

THE ANTISYMMETRY OF TURKISH^{*}

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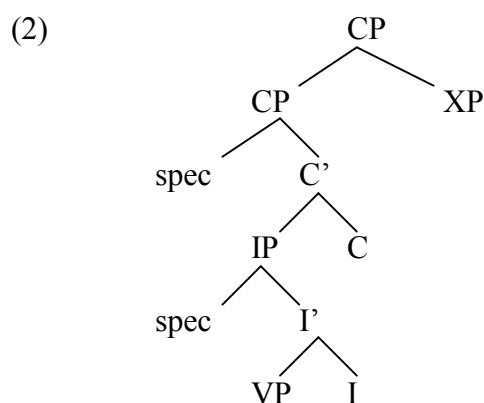
1. INTRODUCTION

Kayne's conjecture (Kayne 1994) that hierarchical asymmetry universally corresponds to linear (temporal) precedence is not straightforwardly supported by the phenomena of Turkish, a well-studied verb final language. As shown in (1), the verb in Turkish appears in final position in both main and embedded clauses.¹

- (1) [Hasan-in kitab-ı oku-ma-dığ-ı]-nı bil-iyor-um
Hasan-GEN book-ACC read-NEG-PAST.PART-3SG.POSS-ACC know-IMPF-1SG
'I know that Hasan hasn't read the book'

As can be seen in (1), embedded clauses in Turkish typically take the form of nominalizations (participle constructions/gerunds) which behave as noun phrases (in that they are case-marked, take possessor subjects in the genitive case, take possessor agreement endings, and do not—necessarily—appear in extraposition). Turkish, then, is a more typical example of an OV-language than for instance Dutch (which may be successfully analyzed as a head-initial language, cf. Zwart 1994).

The status of Turkish *vis-a-vis* Kayne's conjecture is addressed explicitly in Kural (1997). Kural argues for a head-final, specifier-initial structure, which, crucially, also allows for adjunction to the right of maximal projections:



The position right-adjoined to CP indicated by *XP* in (2), Kural argues, is occupied by postverbal constituents, illustrated in (3) (cf. Erguvanlı 1979/1984, Veld 1993 for extensive discussion of postverbal constituents in Turkish).

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¹ Abbreviations used in the glosses: nom/acc/gen/dat/abl = nominative/accusative/dative/genitive/ablative case suffix, neg = negation suffix, part = participle suffix, fut = future tense suffix, impf = imperfect suffix, indef.past = indefinite past suffix, nmnl = nominalizer, npi = negative polarity item.

- (3) Ahmed konuş-tu-ı öğrenci-ler-le
 Ahmed-NOM speak-PAST-3SG student-PL-with
 ‘Ahmed spoke with the students’

Kural (1997) shows that the postverbal constituent has scope over preverbal material, in examples like (4).

- (4) Herkes dün ara-mış-ø [üç kişi]-yi
 everyone-NOM yesterday call-INDEF.PAST-3SG three person-ACC
 ‘Everyone called three people yesterday.’
only ‘A group of three people received calls from everyone yesterday.’

(4) contrasts with (5), where the object *üç kişiyi* ‘three people’ is preverbal:

- (5) Herkes [üç kişi]-yi dün ara-mış-ø
 everyone-NOM three person-ACC yesterday call-INDEF.PAST-3SG
 ‘Everyone called three people yesterday.’
only ‘Everyone called three arbitrary people yesterday.’

Starting from the standard assumption that scope is a function of c-command, Kural (1997) draws the conclusion that the postverbal constituent in Turkish must be in a relatively high position to the right of the structure, as drawn in (2). It follows that in examples like (4) the hierarchical relation of c-command does not correspond to the linear relation of precedence (since *üç kişiyi* ‘three people’ in (4) c-commands *herkes* ‘everyone’ without preceding it).

In this paper I address the two aspects of the structure in (2) which are problematic to Kayne’s conjecture: the head final structure (argued for more extensively in Kural 1993) and the position of the postverbal constituent.

2. THE POSTVERBAL CONSTITUENT IN TURKISH

2.1. The category ‘background’

Erguvanlı (1979, chapter 2) discusses the properties and function of the postverbal elements in Turkish. Postverbal elements are unstressed (6), and focused elements (indefinites and question words) do not appear in postverbal position (7)-(8).

- (6) a. Murat dün dön-dü-ø Ankara-dan
 Murat yesterday return-PAST-3SG Ankara-ABL
 ‘Murat returned yesterday from Ankara’
 b. * Murat dün dön-dü-ø ANKARA-DAN
- (7) a. Adam-ın oda-sın-da bir lamba yanı-yor-du-ø
 man-GEN room-3SG.POSS-LOC one lamp-NOM burn-IMPF-PAST-3SG
 ‘In the man’s room a lamp was burning.’
 b. * Adam-ın oda-sın-da yanı-yor-du-ø bir lamba
- (8) a. Para-yı kim çal-dı-ø ?
 money-ACC who-NOM steal-PAST-3SG
 ‘Who stole the money?’
 b. * Para-yı çal-dı-t kim ?

Placing elements in postverbal position in Turkish serves the purpose of backgrounding.

According to Erguvanlı (1979:71), “background information (represented in the post-predicate elements in Turkish) is material that is ‘supplementary’ to the communication of a linguistic expression.” For example, a noun phrase “may occur in the post-predicate position if the information it conveys is predictable or recoverable from previous discourse, or is ‘given’ (..)” (*op. cit.*, p. 77). The analysis of postverbal elements as representing backgrounded material is endorsed by Kural (1997:499), who does not capitalize on the discourse status of this material, however.

I suspect that the fact that postverbal elements in Turkish take scope over preverbal material (cf. (4)-(5)) is fully explained by their status as backgrounded (given) material. In order to put this idea to the test, let me consider the effect of backgrounding on interpretation in my native language, Dutch.

2.2. Backgrounding in Dutch

Postverbal material in Dutch embedded clauses does not unambiguously imply backgrounding (main clauses are less useful for the investigation of postverbal material in Dutch, because the finite verb appears in second position in main clauses). Thus, all tensed complement clauses appear in postverbal position, and they are not by definition backgrounded, as indicated by the accentuation:

- (9) a. ..dat hij zei- \emptyset [dat het REGEN-DE- \emptyset]
 that he-NOM say.PAST-SG that it rain-PAST-SG
 ‘...that he said that it is raining.’
 b. * ..dat hij [dat het regen-de] zei- \emptyset
 that he-NOM that it rain-PAST.SG say-PAST.SG

The backgrounding effect can be obtained by stressing the matrix verb:

- (10) a. ..omdat hij niet WIST [dat het regen-de- \emptyset]
 because he-NOM not know.PAST-SG that it rain-PAST-SG
 ‘..because he was not aware of the fact that it was raining.’
 b. * ..omdat hij niet WIST [dat het REGEN-DE- \emptyset]
 because he-NOM not know.PAST-SG that it rain-PAST-SG

The emphasis on the matrix verb in (10) has the effect that the contents of the embedded clause *dat het regende* ‘that it was raining’ is presented as discourse-old, ‘given’, information. As can be seen in (10b), this is incompatible with accentuation of the embedded verb, recreating the situation of the postverbal material in Turkish.

It is my impression that the category of background is ignored in most analyses of Dutch extraposition, which focus mainly on postverbal clauses and PPs. These are the only elements that can appear postverbally without backgrounding, i.e. without deaccenting. (11) illustrates non-backgrounded postverbal PPs:

- (11) a. ..omdat hij graag praat- \emptyset over TAALKUNDE
 because he gladly talk-PRES.SG about linguistics
 ‘..because he likes to talk about linguistics.’
 b. Ik heb een boek gekocht over TAALKUNDE
 I have a book bought about linguistics
 ‘I have bought a book about linguistics.’

Noun phrases can only appear in postverbal position when backgrounded, apparently connected to a weak pronoun in preverbal position (right dislocation):

- (12) a. Ik heb 't GEKOCHT dat boek
 I have it bought that book
 'I bought it, that book.'
 b. * Ik heb 't gekocht dat BOEK

Backgrounded clauses are also preferably connected to a weak pronoun in preverbal position (compare (13) to (10a)):

- (13) ..omdat hij 't niet WIST [dat het regen-de-ø]
 because he-NOM it not know.PAST-SG that it rain-PAST-SG
 '..because he was not AWARE of the fact that it was raining.'

Kural (1997:500-501) notes that postverbal clauses in Turkish are islands for extraction, which he says is "unlike what happens in comparable structures in Dutch" with reference to Bennis (1986). The island facts of Turkish are exemplified by (14) :

- (14) * Ayşe'yi_i Ahmet anla-dı-ø [Mehmet'in_i t_i
 Ayşe-ACC Ahmet-NOM realize-PAST-3SG Mehmet-GEN
 gör-düğ-ü]-nü
 see-PAST.PART-3SG.POSS-ACC
 'Ahmet realized that Mehmet saw Ayşe.'

Bennis (1986) notes that embedded clauses in Dutch are islands if they are linked to a weak pronoun in preverbal position, but not elsewhere:

- (15) Wat_i heb je (*'t) betreurd [dat Piet t_i gezegd heeft] ?
 what have you it regretted that Pete said-PART has
 'What did you regret that Pete said?'

The "comparable structures in Dutch" Kural (1887:500) has in mind are apparently the ones without a weak pronoun in preverbal position, which show no island effect. But in fact the variant *with* a weak pronoun is a much closer match to the Turkish examples, as the presence of a weak pronoun facilitates an interpretation of the embedded clause as backgrounded.

To be exact, the variant of (15) with a weak pronoun in preverbal position allows both a backgrounded and a non-backgrounded interpretation of the postverbal clause (indicated by the accentuation in (16)):

- (16) a. Ik heb 't betreurd [dat Piet dat GEZEGD heeft]
 I have it regretted that Pete that said has
 'I regretted that Pete SAID that.' (no backgrounding)
 b. Ik heb't BETREURD [dat Piet dat gezegd heeft]
 'I REGRETTED it that Pete said that.' (backgrounding)

The Bennis paradigm in (15) can be fleshed out as in (17), showing that precisely when the embedded clause is backgrounded, extraction is impossible:

- (17) a. Wat_i heb je 't betreurd [dat Piet t_i GEZEGD heeft] ?
 what have you it regretted that Pete said-PART has
 'What did you regret that Pete SAID?'
- b. * Wat_i heb je 't BETREURD [dat Piet t_i gezegd heeft] ?
 what have you it regretted that Pete said-PART has
 'What did you REGRET it that Pete said?'

Thus, ignoring the postverbal clauses in Dutch that are not backgrounded (such as (17a)), the situations in Dutch and Turkish are exactly alike: backgrounded postverbal clauses are islands for extraction.

The established parallel between Turkish and Dutch allows us to look at the scope properties of backgrounded material in Dutch, and extrapolate the conclusions to Turkish.

2.3. Backgrounding and scope

The effects of backgrounding on scope in Dutch can be gauged from sentences displaying scope interactions like in (18):

- (18) Een competente reviewer zal elk abstract nakijken
 a competent reviewer will every abstract check-INF
 'A competent reviewer will check every abstract.'
 Interpretation: (i) a single/generic reviewer ($a > every$)
 (ii) an arbitrary reviewer ($every > a$)

Backgrounding the subject *een competente reviewer* 'a competent reviewer' eliminates the second interpretation ($every > a$):

- (19) Hij zal elk abstract NAKIJKEN een competente reviewer
 he will every abstract check a competent reviewer
 'He will check every abstract a competent reviewer.'
 Interpretation: (i) a generic reviewer ($a > every$)
 *(ii) an arbitrary reviewer ($every > a$)

(The specific indefinite interpretation of 'a reviewer' is lost, apparently because the backgrounding has the additional effect of forcing a generic reading of the indefinite determiner *een* 'a'.)

It may be thought that the scope effect observed in (19) is not really due to backgrounding but to the presence of the definite pronoun *hij* in subject position. This may very well be true, and, in fact, this factor cannot be excluded in the Turkish example (4) either, weak pronouns being null in Turkish. But the scope effects can also be studied in constructions with backgrounded PPs, which do not involve weak pronouns in preverbal position.

Consider first the ambiguous case in (20), without backgrounding:

- (20) Twee abstracts moeten nagekeken worden door ELKE reviewer
 two abstracts must checked-PART become-INF by every reviewer
 'Two abstracts must be checked by every reviewer.'
 Interpretation: (i) a single group of two abstracts ($two > every$)
 (ii) arbitrary sets of two abstracts ($every > two$)

Backgrounding the PP *door elke reviewer* ‘by every reviewer’ causes the first interpretation (*two>every*) to be lost:

- (21) Twee abstracts MOETEN NAGEKEKEN worden door elke reviewer
 two abstracts must checked-PART become-INF by every reviewer
 ‘Two abstracts MUST be CHECKED by every reviewer.’
 Interpretation: *(i) a single group of two abstracts (*two>every*)
 (ii) arbitrary sets of two abstracts (*every>two*)

A similar effect can be seen in (22)-(23):

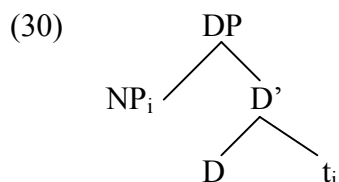
- (22) Alle klachten worden behandeld door TWEE van onze MEDEWERKERS
 all complaints are handled by two of our employees
 Interpretation: (i) arbitrary pairs of employees for each complaint
 (*all>two*)
 (ii) a single pair of employees for all complaints
 (*two>all*)
- (23) Alle klachten worden BEHANDELD door twee van onze medewerkers
 all complaints are handled by two of our employees
 Interpretation: *(i) arbitrary pairs of employees for each complaint
 (*all>two*)
 (ii) a single pair of employees for all complaints
 (*two>all*)

Again, when the quantified expression is backgrounded, as in (23), it takes wide scope.

It appears, then, that backgrounding has the same effect in Dutch as in Turkish. Crucially, however, the scope effects can be reproduced by deaccenting the relevant material in preverbal position as well. Thus, compare (24)-(26) to (19), (21), and (23), respectively:

- (24) Een competente reviewer zal ELK abstract NAKIJKEN
 a competent reviewer will every abstract check-INF
 ‘A competent reviewer will check every abstract.’
 Interpretation: (i) a single/generic reviewer (*a>every*)
 *(ii) an arbitrary reviewer (*every>a*)
- (25) Twee abstracts MOETEN door elke reviewer NAGEKEKEN worden
 two abstracts must by every reviewer checked-PART become-INF
 ‘Two abstracts MUST be CHECKED by every reviewer’
 Interpretation: *(i) a single group of two abstracts (*two>every*)
 (ii) arbitrary sets of two abstracts (*every>two*)
- (26) Alle klachten worden door twee van onze medewerkers BEHANDELD
 all complaints are by two of our employees handled
 Interpretation: *(i) arbitrary pairs of employees for each complaint
 (*all>two*)
 (ii) a single pair of employees for all complaints
 (*two>all*)

These facts show that backgrounding (deaccenting) is the crucial factor, not postverbal position. It follows that the scope facts in Turkish need not be described with reference to



Since the derivation in (30) preserves the universal ordering of heads and phrases proposed by Kayne (1994), we take it to be the null hypothesis, to be upheld when no serious problems are encountered.

The clitic status of the inflectional affixes in the nominal domain is confirmed by the well-known phenomenon of ‘suspended affixation’ (Lewis 1986:41), where a single set of number, person (possessor agreement), and case markers suffices for a conjunction of noun phrases:

- (31) [tebrik ve teşekkür]-ler-im-i sunarım
 congratulation and thank PL-1PL.POSS-ACC offer-1SG
 ‘We offer our congratulations and thanks.’

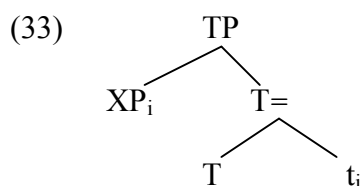
Notice that the particular case in (31) proves that all inflectional categories in the nominal domain have the hypothesized clitic status.

The analysis of verbal inflectional morphology is complicated by the abundance of voice, tense, mood, and aspect suffixes, and by the circumstance that many verbal forms are ‘compounds’ consisting of a main verb and an auxiliary/copula (Kornfilt 1996). In addition, the verbal system is (historically) of an essentially nominal nature (Menges 1968: 125ff), making an analysis of Turkish verbal morphology in terms of verbal functional categories (Tense, Complementizer) far from straightforward.

Suspended affixation occurs in the verbal domain as well (Lewis 1986:108):

- (32) [odam-da otur-uyor ve gazete-yi oku-yor] -du-m
 room-LOC sit-IMPF and paper-ACC read-IMPF -PAST-1SG
 ‘I was sitting in my room reading the paper.’

This suggests a similar process like that illustrated in (30), where some verbal projection moves to the specifier of what looks like a tense element (*du*):



The analysis in (33) is consistent with the findings of Kornfilt (1996), who argues that the ending *-dum* in (32) is not affixed to the imperfective verb *okuyor* ‘reading’, but is in fact a zero copula inflected for past tense (and first person singular agreement):

- (34) oku-yor ø-du-m
 read-IMPF BE-PAST-1SG
 ‘I was reading.’

This analysis accounts for the appearance of two ‘tense’ affixes in (what looks like) a single verb form, the imperfective affix *-iyor* and the past (perfective) affix *-di*.

It seems that, in general, the Turkish verb shows the organization in (54):

(35) verbal noun + copula

The ‘verbal noun’ in (35) can be any verb ending in one of the following >tense= affixes:

(36)	IMPERFECT	<i>-iyor</i>
	FUTURE	<i>-ecek</i>
	AORIST	<i>-r</i>
	INDEFINITE PAST	<i>-miş</i>
	INFERENTIAL	<i>-imiş</i>
	NECESSITATIVE	<i>-meli</i>

As Kornfilt (1996) shows, verbs ending in one of the suffixes in (36) can appear under suspended affixation (where the suspended affixes are attached to a zero copula). In forms like (35), the copula can be cliticized onto the nominal verb, as in (37a), or the copula can surface independently (37b):

(37)	a.	gid-ecek-ti-m	
		go-FUT-PAST-1SG	
		‘I would go.’	
	b.	gid-ecek i-di-m	
		go-FUT BE-PAST-1SG	
		‘I would go.’	

The zero realization of the copula in (37a) is undoubtedly an effect of the cliticization. With verbs ending in a vowel, e.g. suffixed with the necessitative affix *-meli*, the copula shows up as a glide (as argued by Kornfilt 1996):

(38)	gel-meli	i-di-m	>	gel-meli-y-di-m
	come-NECESS	BE-PAST-1SG		come-NECESS-BE-PAST-1SG

This leads to the conclusion that a sizeable portion of the verbal morphology of Turkish involves complex formations of a verbal noun and a copula, where the verbal noun must be analyzed as a phrase, as the suspended affixation facts show. In effect, these complex tenses are not unlike the complex tenses in for instance German or Dutch, which involve combinations of verbal nouns (participles and infinitives) with auxiliaries, the only difference being that the auxiliaries are not cliticized onto the verbal nouns:

(39)	..dat	hij	het	gedaan	heeft	Dutch
	that	he	it	do.PERF	have.PRES-3SG	
	‘..that he has done it.’					

In this domain, then, there is no more reason to suppose that Turkish is a head-final language than there is for Dutch and German.

A potential problem arises in that Kornfilt (1996) shows that her analysis of Turkish verb forms (as involving a verbal noun and a copula) does not extend to all tenses. Two ‘tense’ affixes behave differently from the affixes in (36):

- (40) DEFINITE PAST -*di*
 CONDITIONAL -*se*

Verbs ending in the affixes in (40) cannot appear under suspended affixation:

- (41) * kitab-ı [oku-du ve anla-dı] -n
 book-ACC read-PAST and understand-PAST -2SG

As Kornfilt (1996) suggests, verb stems ending in *-di/-se* cannot function as ‘complete words’ unless they are supplemented with agreement endings. The agreement endings that attach to *-di/-se* are of a different type than the agreement endings attaching to the (zero) copula, as the following tables show (see Kornfilt 1996 and also Yu and Good 2000):

- (42) Agreement endings

	with <i>-di/-se</i>	with the (zero) copula
SG 1	- <i>m</i>	- <i>im</i>
2	- <i>n</i>	- <i>sin</i>
3	-∅	-∅
PL 1	- <i>k</i>	- <i>iz</i>
2	- <i>niz</i>	- <i>siniz</i>
3	- <i>ler</i>	- <i>ler</i>

The agreement endings with *-di/-se* are derived from the possessor agreement paradigm (Menges 1968:143, the notable exception being 1PL *-k*, possibly a borrowing from Uralic—Menges 1968:129—which replaces the 1PL possessor agreement suffix *-miz*), whereas the agreement endings with the zero copula are derived from enclitic pronouns (Menges 1968:141f; here the 1SG ending is exceptionally taken from the possessor agreement paradigm).

These and other facts discussed by Kornfilt (1996) suggest that the endings with *-di/-se* are true affixes (not clitics), so that next to (35) we have the verbal type in (43):

- (35) verbal noun + copula
 (43) verbal noun + affix

It may be, then, that (33), or, better, (44), while suiting the type in (35), is not an adequate structure for the type in (43).

- (44)
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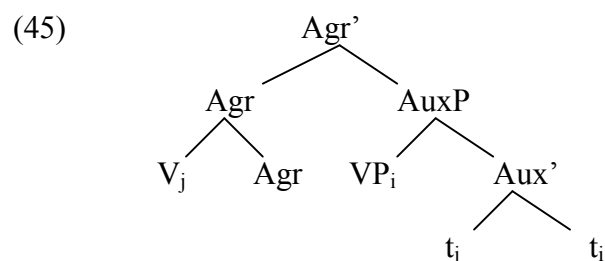
 graph TD
 AuxP --> VP_i[VPi]
 AuxP --> Aux_prime[Aux']
 Aux_prime --> Aux
 Aux_prime --> t_i[ti]

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This leaves open the possibility that forms with *-di/-se* + agreement result from head movement of V to Agr. This head movement analysis is explored in more detail in Kural (1993), who assumes right-headed functional projections as illustrated in (2).

Assuming (44), it seems that V-movement to Agr cannot be to the left, as it will be recalled that the auxiliary (copula) itself takes the past tense ending *-di* as well (cf. (34)). Then

if the auxiliary moves to Agr, it should cross the VP, yielding the order copula-verbal noun, contrary to fact:



On the other hand, the conclusion that the verb movement to Agr must be overt (hence rightward) is based on the assumption that inflected verbs appear in functional heads rather than in V. This assumption is known to be incorrect for well-studied languages like English, Dutch, German, Swedish, etc.

In support of overt verb movement in Turkish, Kural (1993) mentions several phenomena, none of which seems to be decisive. An argument based on ‘negative polarity items’ in Turkish may serve as an illustrative example.

In Turkish, indefinite subjects like *kimse* ‘someone’ in (46) get a negative interpretation ‘noone’ if the verbal morphology includes the negative aspectual marker *me*:

- (46) a. Kimse koş-ma-dı-ø  
 whoever run-NEG-PAST-3SG  
 ‘Noone ran.’  
 b. # Kimse koş-tu-ø  
 whoever run-PAST-3SG

Kural (1993:36) assumes that *kimse* (in the negative interpretation) is a negative polarity item that must be c-commanded at S-structure by the (verb carrying the) negative marker. Hence, it must be the case that the verb in (46a) is in C (cf. (2)).

This argument is not convincing for two reasons. First, it is not clear that (46a) must be viewed as a case of negative polarity rather than as a case of negative concord, illustrated in (47a) from French. Second, even if *kimse* is indeed a negative polarity item, the conclusion that *koşmadı* is in C does not follow. As (47b) from Dutch shows, movement of a negative verb (*ontkennen* ‘deny’) to C does not suffice to license a negative polarity item (*ook maar iemand* ‘anyone’):

- (47) a. 

|      |    |               |     |     |           |  |        |  |
|------|----|---------------|-----|-----|-----------|--|--------|--|
| (47) | a. | Personne      | n'  | est | venu      |  | French |  |
|      |    | person        | NEG | is  | come-PART |  |        |  |
|      |    | ‘Nobody came’ |     |     |           |  |        |  |

  
 b. \* 

|    |   |                        |          |      |                |     |       |  |
|----|---|------------------------|----------|------|----------------|-----|-------|--|
| b. | * | Toch                   | ontkende | ook  | maar iemand    | het | Dutch |  |
|    |   | yet                    | denied   | even | single someone | it  |       |  |
|    |   | ‘Yet noone denied it.’ |          |      |                |     |       |  |

As shown in Hoekstra (1991:43f), negative polarity item licensing is sensitive to grammatical category, such that in a local configuration of a noun phrase and a verb, only the verb can be the dependent (negative polar) element:

- (48) a. Niemand hoeft iets te doen Dutch  
 nobody needs-NPI something to do  
 ‘Nobody needs to do anything.’  
 b. \* Iedereen ontkende ook maar iets  
 everyone denied even single something  
*intended meaning* ‘Everyone denied a single thing.’

As (49), compared to (48a), shows, movement of the verb to C does not change its dependency on the negative subject:

- (49) Toch hoeft niemand iets te doen Dutch  
 yet needs-NPI nobody something to do  
 ‘Yet nobody needs to do anything.’

Another argument advanced by Kural (1993) in support of verb movement to C in Turkish capitalizes on the opacity of subject clauses in Turkish (this can only be demonstrated in relative clauses, in fact participle constructions, which contain a gap corresponding to the head noun following the relative clause):

- (50) [ [ Ahmet-in [e] git-me-si]-nin ben-i üz-dü -ü ] ev  
 Ahmet-GEN go-NMNL-3SG.POSS I-ACC sadden-PAST.PART-3SG.POSS house  
 ‘the house which [that Ahmet visited] made me sad’

As the ungrammaticality of the English translation shows, subject clauses are generally opaque, a fact standardly explained by the Condition on Extraction Domains (CED) of Huang (1982), which relates opacity to the state of being ungoverned. As Kural (1993) argues, if the verb *üzdüğü* ‘saddened’ in (50) is in C, it governs the subject clause *Ahmetin gitmesinin* ‘Ahmet’s visiting’, explaining the transparency of the subject clause. However, as (51) from Dutch shows, movement of a verb (*heeft* ‘has’) to C does not generally have the effect that the subject clause (*dat Jan gezien heeft* ‘that John seen has’) becomes transparent:

- (51) \* Wie<sub>i</sub> heeft [ dat Jan<sub>t<sub>i</sub></sub> gezien heeft ] iedereen verbaasd?  
 who has that John seen has everyone surprised  
*intended meaning* ‘Who did [ that John saw ] surprise everyone?’

Thus, the hypothesis that the verb is in C in Turkish appears to be unsupported at this point.

To conclude, the evidence from verbal morphology in Turkish is indecisive. A large part of the verbal morphology can be described successfully assuming head initial structure and movement from the complement domain of an auxiliary (copula) to the specifier of the auxiliary. A residue of the verbal morphology is better described in terms of affixation, but it is unclear that the affixation requires head movement in (overt) syntax. At any rate, argumentation with respect to the presence or absence of head movement in Turkish should focus on this residue of the verbal morphology, involving the affixes in (40).

#### 4. Conclusion

I have argued in this paper that Turkish, on closer scrutiny, turns out to be surprisingly well-behaved *vis-à-vis* Kayne’s conjecture, repeated here:

- (52) Hierarchical relations correspond to precedence relations

Discussion in this paper has established the following:

1. scope properties of postverbal constituents are a function of ‘backgrounding’, not of hierarchical position;
2. in the nominal system, affixes are clitics attaching to (displaced?) noun phrases;
3. a sizeable portion of the verbal morphology involves verbal composition, with copulas attaching again as clitics to (displaced?) verb phrases.

A remaining problem involves those verbal agreement endings (attaching to past tense *-di* or conditional *-se*) which have the properties of affixes rather than clitics (Kornfilt 1996, Yu and Good 2000).

If anything, the observations made in this paper indicate that a straightforward argument in support of the head final status of Turkish is not easily made (cf. also Kural 1997:499, note 2).

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