

# ON RIGHT NODE RAISING<sup>1</sup>

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## 1. Aim

The aim of this study is to offer evidence from Right Node Raising structures in Turkish for **Right Node Raising (RNR) as (PF-)Ellipsis** (Wexler and Culicover 1980; Levine 1985, 2001; Kayne 1994) rather than **RNR as ATB movement** (Ross 1967; Bresnan 1974; Hankamer 1971; Hudson 1976) or **RNR as Multiple Dominance** (Phillips 1996; Wilder 1999, 2008).

## 2. Right Node Raising Data

Crucial data will be RNR structures where the shared element is a verb –known as **backward gapping** (Hankamer 1971)- as well as an argumental DP. An example of RNR where the shared element is a verb (1) (Hankamer 1971; Kornfilt 2000), and where the shared element is DO (2):

1. [[Hasan karides-i \_\_\_\_ ], [Mehmet te istiridye-yi yedi]]  
Hasan shrimp-ACC Mehmet also oyster-ACC ate  
'Hasan (ate) the shrimp, and Mehmet ate the oyster.'
2. Mehmet \_\_\_\_<sub>1</sub> pişirdi , Hasan da \_\_\_\_<sub>1</sub> yedi , elma-yı.  
cooked also ate apple-ACC  
'Mehmet cooked and Hasan ate, the apple.'

In (1), the verb *yedi* 'ate' is the verb of both clauses. However, it is pronounced in sentence/conjunction-final position. In (2), the shared element is the DO of both conjuncts, and it is pronounced in sentence/conjunction-final position.

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d. Kitabı adam okudu , çocuk da dergiyi. (OSV & SO)  
 book-ACC man read-PAST child CONJ mag.-ACC

If both forward and backward gapping had the same derivation, one would not expect the word order parallelism requirement in backward gapping. So, I follow Hankamer (1971) and assume that backward gapping structures are Right Node Raising structures. However, it is not clear yet why word order parallelism is required in backward gapping, and I will leave it as an open issue.

### 3. ANALYSES OF RNR

Analyses of RNR structures can be grouped into two classes:

9. In-Situ analyses: Shared Element(s) Inside Both Conjuncts

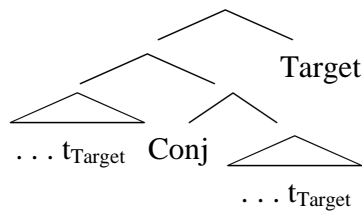
- a. PF-deletion (Wexler and Culicover 1980; Levine 1985, 2001; Kayne 1994; Wilder 1997; Hartmann 2000)
- b. Multiple Dominance (Wilder 1998, 2008; Abels 2004)

Ex-Situ analyses: Shared Element(s) Outside Both Conjuncts Across-the-Board Movement (Ross 1967; Bresnan 1974; Hudson 1976; Postal 1974, 1998; Hankamer 1971; Sabbagh 2007)

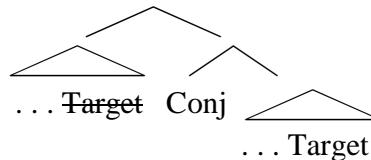
Under RNR as ATB movement, an element is ATB-moved rightward (10b); under RNR as ellipsis, the leftmost one of two identical elements is elided (10c) (10b-c taken from Abels 2004); and under RNR as Multiple Dominance, there is one occurrence of an element shared by both verbs (10d):

10. a. John bought and Mary broke an expensive Chinese vase.

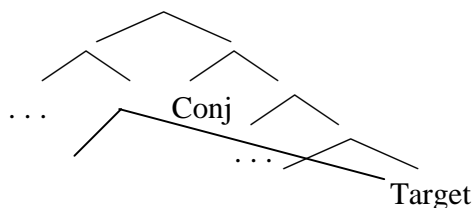
b.



c.



d.



## 4. Arguments against RNR as ‘ATB-Movement’ and ‘Multiple Dominance’ from Turkish

In this section, I will give four arguments against the ‘ATB-movement’ and ‘Multiple Dominance’ analyses of RNR from RNR structures in Turkish.

### 4.1 Agreement Properties

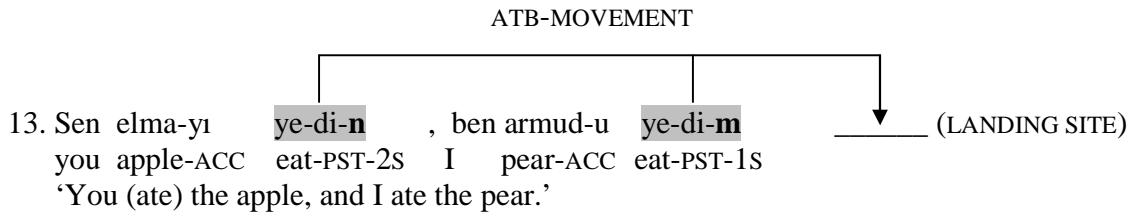
The shared verb shows agreement only with the subject of the second conjunct in Turkish RNR structures:

11. Sen elma-yı , ben armud-u ye-di-**m**/n\*/\*k.  
 you apple-ACC I pear-ACC eat-PST-1S/\*2S/\*1P  
 ‘You (ate) the apple, and I ate the pear.’

The pronounced copy of *ye-* ‘eat’ in the first conjunct would bear second person singular agreement, while the verb in the second conjunct would bear first person singular agreement:<sup>2</sup>

12. Sen elma-yı ye-di-**n** , ben armud-u ye-di-**m**.  
 you apple-ACC eat-PST-2S I pear-ACC eat-PST-1S  
 ‘You ate the apple, and I ate the pear.’

Under ATB-movement analysis, since both of the verbs move, it is not clear why only the verb that agrees with the second subject is pronounced although both verbs are ATB-moved. There would be nothing to block pronunciation of the copy of the verb from the first conjunct under RNR as ATB movement.



One cannot argue that the verb agrees with the subject of the second conjunct after it ATB-moves because there would be no c-command relation between the subject of the second conjunct and the verb since the verb is outside the domain of the second conjunct (10b-14). So, neither Spec-Head agreement nor the AGREE operation would work to explain the relevant agreement fact:

<sup>2</sup>The fact that the verbs in the first and second conjuncts are not identical w.r.t agreement shows that there is not a strict identity requirement. However, both verbs need to be identical in Tense/Aspect/Modality morphology:

- (i) Ali çikolatayı \*(yi-yor) / ~~ye-di~~, ben elma-yı ye-di-m.  
 chocolate eat-PROG ate I apple eat-PAST-1S  
 (ii) Ali çikolatayı \*(ye-meli) / ye-sin , ben elma-yı y-iye-yim.  
 chocolate eat-NECESSITY eat-OPT2S I apple eat-OPTATIVE-1S

14.  $[[\&_1 \text{ Sen} \dots \text{---}_1] [\&_2 \text{ ben} \dots \text{---}_1]] \text{ yedim}_1$
- NO C-COMMAND

Similarly, under Multiple Dominance analysis, since the verb is shared by both clauses, it is not clear why it shows only agreement with the second clausal conjunct. Since locality or linear precedence does not matter in this model, the verb could agree with the subject of the first conjunct as well as it could with the subject of the second conjunct:

- 15.
- ate

## 4.2 Head-adjunction to a phrase

Since the shared element in RNR structures can be a head, it is not clear how a head could adjoin to a phrase (Chomsky 1986) under ATB analyses:

16.  $[\&P [[\&_1 \dots \text{---}_1] [\&_2 \dots \text{---}_1]] \text{V}^0_1]$  HEAD-ADJUNCTION TO A PHRASE

In the following lines, we will see contexts where a shared element can be a head but not a phrase, which would not be expected under the ATB-analysis.

## 4.3 Adjunction to complement clauses

A verb can be shared in complement clauses (17). Under ATB movement analysis, this would mean that the verb adjoins to the embedded conjunction. However, rightward adjunction to complement clauses is ungrammatical (18):

17. Zeynep [[[Hasan-ın karides-i], Mehmed-in de istiridye-yi  
 Zeynep Hasan-GEN shrimp-ACC Mehmet-GEN also oyster-ACC  
 yediğini] duydu  
 ate heard  
 'Zeynep heard that Hasan (ate) the shrimp, and Mehmet ate the oyster.'

18. \*Ahmet [[Ali-nin  $t_1$  öptüğünü] Ayşe-yi<sub>1</sub>] biliyor.  
 -GEN kissed -ACC knows  
 'Ahmet knows that Ali kissed Ayşe.'

If RNR were ATB movement, example (17) would be bad since complement clauses do not allow rightward adjunction:





## 5.2 Head-adjunction

Since the verbal head in the second conjunct is pronounced in its canonical position, it does not need to adjoin to any phrase. Therefore, a head can be “shared” in a coordinate structure as long as it is the rightmost element in the conjunction, as will be described in the Right Edge Generalization in the next subsection.

## 5.3 Adjunction to complement clauses

The *PF Ellipsis* analysis needs to account for, on the one hand, grammaticality of RNR of verbal heads in complement clauses and, on the other hand, ungrammaticality of RNR of DOs in complement clauses (ex. 17&20 repeated as ex. 29&30, respectively):<sup>3</sup>

29. Zeynep [[[Hasan-ın karides-i , Mehmed-in de istiridye-yi  
Zeynep Hasan-GEN shrimp-ACC Mehmet-GEN also oyster-ACC  
yediğini] duydu  
ate heard  
'Zeynep heard that Hasan (ate) the shrimp, and Mehmet ate the oyster.'

30. \**pro* [[[Mehmet-in \_\_\_\_<sub>1</sub> pişirdiğini], [Hasan-ın da \_\_\_\_<sub>1</sub> ye-diğini]] elma-yı<sub>1</sub>]  
-GEN cooked -GEN also ate apple-ACC  
biliyorum.  
know  
'I know that Mehmet cooked and Hasan ate, the apple.'

To explain this dichotomy, I will propose the following generalization, the motivation of which I will leave an open issue:

31. *Right Edge Generalization* (REG)  
In the configuration  
[[A...X...] Conj. [B...X...]]  
X must be rightmost element in the conjunct B or the whole structure –  
including &P- before X can be deleted in A.

For PF-deletion to occur in RNR structures, REG first needs to be satisfied, which requires, when necessary, that the shared element in the second conjunct needs to move to either the right edge of the second conjunct or the whole sentence that also includes the &P. This explains the grammaticality of ex. (29). Since the verb in the second conjunct is already the rightmost element in its canonical position, REG is satisfied, without requiring any further movement. In this case the identical verb in the first conjunct is elided:

32. ... [&P [C<sub>1</sub> ...  $\nabla_+$ ] [&' [C<sub>2</sub> ...  $\nabla_1$ ]]  $V_{matrix}$  *REG satisfied*

<sup>3</sup> Aslı Göksel (p.c.) notes that when the embedded verb is stressed and the shared DO is distressed in ex. (30), the structure is grammatical. I assume that the DO is phonologically incorporated to the embedded verb, and the structure is thus saved:

i. ... YEDİĞİNİ elmayı ...



In (30), however, REG cannot be satisfied with the shared DO in its canonical position inside the second conjunct. First, the canonical position of the DO *elmayı* ‘the apple’ is not the rightmost position in the second conjunct; furthermore, it cannot move to the right edge of the second conjunct because rightward adjunction to complement clauses is not allowed in Turkish independently, as ex. (34) shows:

$$33. \dots [ \&P [C_1 \dots \text{DO}_1 V^0] [ \&' [C_2 \dots \text{---}_1 V^0 \text{DO}_1 ] ] ] V^0_{\text{matrix}}$$

34. \*Ahmet [Ali-nin  $t_1$  öptüğünü Ayşe-yi<sub>1</sub>] bil-iyor.  
 -GEN kissed -ACC knows  
 ‘Ahmet knows that Ali kissed Ayşe.’

So, PF-deletion and REG explains the dichotomy between RNR of verbs and DO’s in complement clauses in Turkish. DO’s cannot be shared in complement clauses because they cannot move to the right edge of the second conjunct.

#### 5.4 Long-distance RNR

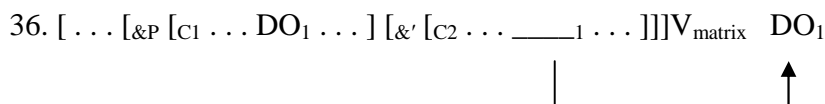
PF-deletion analysis also accounts for ‘long-distance RNR’ data in Turkish. As stated before, a shared verb in a conjoined complement clauses cannot follow the matrix verb, whereas a DO can (25a-b repeated as 35a-b):

35. a. [[ *pro* [[Mehmet-in  $\text{---}_1$  pişirdiğini], [Hasan-ın da  $\text{---}_1$  ye-diğini]]  
 -GEN cooked -GEN also ate  
 biliyorum] elma-yi<sub>1</sub>].<sup>4</sup>  
 know apple-ACC  
 ‘I know that Mehmet cooked and Hasan ate, the apple.’
- b. \**pro* [Hasan-ın karides-i  $\text{---}_1$ , Mehmed-in de istiridye-yi  $\text{---}_1$  ]  
 Hasan-GEN shrimp-ACC Mehmet-GEN also oyster-ACC  
 duydum yediğini<sub>1</sub>  
 heard ate  
 ‘Zeynep heard that Hasan (ate) the shrimp, and Mehmet ate the oyster.’

<sup>4</sup> Howard Lasnik asks why (35a) is not a violation of the Coordinate Structure Constraint (CSC) (Ross 1967), although (ii) is a violation of CSC and points out that (35a) would be an argument for ATB-movement. Tentatively, I will suggest an interpretation of CSC such that an element can move out of a conjunct as long as there is another element identical to it in the other conjuncts. So, in (35a) *elmayı* ‘the apple’ can move out of the second conjunct since there is an identical element in the first conjunct, i.e. *elmayı*:

- (i) CSC  
 In a coordinate structure, no conjunct may be moved, nor may any element contained in a conjunct be moved out of that conjunct.
- (ii) \*Ahmet [[Ali’nin Meral-le konuştuğunu] & [Murat’ın  $\text{---}_1$  konuştuğunu]] söyledi Burak-la<sub>1</sub>.  
 with spoke spoke said with  
 ‘Ahmet said that Ali spoke to Meral and that Murat spoke to Burak.’

Ex. (35a) is grammatical because the REG can be satisfied by rightward-adjunction of the DO *elmayı* ‘the apple’ to the matrix clause –Turkish allows long-distance rightward scrambling of phrases out complement clauses (ex. 37):

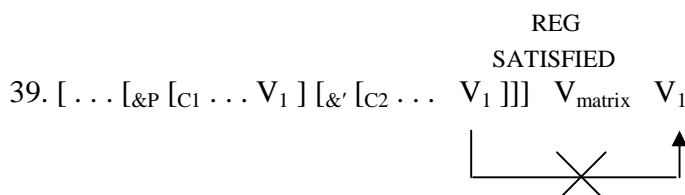


37. Hasan [Ahmet-in *t*<sub>1</sub> *yediğini*] biliyor *elmayı*<sub>1</sub>.  
   ate                  knows apple  
       ‘The apple, Hasan knows that Ahmet ate (it).’

Ex. (35b) is bad because movement of *yediğini* ‘ate’ violates the **Frozenness Principle** which states that an element is frozen in the position at which it satisfies REG; in other words, it cannot move any further. Since REG would already be satisfied with the shared verb in its canonical position, the shared verb is frozen in its canonical position:

38. *The Frozenness Principle*

An element is frozen in the position at which it satisfies REG, i.e. it cannot move any further.



Thus far, we have seen that ‘RNR as ellipsis’ can account for all the properties of RNR structures in Turkish unlike the other theories such as ‘ATB-movement’ and ‘Multiple Dominance’ analyses.

## 6. On the Right Edge

All studies on RNR agree on/propose a different ‘right edge’ condition. Two of these are by Wilder (1999, 2008) and Sabbagh (2007).

### 6.1 Wilder (1999, 2008)

Wilder (2008: 229) makes the following generalizations:

40. If a shared constituent  $\alpha$  surfaces inside the *final* conjunct (as in Right Node Raising), then the gaps corresponding to  $\alpha$  in all non-final conjuncts must be at the *right edge* of their respective conjuncts, whereby that position must be a possible surface position for  $\alpha$ .

Wilder gives the following examples as arguments for his points (p. 244):

41. a. John has bought \_\_\_\_ and Mary will read *the paper*

- b. \* John can \_\_\_\_ your book and Mary will *read* the paper
- c. John should fetch \_\_\_\_ and give *the book* to Mary
- d. \* John should give \_\_\_\_ the book and congratulate *that girl*<sup>5</sup>

As the ungrammaticality of ex. (41b-d) shows, the corresponding gap in the non-final conjunct needs to be the rightmost element in its conjunct. The shared element, on the other hand, does not need to be the rightmost element in its overt position as (41c) shows:

42. the >> book >> to >> Mary  
SHARED MATERIAL

However, Turkish shows the opposite of Wilder's generalization. In Turkish, the shared element needs to be the rightmost element in the conjunction in its overt position, and the corresponding gap(s) in the non-final conjuncts need not to be the rightmost element in their conjunct:

43. a. Hasan \_\_\_\_<sub>1</sub> pişirdi , Mehmet yedi **balığı**<sub>1</sub>.  
          cooked                      ate    fish-ACC  
      ‘Hasan cooked and Mehmet ate the fish.’
- b. \*Hasan \_\_\_\_<sub>1</sub> pişirdi , Mehmet **balığı**<sub>1</sub> yedi.  
          cooked                      fish-ACC    ate  
      ‘Hasan cooked and Mehmet ate the fish.’

In the first conjunct in ex. (43a), the corresponding gap for the shared phrase *balığı* ‘the fish’ is followed by the verbal head *pişirdi* ‘cooked’, which means that the gap is not at the right edge of the conjunct. However, the structure is grammatical. In ex. (43b), on the other hand, the shared element is not the rightmost element in the second conjunct, preceded by the verb, and the structure is ungrammatical. Ex. (43a) is grammatical because the shared element is the rightmost element in the second conjunct.

We could change the requirement (31 (repeated as (44))) such that it requires that no phrase follows the corresponding gap in the non-final conjunct(s). In that way, the grammaticality of (46a) could be explained. However, we need to check whether cases where a phrase follows the corresponding gap in the non-final conjunct(s) are grammatical:<sup>6</sup>

<sup>5</sup> Alexander Williams (p.c.) notes grammaticality of the following examples where the shared element is not the rightmost element in the first conjunct. However, note that the rightmost element in the first conjunct in (i&ii) is an adjunct whereas it is an argument in (41d). Maybe, adjuncts do not count as right/left-most elements unlike arguments. This issue is beyond the scope of this paper, so I will leave it an open issue:

- (i) Harry will send \_\_\_\_ to London, and George will then pick up \_\_\_\_, all the documents we need.
- (ii) I will photocopy \_\_\_\_ this afternoon, and then at least skim \_\_\_\_ by tomorrow morning, all the readings for our class.

He also notes that it's worth noting in this context the further fact that the first object of a ditransitive, unlike the first object of a *to*-dative, will not allow extraposition, which means that the ungrammaticality of (41d) due to a more general restriction on extraposition:

- (iii) \*John should give the book his favorite uncle.
- (iv) Harry will send to London all the documents we need.

<sup>6</sup> Following Öztürk (2005), I take the ordering of ditransitives as ‘IO + DO + V’.

44. *Right Edge Generalization (REG)*

In the configuration

[[A....X...] Conj. [B...X...]]

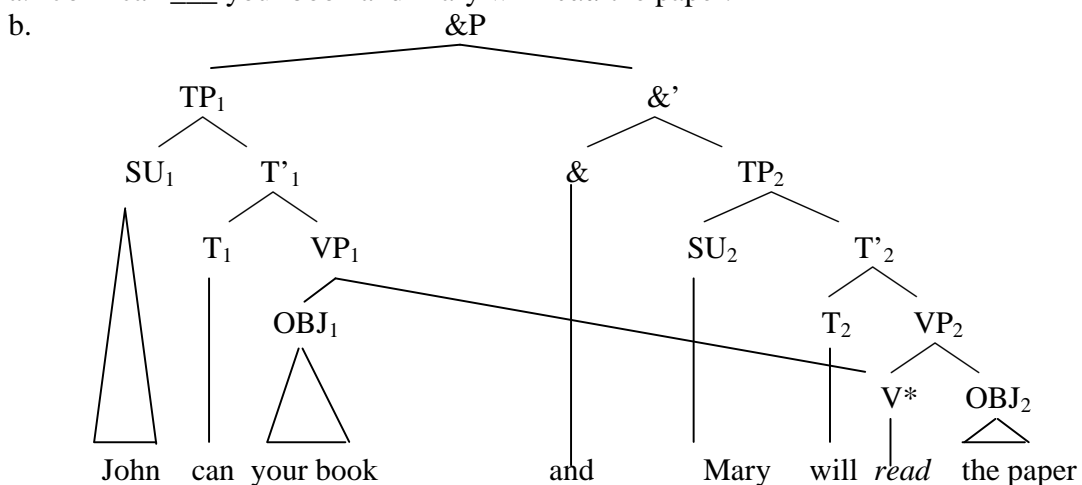
X must be rightmost element in the conjunct B or the whole structure – including &P- before X can be deleted in A.

45. Hasan Tolga-ya<sub>1</sub> dergi-yi      sattı, Meral (de) t<sub>1</sub> gazete-yi      sattı Tolga-ya<sub>1</sub>  
       -DAT magazine-ACC sold                      also      magazine-ACC sold                      -DAT  
 ‘Hasan sold the magazine, and Meral sold the newspaper, to Tolga.’

In ex. (45), the corresponding gap in the first conjunct is followed by another phrase, namely DO *dergiyi* ‘the magazine’, but the structure is still grammatical. This clearly shows that Wilder’s generalization in (40) does not hold in Turkish.

Wilder (2008) notes that his generalization is a consequence of linearization in terms of LCA. If an element follows the shared element in the first conjunct, a symmetry violation will arise because since the shared element c-commands an element that follows it, it will precede it, but at the same time, since the first conjunct c-commands the shared element –the shared element being a member of the second conjunct as well, all its terminals –including the element that follows the shared element- will precede the shared element:

46. a. \*John can \_\_\_\_ your book and Mary will *read* the paper.



- c. V\* c-commands into OB<sub>1</sub>: read < {your, book}

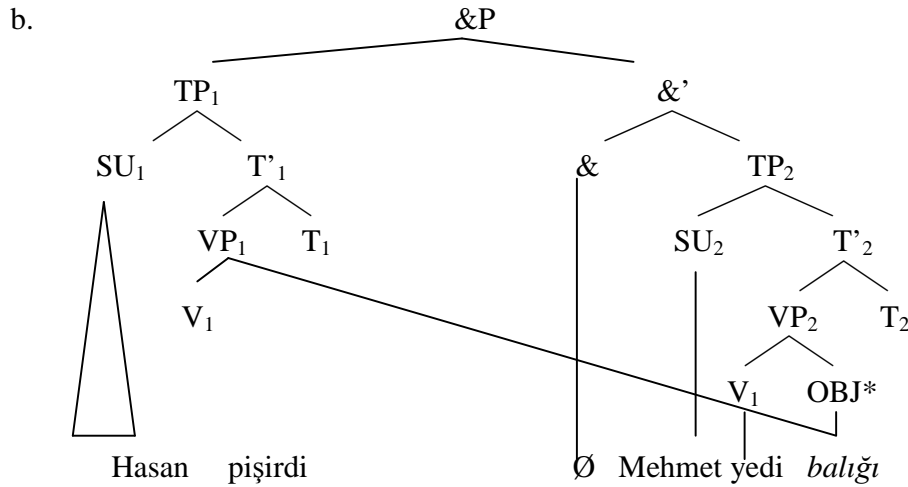
- d. TP<sub>1</sub> c-commands V\*: {John, should, your, book} < read

(Wilder 2008: 245)

However, in the grammatical example (43a) in Turkish, we have exactly the same configuration:

47. a. Hasan \_\_\_\_<sub>1</sub> pişirdi , Mehmet yedi **balığı**<sub>1</sub>.  
       cooked                      ate      fish

‘Hasan cooked and Mehmet ate the fish.’



Turkish being a head final language, the verb in the first conjunct follows the shared OBJ (see Kural (1997) against a Spec-Head-Complement analysis of Turkish under Kayne LCA). Under Wilder’s analysis, we would get a violation since:

48. a. OBJ\* c-commands into V<sub>1</sub>: balığı < pişirdi  
 b. TP<sub>1</sub> c-commands OBJ\*: {Hasan, pişirdi} < balığı

However, the structure is linearized in Turkish, showing inadequacy of Wilder’s analysis. Also, under LCA, a couple of (unmotivated) movement operations would be required to explain how the OBJ\* occurs in postverbal position in the second conjunct. OBJ\* would need to move to a position above TP<sub>2</sub>, and then TP<sub>2</sub> would need to move to a position above OBJ\*.

## 6.2 Sabbagh (2007)

Sabbagh gives a stricter version of Wilder’s generalization in (40):

### 49. Right Edge Restriction (RER)

In the configuration:

[[A...X...] Conj. [B...X...]]

X must be rightmost within A and B before either (i) X can be deleted from A;

(ii) X can be rightward ATB-moved; or (iii) X can be multiply dominated by A and B.

For Sabbagh –who argues for ATB-movement analysis of RNR, the shared element has to be the rightmost in both/all conjuncts before ATB extraction. The data from Turkish again shows that this restriction cannot be generalized to Turkish because X in the first conjunct does not need to be the rightmost element in its conjunct. The English data in (41c) also shows that a phrase can follow the shared element in the second conjunct although they are SOD-mate. Sabbagh also gives the following generalization (p. 359):

### 50. Rightward Crossing Constraint (RCC)



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