker. With respect to time reference, compare example (10) with (11) a. and b.:

(11)a. [viski iç - me - niz]-e karşı - y - dı - k
-Cop.-Past-1.pl.
'We were against your drinking whisky'

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

In these last two examples, the complement is identical, yet its time reference changes depending on the tense of the matrix--quite similar to the gerundive complement in the English translations.

The matrix verbs that select Factive Nominals are mainly factive predicates, verbs of knowledge and belief, verbs of saying, and sensory perception verbs. The "Action Nominal" is selected by verbs of volition and of belief.

There are some situations where the same matrix verb can take both types of complements. However, the meanings of such examples will be different in systematic ways:

Factive Nominal:

(12) Hasan [uşağ - ın oda - yı temizle - diğ - in] - i söyle - di
servant-Gen. room-Acc. clean-Fact.Nom.-3.sg.-Acc. say-past
'Hasan said that the servant cleaned the room'

Action Nominal:

(13) Hasan [uşağ - ın oda - yı temizle - me - sin] - i söyle - di
servant-Gen. room-Acc. clean-Act.Nom.-3.sg.-Acc. say-past
'Hasan said that the servant should clean the room'

Note that in this pair of sentences, the Factive Nominal depicts a fact, while the Action Nominal depicts an action or event; in the latter, it is often found that a real or moral necessity is also implied, but this is not always the case.

We saw some examples of infinitival complements at the beginning of this paper. It turns out that the matrix predicates which select for infinitival complements are a subset of those that select for Action Nominals.

Comparing the verbal morphology of Action Nominals and of infinitivals, we find a similar-looking suffix in the same position: -mA, but followed by a k rather than by agreement morphology. I have argued elsewhere (cf. Kornfilt 1984, 1991 and forthcoming) that clauses in Turkish are Agr(eement) P(hrases), headed by Agr, and that subjects are located in the Spec(ifier) position of AgrP. Depending on whether the Agr element is nominal or verbal, the subject will receive Genitive or Nominative Case. As for infinitivals, I shall assume that the -k element of the infinitive marker either is located in the Agr slot, or else blocks any Agr element or Agr features from occurring there, thus protecting the PRO subject from any government--a desirable situation with respect to the "PRO-Theorem".

Finally, note that in all of these "nominalized" complements, the predicates are not fully nominal, since they all can assign Accusative Case--something which nouns cannot do. Thus, insofar as "nominalization" is a felicitous descriptive term for these constructions at all, the site of the nominal feature(s) must be not in the verb itself, but in some higher functional projection--possibly in Tense or Agreement.

This should suffice as a short sketch of the basic complementation system in Turkish. I now turn to a brief overview of relative clause and wh-question constructions in this language. I shall start with embedded wh-questions.

2. WH-Questions in Turkish--Description

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:

(14) [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:

(15) [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:

(16)a. [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'

(17) a. *[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:

(17) b. ?(?) [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:

(18)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 (18)a. can always host a narrow-scope WH-element with the same ease for all speakers, the -mA-complement in (18)b. is not accepted by all speakers:

(19)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:

(20) a. [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. *[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. Relative Clauses--Description

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 we have called "Factive Nominal" earlier in this paper:

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

Future:
(21) b. [Hasan - ın iç - eceğ - i] viski
-Gen. drink-AcAK-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 the infinitive with -mAK are ever part of the verbal morphology that heads the modifier clause of a relative clause:

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

(23) *[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:

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

(25) 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:

(24) b. [Çal - acağ - ım] bir sonat
play -Fut.-1.sg. a sonata
'A sonata which I play/played'

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

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:

(26) [[[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'

(27) [[[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'

4. 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:

(28) The Wh-Criterion

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

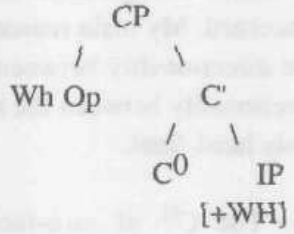
B. An X^0 must be in a Spec-head configuration with a Wh-operator.
[+WH]

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

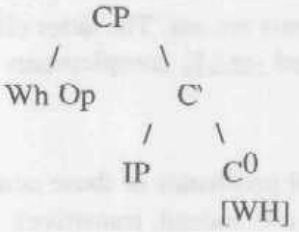
of CPs which are interpreted as questions and, reciprocally, CPs interpreted as questions must have interrogative operators as specifiers. The Wh-Criterion thus requires configurations of the following shape:



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:

(29)



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 (29) 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[7], 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.

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 inner structure of these complements is, indeed, clausal and not different syntactically from that of factive complements.

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

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. 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.

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 (1991) 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:

(30) 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] ekement 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 [8]. 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.[9]

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[8]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.

[9]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

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.

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: -mAll. Thus, we get examples like the following:

(31) 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'

(32) 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

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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.

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.

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 to agree with respect to that feature with the "relative operator" which moves to Spec/CP.[10]

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.

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[10]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).

Turkish does have a relative clause construction with the same semantics as English infinitival relatives, however. This is very simply formed by replacing the infinitival morphology with the morpheme used for Future tense elsewhere. Let us first repeat the ungrammatical example of an infinitival relative:

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

After replacement of the relevant morphology, the following grammatical construction results:

(33) [Çal - acak] bir sonat
play-inf. a sonata
'A sonata to play'

We now have a morphology designated as [+relative], or, more generally and insightfully, as [+operator]. After movement of the operator to Spec/CP, a configuration results which is in line with Rizzi's WH-Criterion, if we extend it to something like "Operator Criterion". Note, incidentally, that in this usage, the Future morpheme has slightly different semantics: it conveys the meaning of irrealis, of potentiality, rather than of Future properly speaking. The latter meaning is found in the "regular" relative clauses:

(34) [yarın konser-de çal - acağ-ım]sonat-ı ezberle-ye -me-di -m
tomorrow concert-Loc. play-Fut.-1.sg.sonata-Acc. memorize-Abil.-Neg.-past-1.sg.
'I haven't been able to memorize the sonata that I shall play tomorrow at the concert'

Compare this with the corresponding irrealis relative clause:

(35)[yarın -ki konser-de çal - acak] bir sonat bul-a -ma -dı -m
tomorrow-rel.clitic concert-Loc. play-potential. a sonata find-Abil.-Neg.-past-1.sg.
'I haven't been able to find a sonata to play at tomorrow's concert'

Although the morpheme -AcAk is identical in the two examples, it has different (although probably related) semantics: in (34), it is a genuine Future. In (35), it conveys the meaning of potentiality and not that of a realistic, factive Future. Nevertheless, even in this latter meaning, the morpheme is marked [+operator]. Is this ad-hoc? I would like to claim that this is not so, because this morpheme in its use as a potentiality marker does have the features of potential--it is not devoid of features altogether. In contrast, the infinitive marker, being devoid of all features of modality or tense, has to be marked [-operator]. Thus, the Turkish infinitive marker is different from its equivalent in English, where the infinitive does have an irrealis feature and thus is specified as [+operator].

We have now, albeit in a sketchy fashion, accomplished what we set out to do. There is one question that remains unanswered: Why do the permissive speakers who do allow narrow-scope wh-questions with non-factive complements not allow the same type of complements in relative clauses?

I don't have a thorough answer to this question at this point and leave this issue for future investigation.

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