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Contents

Turkic Languages, Volume 18, 2014, Numbers 1/2

Editorial note by Lars Johanson	1
Obituary	
Abdurishid Yakup: In memoriam Masahiro Shōgaito sensei (April 1942– March 2014)	3
Articles	
Lars Johanson: A synopsis of Turkic volitional moods	19
Károly, László: Deverbal nominals in Altaic: In search of a framework (not only) for reconstruction	54
Delio Vania Proverbio: On some graphotactic rules exhibited by the Old Turkic <i>Irk Bitig</i> text: A case of incipient degraphemization?	73
Wolfgang Scharlipp: Einige türkische Wörter zu ‘Bildung’ und ‘Glauben’ im manjurischen <i>Fünfsprachenspiegel</i>	92
Matthias Kappler: An unedited sketch of Turkish grammar (1711) by the Venetian <i>giovane di lingua</i> Pietr’Antonio Rizzi	104
Henryk Jankowski: Kazakh linguistics in Kazakhstan: An outline	128
Monika Rind-Pawłowski: Text types and evidentiality in Dzungar Tuvan	159
Beste Kamali: Beyond morphosyntax: Interrogative intonation and its role in Turkish	189
Zsuzsanna Olach: Translational methods used for rendering special characteristics of Hebrew interrogatives in Karaim Bible translations	207
Mine Güven: The periphrastic necessitative construction in Cypriot Turkish: Conservation and contact in collaboration	229
Öner Özçelik: An antisymmetric analysis of Turkish relative clauses: Implications from prosody	247
Solveiga Armoskaite & Deniz Aysegul Kutlu: Turkish <i>m</i> -reduplication: A case of similitive number	271
Report	
Irina Nevskaya & Saule Tazhibayeva: Turkic languages of Kazakhstan: Problems and research perspectives	289

An antisymmetric analysis of Turkish relative clauses: Implications from prosody

Öner Özçelik

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This paper demonstrates a number of problems faced by an Antisymmetric analysis of relative clauses in head-final languages like Turkish, and offers a solution based on focus/prosody. Working in a “focus-to-accent” framework, it is argued that the IP movement that is needed to derive the head-final order of relative clauses in languages like Turkish is “focus movement” that takes place at PF. This movement, at the same time, derives restrictive relative clauses. Further movement of the IP, on the other hand, results in a non-restrictive relative clause. On this view, the theoretical and empirical problems associated with an Antisymmetric analysis of head-final relative clauses disappear.

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1. Introduction

Kayne (1994) proposes a restrictive theory of syntax, where phrase structure determines linear order. This proposal, which is based on the Linear Correspondence Axiom (LCA), helps derive various properties of X-bar syntax that were previously stipulated. It implies, at the same time, that several widely assumed analyses should be rejected. One such analysis is right adjunction: According to Kayne, there are no right-adjunction structures, which includes the traditional analysis of relative clauses (RCs) where they are right-adjoined to an N' or an NP. Kayne proposes, therefore, an alternative, raising analysis of relative clauses that is compatible with the Antisymmetric approach he argues for. On this account, relative clauses involve a D with a CP complement, having the base structure in (1a). Head-initial RCs like those in English can, then, be derived simply by the movement of the head NP to the SpecCP position, as in (1b):

- (1) a. [DP [D [CP [C [IP ... [NP] ...]]]]
b. [DP [D [CP [NP]_i [C [IP ... [e]_i ...]]]]]

This, on Kayne's view, is all that is needed to create head-initial RCs. Kayne argues, furthermore, that the same derivation is involved in the creation of head-final RCs, but this time with the additional movement of IP into the SpecDP position:

- (2) [DP [IP ... [e]_i ...]_j [D [CP [NP]_i [C [e]_j]]]]

Though there is some evidence for this type of an analysis and it has several advantages over traditional accounts of relative clauses (Bianchi 1999, 2000a, 2000b), it also has its own problems, which have widely been discussed for “head-initial” languages in the previous literature (e.g. Borsley 1997, Platzack 2000).

“Head-final” languages, on the other hand, present additional problems for this analysis. In this paper, focusing on Turkish, a strictly head-final language, I will provide an overview of these problems, and propose, based on them, a unified solution that is compatible with the Antisymmetry approach. In particular, I will argue that most of these problems are solved if the IP movement is viewed simply as a “focus movement” that takes place at PF, for which I will provide independent evidence from syntactic, prosodic and discourse facts. I will further argue that the remaining problems together with some of the issues that this focus movement could itself raise are solved if the focus movement is assumed to target the Specifier of an XP that is between DP and CP. That is, on this view, the (initial) movement of IP to SpecXP will be a focus movement while an additional movement from there to SpecDP will be a non-focus movement. Whereas the former movement alone will derive restrictive RCs, the latter will derive non-restrictive RCs. This is compatible with the fact that restrictive RCs are prosodically prominent and bring new information to the discourse (thus focused) whereas non-restrictive RCs are not as prominent and present some additional, usually already-known, facts about the head NP (thus non-focused).

The paper is organized in the following way: In Section 2, I provide a short introduction to the structure of Turkish relative clauses as well as briefly discuss how Kayne proposes to account for head-final relative clauses. In Section 3, I illustrate how this type of an account poses several problems for head-final relative clauses. Later, in Section 4, I demonstrate that though all the problems illustrated in Section 3 are caused by the movement of IP, there is still empirical evidence for this movement. Thus, in Section 5, I present a novel analysis that does *not* get rid of the IP movement though it circumvents its problems. I demonstrate, in the same section, how this alternative analysis could possibly make Kayne’s theory explanatorily more powerful. Section 6 concludes the paper.

2. Head raising analysis of head-final relative clauses: evidence from Turkish

2.1. Turkish relative clauses

Turkish has two types of relative clauses, one where a subject is the target of relativization and another where a non-subject is the target of relativization (see e.g. Underhill 1972, Hankamer & Knecht 1976, Csató 1985, 1996, Barker, Hankamer & Moore 1990, Kornfilt 2000, Öztürk 2008 for an overview). Whereas the former is traditionally known as ‘subject relativization’, the latter is conventionally called

‘object relativization’. The formation of the two is different in that they use different morphological markers and in that whereas subject relative clauses do not require agreement, object relative clauses do. In both types, the relative clause appears non-finite.

When relativizing a subject, the suffix *-(y)An* is used, whereas for non-subjects, the suffix *-DIK* is used.¹ These properties are exemplified by the following two sentences in (3) taken directly from Hankamer & Knecht 1976, who assume that these are formed respectively on the subject and the object of the transitive sentence in (4), with the corresponding gaps demonstrated in (3):

- (3) a. \emptyset *kabağ-ı* *yi-yen* *yılan*
 pumpkin-ACC eat-SP snake
 ‘the snake that ate the pumpkin’
- b. *yılan-ın* \emptyset *ye-diğ-i* *kabak*
 snake-GEN eat-OP-POSS pumpkin
 ‘the pumpkin that the snake ate’ (adapted from Hankamer & Knecht 1976: 123)
- (4) *Yılan* *kabağ-ı* *ye-di*
 snake pumpkin-ACC eat-PAST
 ‘The snake ate the pumpkin.’ (adapted from Hankamer & Knecht 1976: 123)

It would be ungrammatical to form the subject relative clause in (3a) with the *-DIK* strategy (i.e. **kabağ-ı ye-diğ-i yılan*), and similarly, using the *-(y)An* strategy in an object relative clause like (3b) would make the sentence ungrammatical (i.e. **yılan-ın yi-yen kabak*). Based on these observations, it could be stated, as was done in most previous research, that whereas *-(y)An* is used with subject relative clauses, *-DIK* is used with object (or more correctly non-subject) relative clauses. Note, however, that as has been pointed out by two independent reviewers, and as was previously argued for by Barker, Hankamer & Moore (1990), Özsoy (1994) and, more recently, Öztürk (2008), the difference between the two relativization strategies is likely due to different positions the subject occupies, rather than what the target of relativization (subject vs. object) is, as is also illustrated by the presence of certain forms where the suffix *-(y)An* relativizes a non-subject (see Özsoy 1994, Aygen 2003, Öztürk 2008), as indicated by the following example (compare with (3)):

- (5) *baba-sı* *ağla-yan* *yılan*
 father-POSS cry-SP snake
 ‘The snake whose father cries/is crying’

1 This generalization does not always hold, however; see Özsoy (1994) and Öztürk (2008) for a number of special cases which are not consistent with this generalization, such as cases where *-(y)An* relativizes a non-subject.

Accordingly, Özsoy (1994) argues that relative clauses made with $-(y)An$ and $-DIK$ morphemes are both headed by $AgrP$; what makes them different, on her view, is that the subject does not need to raise to $SpecAgrP$ for the former type, as relative clauses formed with this morpheme do not have an agreement morpheme. Öztürk (2008) similarly proposes that the choice between the $-(y)An$ vs. $-DIK$ strategy is determined based on whether the subject is VP -internal or VP -external (similar to the analysis of Barker, Hankamer & Moore 1997), and not based on whether the target of relativization is a subject or an object. In fact, providing a number of examples where the morphemes $-(y)An$ and $-DIK$ appear unexpectedly (if one assumed that the “target of relativization” is the determining factor for the correct morpheme choice), and in compliance with Rizzi & Shlonsky (2007), Öztürk further attributes the dichotomy to the possibility that $SpecTP$ in Turkish is a critical freezing position for movement.

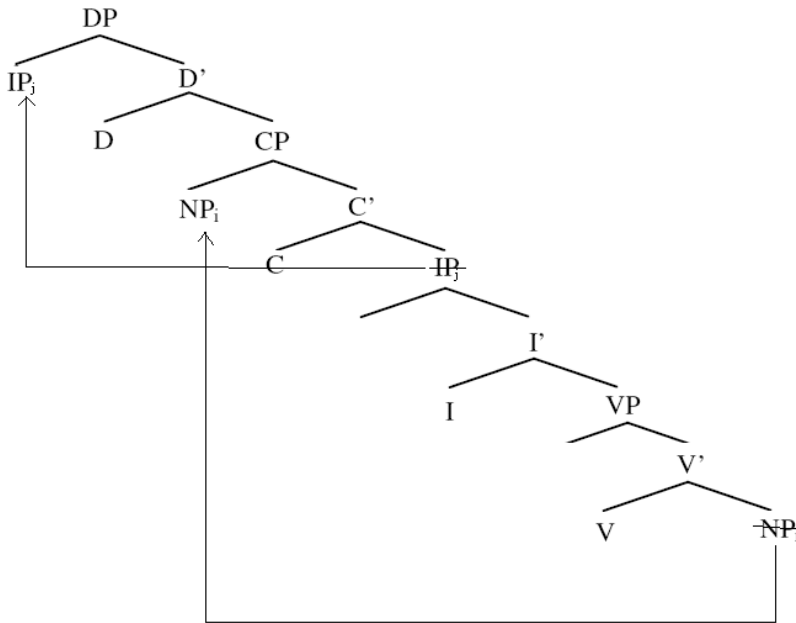
Clearly, then, there is much research showing that the two types of relative clauses may have different syntactic structures, and that the difference between the two may not simply be the presence vs. absence of an agreement morpheme and whether a subject or a non-subject is relativized. As the aim here is to provide an Antisymmetric analysis of head-final relative clauses and to do so in ways to avoid the problems such an analysis naturally poses for *all* head-final relativization strategies (see the following section), we will set aside the various relativization strategies present in Turkish² and focus on object relative clauses, those that are formed with the morpheme $-DIK$, although I believe that the same general mechanisms can account for cases with subject relative clauses, too.

2.2. Antisymmetric analysis of head-final relative clauses

As stated above, on Kayne’s (1994) account, relative clauses in head-final languages are derived in the same way as those in head-initial languages, the only difference being the additional movement of IP to the $SpecDP$ position. This additional movement is what yields prenominal modification in head-final languages. This is illustrated in (6) below. First, NP moves to $SpecCP$, and then the remnant IP moves to $SpecDP$:

- 2 The reader is referred to Öztürk (2008) for a detailed overview of different relativization strategies in Turkish.

(6)



Turkish, in fact, provides some evidence for this type of an analysis of relative clauses. As Kornfilt (2000a, 2000b, 2005) notes, for instance, in Turkish—as with all right-headed languages³—the C is not overt in relative clauses:

- (7) [DP [IP *Noam-in yaz-dıĝ-ı* [e]_i]_j [D [CP [NP *şiiir*]_i [C' [C e] [e]_j]]]]
 Noam-GEN write-FN⁴-3SG poem
 ‘the poem that Noam wrote’

This follows directly from the assumption that an overt C cannot be stranded.

- 3 But see Demeke (2001), who claims that there is an overt C *-yā* in Amharic. I believe, however, that this morpheme could be analyzed as a case marker like the Turkish genitive or Korean and Japanese nominative/genitive that are used in exactly the same position as *-yā* is used. Although Demeke rules out other possibilities such as the possibility of *-yā* being a “tense marker”, he does not consider this particular possibility.
- 4 FN stands for “factive nominalization”. The form *-dıĝ* (or *-DİK* since it could have several variants depending on vowel and consonant harmony rules) makes factive nouns and adjectives from verbs. Similar affixes are used for the derivation of other head-final languages like Japanese and Korean.

Yet further evidence comes from the fact that the determiner⁵ in Turkish is usually⁶ placed between the modifier clause and the head:

- (8) [Noam-*m* [e]_i yaz-dı^ğ-ı]IP *bu* güzel *şii*
 Noam-GEN write-FN-3SG this nice poem
 ‘this nice poem that Noam wrote’

Kornfilt (2000b, 2005) argues that this, otherwise unexpected, linear order is a natural consequence of a Kaynean derivation. Kayne himself gives an example from Amharic: The Amharic RC precedes D, and D, in turn, precedes N, as in the Turkish example (8). This suggests that the RC has moved into SpecDP, but also that what has moved is an IP, and not a CP, since, otherwise, one would expect N to precede D.

3. Problems

Though it seems, on the surface, that a Kaynean derivation of Turkish relative clauses is faultless and follows directly from Kayne’s assumptions, there are still several problems with it, some of which are admitted also by Kayne (1994) himself. In this section, I will overview five such problems. In doing so, I will disregard other theory-dependent issues such as the possibility that what is raised is perhaps a DP (with an empty D) rather than an NP unlike what Kayne assumes. Such issues are already discussed widely in the literature, and are common to head-initial languages, too. (For a detailed analysis of such problems, see Borsley (1997), and see Bianchi (2000a) for possible solutions). Additionally, I will not address the question of whether there is even a DP layer in Turkish or not, as the issue is irrelevant for the purposes of this paper, see Kornfilt (2005) and Arslan-Kechriotis (2009) for arguments for, and Öztürk (2005) and, more recently, Bošković and Sener (2014) for arguments against the presence of a DP layer in Turkish). The problems mentioned in this paper are those that are specific only to head-final relative clauses.

All these problems must then result directly from the additional movement of IP to the SpecDP position, for that is the only thing, on Kayne’s (1994) analysis, that distinguishes a head-final RC from its head-initial counterpart. This movement is essential on Kayne’s account in that it is what yields the prenominal surface order of head-final relative clauses. An obvious question then is whether there is any independent motivation for it: Kayne suggests that languages like Amharic illustrate that

- 5 Turkish has no overt definite article such as English *the*. As Kayne notes himself, few head-final languages have an overt equivalent of *the*. Thus definite versus indefinite nouns in Turkish are ambiguous morphologically, but prosody distinguishes sentences with definite versus indefinite arguments.
- 6 There are exceptions to this, which will be presented as one of the problems (the last one) in the next section.

what is moved is an IP and not a CP since, otherwise, one would not expect N to follow D.⁷ Though this shows that if something is to be moved, it should be an IP (and not a CP), it does not, by itself, provide any motivation for *why* movement happens in the first place. In other words, there is no independent evidence for this movement other than the surface order of RCs itself in head-final languages. IP movement, then, seems to be ad hoc on Kayne's analysis in that it is a movement that is posited *in order to* account for the relevant facts, with no apparent independent motivation.

The fact that there is no motivation for the movement of IP is not the only problem with this movement: The fact that it *actually* moves (despite the lack of any motivation to do so) leads to several other problems. One such problem is related to the Binding Theory. This movement, as Kayne notes himself, leaves the trace of the moved NP unbound, thereby violating the Proper Binding Condition (Fiengo 1977). Kayne argues, however, that this is not really a problem for his theory, for there are cases in the world's languages in which unbound traces are allowed. He presents German remnant topicalization as an example. As Murasugi (2000) illustrates, however, it is A-traces that are allowed to be unbound, but not A'-traces. In other words, the cases where unbound traces are allowed are quite different from the NP traces in Kaynean relative clauses: Since the movement of an NP to the SpecCP in a Kaynean RC is an A' movement and since A' movements have A' traces which must be bound, the movement of the IP in a Kaynean RC should normally not be allowed, for that would leave an A' trace (the trace of the moved NP) unbound. The additional movement of IP is, then, clearly problematic, yet it is still moved on Kayne's account.

This movement is problematic also with respect to Relativized Minimality (Rizzi, 1990, 2001). Since the movement of IP to the SpecDP (an A' position) skips another A' position, namely the SpecCP, one would expect that movement to be ruled out by the Relativized Minimality, which blocks movement of Y to X if Z is of the same type as X, given that X c-commands Z, and X c-commands Y, as in (9):

(9) *... X_i ... Z ... Y_i ...

Here, since both X (SpecDP) and Z (SpecCP) are A' Specifiers, one would expect movement of Y (IP) to X to be excluded. What we see, however, is that it is allowed on Kayne's account.

Yet another issue arises from this movement: It puts IP in a position higher than D (see (6)). This, in turn, causes two related problems: First, the fact that IP is now higher than D means that it is outside the c-command domain of D. When, in turn,

7 Kayne uses Amharic because it is one of the few head-final languages with an overt equivalent of *the*.

IP is outside the c-command domain of D, the resulting structure, on Kayne's view, is a non-restrictive relative clause, for Kayne notes, "restrictives differ from non-restrictives in that the former are in the scope of the definite article ... whereas the latter are not in the scope of the definite article". (Kayne 1994: 112).⁸ Turkish relative clauses, on the other hand, are not always non-restrictive. On the contrary, most of the time, they are restrictive; in fact, some have even argued that Turkish does *not* have any non-restrictive relative clauses (e.g. Aygen 2003, Meral 2004, Cagri 2005).

Though it is true that Turkish RCs are *mostly* restrictive, it would also be incorrect to argue, as the above studies did, that Turkish does *not* have any non-restrictive RCs since, in several contexts, the non-restrictive interpretation can also be reached (although they are not distinguished morphologically or in punctuation from restrictive RCs, unlike in English) (see also Kornfilt 1997, Göksel & Kerslake 2005). So (10), for instance, could be either restrictive or non-restrictive depending on whether the context allows for more than one possible antecedent for the relative head (i.e. whether there is more than one "poem" mentioned in the discourse). If it does, then it could be a restrictive RC. If, however, it does not, then it is a non-restrictive RC. Both interpretations, depending on context, are available:

- (10) [Noam-*m* [e]_i yaz-*diğ-i*]_{IP} *şii*_r_i
 Noam-GEN write-FN-3SG poem
 'the poem that Noam wrote' or 'the poem, which Noam wrote'

(11) and (12), however, are clearly non-restrictive only, since the relative clause modifies a proper noun or since there is only one referent possible for the relative head:

- (11) [Noam-*m* [e]_i yaz-*diğ-i*]_{IP} *Barriers kitabı*_i
 Noam-GEN write-FN-3SG *Barriers* book
 'the *Barriers* book, which Noam wrote'

- (12) [Noam-*m* [e]_i yaz-*diğ-i*]_{IP} *o* *şii*_r_i
 Noam-GEN write-FN-3SG that poem
 'that poem, which Noam wrote'

8 In fact, when the arguments in Kayne's book are taken into account as a whole, it is not quite clear whether he claims that an RC will be non-restrictive when IP is outside the scope of D or that there would be no distinction between restrictive and non-restrictive RCs when this happens, for he later argues that head-final languages do not make any distinction between restrictive and non-restrictive RCs. In either case, though, the problem mentioned here remains to be solved since Kayne's account cannot, in any case, capture the difference between the two types of RCs in head-final languages.

What this means is that whereas a phrase like (10), which has no determiners, can have a restrictive or a non-restrictive interpretation depending on context, one like (11), or one with the order RC-D-NP as in (12) can only be a non-restrictive RC.⁹

Note, however, that this is possible only if the demonstrative *follows* the modifying clause: If the demonstrative *precedes* this clause, that is, if the order is D-RC-NP, as in (13), the interpretation is, then, restrictive:

- (13) *Q* [Noam-ın [e]_i yaz-dıĝ-ı]IP *şiiir*_i
 that Noam-GEN write-FN-3SG poem
 ‘that poem that Noam wrote’ but not ‘?’ ‘that poem, which Noam wrote’

The fact that a non-restrictive interpretation is impossible for (13) can better be seen in a context like (14), where there is only one possible antecedent for the head NP, and thus the sentence has to be non-restrictive if grammatical. It is not, however, grammatical in this context:

- (14) ‘?’ *Noam hayat-ı-nda sadece bir şiiir yaz-dı. Q Noam’ın*
 Noam life-3SG-in only one poem write-PAST. that Noam-GEN
yaz-dıĝ-ı şiiir sentaks hakkında.
 write-FN-3SG poem syntax about
 ‘Noam wrote only one poem in his life. That poem, which Noam wrote, is about syntax.’

This non-restrictive meaning would, however, be perfectly possible if the order was RC-D-NP, as in (15):

- (15) \checkmark *Noam hayat-ı-nda sadece bir şiiir yaz-dı. Noam’ın*
 Noam life-3SG-in only one poem write-PAST. Noam-GEN
yaz-dıĝ-ı Q şiiir sentaks hakkında.
 write-FN-3SG that poem syntax about
 ‘Noam wrote only one poem in his life. That poem, which Noam wrote, is about syntax.’

- 9 Two reviewers correctly point out that when (12) is placed in a contrastive context, the restrictive reading becomes possible. They both provide the following example (with slight variations):

[Noam-ın [e]_i yaz-dıĝ-ı]IP *o şiiir*_i [Noam-ın [e]_i yaz-dıĝ-ı]IP *bu*
 Noam-GEN write-FN-POSS that poem Noam-GEN write-FN-POSS this
şiiir-den daha anlamlı.
 poem more meaningful
 ‘That poem which Noam wrote is more meaningful than this poem which Noam wrote.’

We will get back to this example later in Section 5, where we detail the various aspects of the current account.

To summarize, then, both restrictive and non-restrictive RCs are available in Turkish. When the order is RC-D-NP, only the non-restrictive reading obtains (though see note 9). When, however, the order is D-RC-NP, only the restrictive reading is possible, and the non-restrictive reading is excluded, as illustrated in (13). The problem with respect to Kayne's account is that it would predict Turkish to have only non-restrictive RCs since the additional IP movement in head-final languages puts IP out of the c-command domain of D (see (6)).¹⁰

This, in turn, takes us to the final problem: There is no position, on Kayne's account, between D and CP to accommodate RCs like (13). This, then, means that the fact that the demonstrative *usually* comes between the modifier clause and the head is not necessarily an argument *for* Kayne's approach, though Kornfilt (2000a, 2000b, 2005) argues that it is (see the end of Section 2, example (8)), for the demonstrative could also be placed "before" the modifier clause, as in (13).

In short, then, the additional movement of IP that Kayne proposes in order to account for the surface order of head-final relative clauses raises five main problems: First, there is no independent motivation for this movement. Second, as a result of this movement, the trace of the already-moved NP is left unbound, violating the Proper Binding Condition. Third, the movement of IP to SpecDP, an A' position, occurs by skipping another A' position, SpecCP, thereby violating the Relativized Minimality. Fourth, the fact that the moved IP is outside the c-command domain of D predicts that there should only be non-restrictive RCs in Turkish (or at best that there should be no difference between restrictives and non-restrictives (see note 8), though, as illustrated above, there are clearly both restrictive and non-restrictive RCs in this language. And lastly, Kayne's structure does not have a position to accommodate a D that is *before* the modifier clause though this is an option in Turkish and other head-final languages such as Japanese (Murasugi 2000) and Korean (Kim 1997).

4. Towards a solution: evidence for IP movement

Though all the problems mentioned above are somehow related to the fact that there is an additional IP movement on Kayne's account for head-final languages, one cannot simply argue that IP does not move so as to circumvent these problems, as this movement is crucial in getting the head-final order of relative clauses in languages like Turkish. In addition, there is evidence, from PP extraposition, that IP and NP do indeed move, as in Kayne's approach. In other words, there is empirical evidence that shows Kayne's raising account might actually work better than the classical

10 Notice that Kayne's account would still have a problem even if I were wrong in my analysis that Turkish has both restrictive and non-restrictive RCs, because, then, Kayne's account would be unable to capture why Turkish has (only) restrictive RCs, as some researchers have argued (e.g. Aygen 2003, Meral 2004, Cagri 2005).

adjunction analysis of Chomsky (1977) since an adjunction analysis would not predict cases where the head noun is *not* the last item in the relative clause. To my knowledge, this is one of those points that have escaped the attention of previous research on Turkish RCs since previous studies have all pointed out that both the raising analysis and the adjunction analysis do an equally good job in accounting for Turkish RCs (e.g. Kornfilt 2000a, 2000b, 2005), or that the latter is better (Meral 2004). If, however, the former does indeed do better in this particular case (i.e. PP extraposition), there would then be an additional reason to try to save Kayne's analysis (in addition to its being good for theoretical reasons in that it is restrictive and compatible with the Antisymmetric approach).

This empirical evidence comes from examples such as the following, where PP is stranded from inside IP, and thus stays on the right hand side of the head noun:¹¹

- (16) ? *Noam-in yaz-dıĝ-ı ŧiir [sentaks hakkında]*IP
 Noam-GEN write-FN-3SG poem syntax about
 'the poem that Noam wrote about syntax'^{12,13}

- 11 I am not sure if the same evidence is available in all head-final languages. It seems to be available at least in Tagalog though, as indicated by Aldridge (2003). However, Tagalog RCs can be both head-initial and head-final, and Tagalog has head-internal RCs, too. So the evidence from this language could be debated.
- 12 Note that under this interpretation, sentential prominence must fall on the RC, and specifically the verb *yazdıĝı*. Crucially, the stranded PP is outside the domain of sentential prominence, and is, thus, unstressed. Note also that when sentential prominence falls on the word 'syntax', the meaning is different; the same surface order would then have the meaning "The poem that Noam wrote *is* about syntax". This is because, as the latter is a full sentence, instead of a phrase, two Phonological Phrases are created, out of which the latter is assigned the head status of the Intonational Phrase (see Özçelik & Nagai 2011 for more on sentential stress assignment rules in Turkish).
- 13 One reviewer finds this example ungrammatical (but see note 12). Another reviewer, with whom I agree, states that it becomes ungrammatical when (16) is embedded in object position within a matrix clause, providing the following example:

- (i) **Ahmet [Noam-in yaz-dıĝ-ı ŧiir-i sentaks hakkında] oku-du.*
 Ahmet Noam-GEN write-FN-3SG poem-ACC syntax about read-PAST
 'Ahmet read the poem that Noam wrote about syntax.'

However, the sentence is still grammatical when (16) is in subject position, as (ii) below indicates:

- (ii) [*Noam-in yaz-dıĝ-ı ŧiir sentaks hakkında*] *sesbilimciler-i kızdır-dı.*
 Noam-GEN write-FN-3SG poem syntax about phonologist-PI annoy-PAST
 'The poem Noam wrote about syntax annoyed phonologists.'

I do not have a straightforward answer to the apparent subject-object asymmetry observed here. One possibility is that since definite nominals in Turkish are usually higher in the tree (see e.g. Kornfilt 1984, 1997, Öztürk 2004, 2005), the PP and the definite object compete for the same position, which, on an Antisymmetric account, would lead to un-

As opposed to an adjunction analysis, a raising account would have no difficulty with capturing this order; it would simply be the result of three steps: First, PP would be stranded/extracted from IP. Then, NP would move to SpecCP. And finally, the remnant IP would move to SpecDP, as demonstrated in (17):

- (17) a. [XP [PP *Sentaks hakkında*]_i [IP *Noam-in yaz-diğ-i şiiir* [e]_i]]
 b. [CP [NP *şiiir*]_j [XP [PP *Sentaks hakkında*]_i [IP *Noam-in yaz-diğ-i* [e]_j [e]_i]]]
 c. [DP [IP *Noam-in yaz-diğ-i* [e]_j [e]_i]_k [CP [NP *şiiir*]_j [XP [PP *sentax hakkında*]_i [e]_k]]]

If, as (17) shows, there is empirical evidence for the movement of IP (and NP), then, why does this movement create so many problems (i.e. the problems in Section 3)? The next section deals with this issue.

5. An Alternative Account: Focus Movement

Though Section 3 demonstrated that the additional movement of IP creates several problems, Section 4 showed that there is still some empirical evidence for this movement. The question then is how to solve these problems without getting rid of the IP movement, and, at the same time, find independent motivation for it.

I argue that the solution that we need lies in “focus movement”. That is, IP moves, in head-final Turkic languages like Turkish, for reasons of “focus”.¹⁴ If this

grammaticality as multiple specifiers are disallowed (Kayne 1994). The issue clearly needs further investigation beyond the scope of this paper. It should be noted, however, that this is by no means the only type of evidence cited here in favor of an Antisymmetric account of Turkish relative clauses (see section 5), and just as the Antisymmetry account may not ultimately be able to capture why (16) is ungrammatical in some cases (i.e. in object position, as in (i)), the alternative, i.e. the adjunction analysis, is likewise unable to capture why (16) is grammatical in at least some cases (i.e. in subject position, as in (ii)).

- 14 Several previous analyses of focus in Turkish do not ascribe a role to “movement” (see e.g. Göksel & Özsoy 2000, Şener 2010). These analyses are not, however, compatible with an Antisymmetric approach to syntax, and their conclusions are not, therefore, readily transferable to the analysis proposed in the current paper, where there is a syntactic projection hosting a focused constituent in a way roughly similar to Rizzi (1997) and Cinque (1999) (though see below). For example, the main argument Göksel & Özsoy (2000) present against focused constituents moving in Turkish is that this would create multiple focus phrases in Turkish by means of, for example, multiple adjunction (a problem, they claim, makes Turkish different from a language like Hungarian, for which similar movement-based proposals were made, Kiss 1987, Brody 1990). On an Antisymmetric account (Kayne 1994), however, multiple specifiers and multiple adjunction are disallowed, and thus, this does not constitute a problem in the first place. Further, such a problem could be averted even if one did not assume an Antisymmetric view of syntax; even on an approach like that of Rizzi (1997), only one Focus Phrase can be generated, unlike Topic Phrases, as foci, on such an account, cannot be nested recursively, unlike topics.

is true, then, this would be the motivation behind the movement of IP. Thus, IP movement Kayne proposes to account for head-final RCs is, on this view, simply focus movement.

If it is focus movement, and if we assume that focused constituents move for reasons that are mostly prosodic and not syntactic (Cinque 1993, Reinhart 1995, Neeleman & Reinhart 1998, Zubizarreta 1998), then it does make sense to think of this movement as occurring at PF¹⁵, which, in turn, would mean that the Binding Condition and Relativized Minimality would both *not* be relevant at this level. This would, then, not only provide a motivation for the movement of IP, for which I have already presented some empirical evidence in Section 4, but also it would automatically solve the second and third problems associated with this movement, for these would then simply not be relevant.

Notice that the type of focus movement employed here is different from that of Rizzi (1997) or Chomsky (2001), who do not consider focus movement as PF movement. According to Chomsky (2001, 2002), for instance, focus movement is syntactic movement to the edge of a phase, and “movement of discourse related categories”, like focus are not operations in the PF component of the grammar—though “stylistic movement” (e.g. extraposition) can be viewed as PF movement. According to the view proposed by Reinhart (1995), however, focus movement occurs for prosodic or phonological reasons, and is driven by stress. On this view, the focus of a clause is the constituent that has the main stress of the intonational phrase. While this view is called “focus-to-accent” view, the other, as in Rizzi (1997) or Chomsky (2001, 2002), is called “accent-to-focus” view, as Ladd (1996) puts it.

The question, then, is to determine whether there is any independent reason to assume that the IP movement in head-final RCs like those in Turkic languages is really focus movement. There are a number of reasons to believe that it is: First, IP movement for focus reasons is already attested for simple clauses in head-final languages. Working in an “accent-to-focus” view, Julien (2002a, 2002b), for instance, demonstrates that sentences with postverbal constituents in verb-final languages like Turkish are created by movement of a constituent (e.g. a DP, NP, etc.) to a Spec-TopP followed by movement of the remnant IP to a higher Spec-FocP position.¹⁶ What happens in a nominal phrase containing a relative clause could then very well be the reflection of the same process: First, an NP moves, and then the remnant IP moves for reasons of focus.

15 Zubizarreta (1998), in fact, demonstrates, with her p-movement in Spanish, that focus movement happens for PF considerations, and is triggered by an already-stressed constituent. Similar arguments were made by several other researchers (e.g. Büring & Gutiérrez-Bravo (2001) for Spanish and German, and Costa (2000) for Portuguese).

16 Julien does not believe that focus movement is PF movement. In fact, her purpose is to argue, contrary to Chomsky (2001), that even extraposition is a syntactic operation.

This is supported also by prosodic facts. Modifiers in head-final languages have been observed to be prosodically more prominent than heads (see e.g. Cinque 1993, Nespor, Guasti & Christophe 1996, Selkirk 1984) whether they are simple adjectives or RCs. This is true for Turkish modifiers, too (see Kabak & Vogel 2001; Özçelik & Nagai 2011). A restrictive RC in a nominal phrase is similarly more prominent than the head of that phrase, especially for restrictive RCs.

This point is supported from a discourse perspective, too: Focused constituents generally represent “new information” (Radford 2004), and similarly, relative clauses, when restrictive, present new information.¹⁷ In fact, this is their function most of the time. When one says *the poem that Noam wrote*, for instance, what he or she brings to the discourse as new information is usually the modifier clause, or *that Noam wrote* in this case. On the “focus-to-accent” view, then, it would be reasonable to assume that an RC—which brings new information to the discourse—needs to be stressed (or “prominent” to be technically more correct, as “stress” refers to the headmost constituent within a word (see e.g. van der Hulst 2014, Hyman 2009, 2014), i.e. the head of a foot). Again, on the same view, the same RC—which is now prosodically prominent—needs to go through focus movement in order to be focused.

But it is true, on the other hand, that this discourse argument is valid only for restrictive RCs, and not for non-restrictive RCs, for it is only restrictive RCs that present new information by “restricting” or “limiting” the meaning of the head noun that they modify. This, then, seems to be a problem for the current version of the present account since it predicts all RCs to be focused. Before moving on to an explanation of this fact, let us first recapitulate the discussion so far: The additional IP movement in head-final RCs on Kayne’s account presents a number of problems that I have categorized in five areas. And I have argued that the first three of these problems, those concerning the “motivation for this movement”, “Binding Theory”, and “Relativized Minimality”, automatically disappear if one simply assumes that IP movement is focus movement that occurs at PF, which seems to be a valid argument for reasons discussed above.

At this point, we are left with a number of questions: This analysis still leaves the last two problems mentioned in Section 3 (i.e. “the distinction between restrictive and non-restrictive RCs” and “a position to accommodate a D that comes before the modifier clause”) unsolved, and poses an additional problem since it predicts *all* relative clauses to be focused, which is clearly not the case for two reasons: First, as stated above, only restrictive RCs present new information. And second, only restrictive RCs are distinctively more prominent than the head noun that they modify. If focused constituents do indeed represent new information and are prosodically highly prominent, as argued by many researchers (Radford 2004), and if it is only

17 The case of the non-restrictive RCs will be explained later.

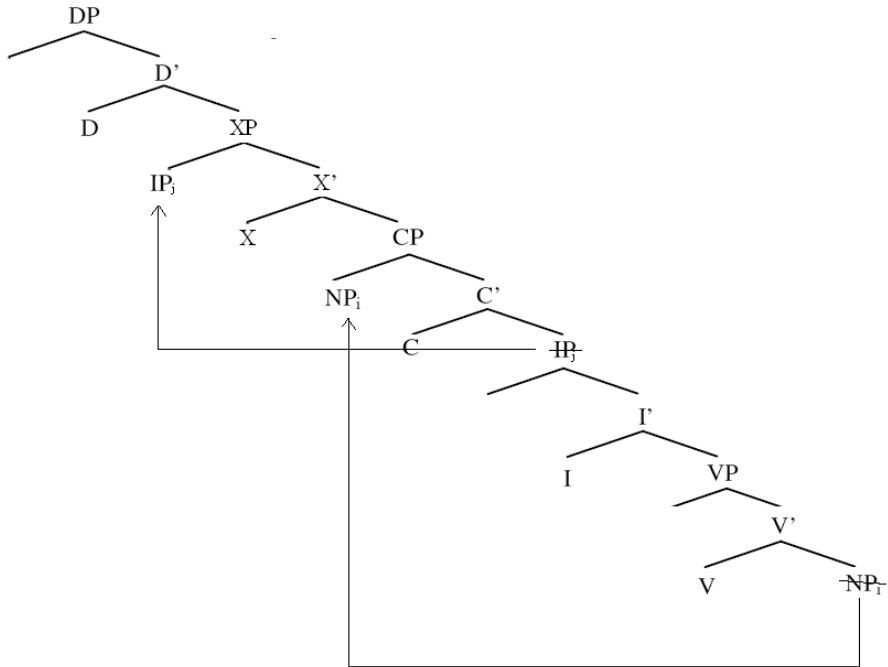
restrictive RCs that have these two properties in languages like Turkish, one would then need to have a distinction between restrictive and non-restrictive RCs.

I propose, therefore, a unified account that will not only capture this distinction but will also solve the last two problems with the IP movement mentioned in Section 3. The only additional mechanism that is needed for this is a “position”, between CP and DP, where a focused IP could move. That is, instead of moving IP to the SpecDP position as in Kayne’s account, we will move it to SpecXP,¹⁸ as in (18). Since IP will then be within the governing domain of D, it will be a restrictive relative clause. Since this IP movement is a focus movement, as explained above, it also implies that the relative clause that is formed with this movement will be focused. This process is exemplified, in (19), repeated from the restrictive RC in (13):

- (18) \underline{Q} [Noam-*in* [e]_i yaz-*dı*ğ-*ı*]IP *şiir*_i
 that Noam-GEN write-FN-3SG poem
 ‘that poem that Noam wrote’

18 I leave it open to discussion what this XP is. Kayne (1994) notes, in his book, that there might be two D-like projections in head-final languages above CP. Additionally, as Kornfilt (2005) mentions, there might be a DemP in Turkic languages in general in addition to a DP. Given these, it is possible that the XP here is a DemP. This, however, raises the question of why DemP is below DP given a sentence like (18). It could also be a Focus Phrase, of course.

(19) Derivation of a restrictive RC, as in (18):

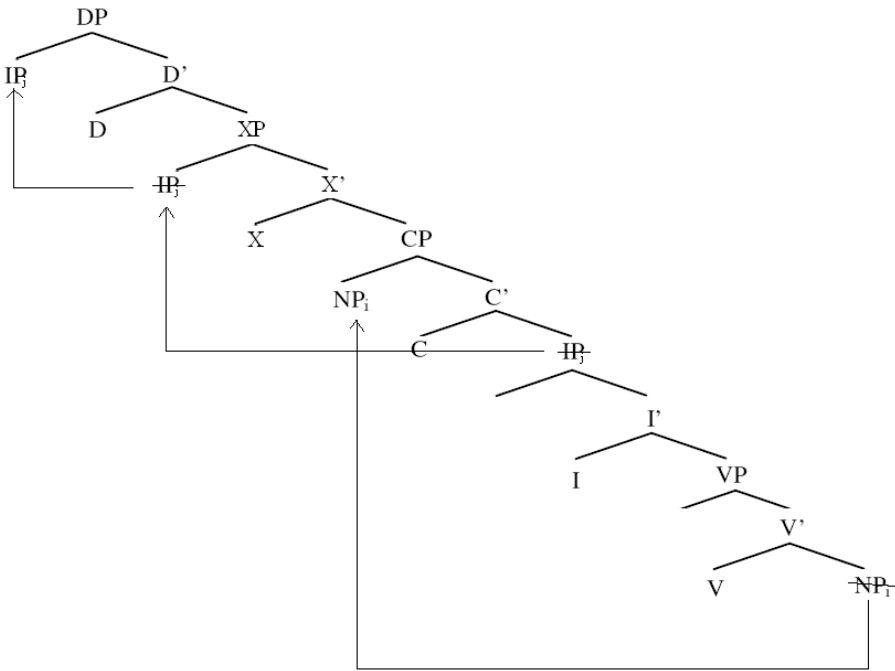


This is all that is needed to derive restrictive RCs in head-final languages. And it also captures the fact that restrictive RCs are focused. Notice also that the structure in (16) can accommodate a D that comes before the IP, thereby providing a solution to the fifth problem mentioned in Section 3.

As for non-restrictive RCs, on this account, they are created in a similar fashion, but with the additional movement of IP to the SpecDP position. This movement will put IP outside the scope of D, thereby creating a condition as in English non-restrictive RCs. (21) exemplifies this process for the non-restrictive RC in (12), repeated here as (20):

- (20) [Noam-in [e]_i yaz-dıĝ-ı]_{IP} o şiir_i
 Noam-GEN write-FN-3SG that poem
 'that poem, which Noam wrote'

Derivation of a non-restrictive RC, as in (20):



Another property of this second movement is, of course, to de-focus the IP.¹⁹ This ensures, then, that only restrictive RCs are focused elements. And this is, in fact, in line with the prosodic and discourse facts given above: Only a restrictive RC is more prominent than the head noun, and only a restrictive RC introduces new information. Non-restrictive RCs, on the other hand, are not as prosodically prominent as restrictive RCs. Again, non-restrictive RCs do not bring new information to the discourse;

19 This means that, in order to derive non-restrictive RCs, the IP projection first moves to SpecXP (where arguments are normally focused), and then to SpecDP above XP (where the IP is de-focused), which raises the question of what then the motivation is for the first movement of IP in non-restrictive RCs, if it is not due to focus, as non-restrictive RCs, on this account, are not focused. I believe that SpecXP, for non-restrictive RCs, is simply a stop-over position during IP's long-distance movement to SpecDP, as long distance movement is broken up into a sequence of more local steps in a successive cyclic fashion (e.g. Chomsky 1973). This is in line with the proposal that foci cannot be nested recursively in syntactic structure, as opposed to non-focused elements, such as topics (Rizzi 1997, Cinque 1999); so IP can be non-focused before the movement to and after the movement from the focused SpecXP position, but the only position where it can be focused is SpecXP.

they simply provide already-known information about a referent. This is illustrated in (22). Although the non-restrictive relative clause in (22) (from Kornfilt 1997) is more prominent on the head noun than on the relative clause (demonstrated in bold-face), its restrictive counterpart in (23) is more prominent on the relative clause, either on the time adverbial (as in (23a) or on the locative-marked noun (as in (23b)), based on which restrictive meaning is emphasized:

(21) [*Bugün yurd-a dön-en*] **Cumhurbaşkanı**
 today country-DAT return-RC president
 ‘The president, who is returning to the country today’ (Kornfilt 1997: 389)

(22) a. [*Bugün yurd-a dön-en*] *adam*
 today country-DAT return-RC man
 ‘The man who is returning to the country today’
 b. [**Bugün** *yurd-a dön-en*] *adam*
 today country-DAT return-RC man
 ‘The man who is returning to the country today’

(23a) is about the man who, out of a set of possible men, is the one who returns to the *country* (instead of, e.g. to Sweden). (23b), on the other hand, is about a man who returns to the country *today*, as opposed to e.g. tomorrow. In either case, one constituent is focused. Crucially, however, if uttered with such a focused interpretation, (22) becomes restrictive, and not non-restrictive, as indicated in (24):

(23) [**Bugün** *yurd-a dön-en*] *Cumhurbaşkanı*
 today country-DAT return-RC president
 ‘The president who is returning to the country today’

(24), unlike (22) refers to a set of presidents, and defines, among whom, the one who is returning to the country today. Once again, on a focused interpretation of the RC, the RC becomes restrictive, despite the presence of the word *Cumhurbaşkanı*, which in most cases refers to a single individual, and thus, makes the non-restrictive interpretation more felicitous.

Moving back to the syntactic structures exemplified in (19) and (21), these, then, seem to help solve all the remaining problems associated with the IP movement on a Kaynean relative clause: The distinction between restrictive and non-restrictive RCs is captured, and there is now a position to accommodate a demonstrative that comes “before” the RC. Additionally, the focus/non-focus difference between restrictive and non-restrictive RCs is accounted for.

There is, however, one remaining problem with this account. Although the order in (20) (see also (12)) is associated on this account with non-restrictive relative clauses, as the additional movement of IP not only de-focuses the relative clause but

also puts it outside the scope of D, there is one context where this order can have a restrictive interpretation, namely, when the relative clause is positioned in a contrastive context, as in (25) below, which is a direct quote from a reviewer (see also Footnote 9):

- (24) [Noam-in [e]_i yaz-dıĝ-ı]IP o şiir_i [Noam-in [e]_i yaz-dıĝ-ı]IP bu
 Noam-GEN write-FN-POSS that poem Noam-GEN write-FN-POSS this
şiiriden daha anlamlı.
 poem more meaningful
 ‘That poem which Noam wrote is more meaningful than this poem which Noam wrote.’

I have no straightforward explanation for these facts obtaining in a contrastive environment. It is possible, however, that in such an environment the contrastive focus the NP receives overrides the de-focusing effect of the additional IP movement that would normally result in a non-restrictive relative clause. Such overriding effects of narrow focus that serve to highlight certain information by deviating from “normal stress” (or prominence) at the sentence-level and point to some sort of emphasis or contrast have been discussed at length in the literature by researchers that have a “functionalist” perspective, championed especially by Bolinger (1958, 1972) and Chafe (1974, 1976). I believe, however, as with the “normal stress” view, which goes back to Newman (1946) (see also Chomsky & Halle 1968, Cinque 1993, Zubizarreta 1998), that there is one default pattern of prominence (normal stress/prominence), deviations from which are largely outside the scope of phonosyntactic rules, but are instead somewhat paralinguistic in that they signal contrast, newness (similar to the information conveyed by a restrictive RC) or some other sort of special informativeness (see also Ladd 1996). In other words, the apparent “restrictiveness” of an RC in such a context may just be due to the “newness” conveyed by the contrastive focus that deviates from phonosyntactic rule-governed focus.

Such overriding effects of contrastive acoustic prominence are also observable in areas of Turkish syntax other than relative clauses, as demonstrated in (26) below. Whereas the default focus position in Turkish is the immediately preverbal position (i.e. *eşegē* in (26a)), elements can be focused not only by placing a constituent in this position (e.g. 26b) but, crucially, also by making another constituent acoustically more prominent through an F0/pitch rise, as in (26c):

- (25) a. *Cumhurbaşkanı yılan-ı eşegē-e ver-di*
 president snake-ACC donkey-DAT give-PAST
 ‘The president gave the snake to the donkey.’
 b. *Yılan-ı eşegē-e Cumhurbaşkanı ver-di*
 snake-ACC donkey-DAT president give-PAST
 ‘It is the president who gave the snake to the donkey.’
 c. *CUMHURBAŞKANI yılan-ı eşegē-e ver-di*
 president snake-ACC donkey-DAT give-PAST
 ‘It is the president who gave the snake to the donkey.’

In sum, it is possible that the “new information” (or apparently restrictive nature) of an RC in a contrastive context such as (25) can be explained through the informativeness associated with contrastive prominence that is placed on the NP and the associated effects that serve to override the de-focusing nature of the additional IP movement which normally leads to a non-restrictive RC. I leave further analysis of such contrastive cases as (25), which are by no means the unmarked instantiations of restrictive relative clauses in Turkish, to further research.

In closing, it should be noted that although my data and examples in this paper come from Turkish, I believe the analysis could be applied to other head-final languages, including Turkic languages in general, and there are valid reasons to do so. First, the prosodic and discourse facts mentioned above have been stated to be true for all head-final languages (e.g. Nespor, Guasti & Christophe 1996, Selkirk 1984). Second, there is some research showing that restrictive RCs are indeed focused at least in two other head-final languages.²⁰ Hausa (Jaggar 2001) and Korean (Kim 1997). Though these authors do not argue for a focus movement or a Kaynean RC, their data present extra support for the argument in this paper, for restrictive RCs in these two languages, like those in Turkish, are focused whereas non-restrictive RCs are not. Hausa RCs are especially revealing in this regard: Restrictive RCs in this language involve the focus form of tense-aspect-mood markers whereas non-restrictive RCs involve the neutral form. This, again, presents independent evidence for the argument made in this paper, this time from the morphological perspective.

6. Summary and conclusions

In this paper, using Turkish, I presented five major problems with Kayne’s (1994) account of Turkish relative clauses, which are head-final, and proposed a novel solution that is compatible with the Antisymmetric approach. I demonstrated that these problems are all related to the additional movement of IP that Kayne proposes for head-final relative clauses, and include the following: “lack of motivation for this movement”, “a violation of Binding Theory”, ‘a violation of Relativized Minimality”, “incorrect prediction that Turkish would have only non-restrictive relative clauses” and “lack of a position to accommodate a demonstrative before the relative clause”.

I showed that even though all these problems arise from the additional movement of IP, there is still empirical evidence for this movement. Thus, I proposed a

20 But see Koike (2000), who argues that Japanese RCs represent background information. I believe this is incorrect, or at least does not apply to Turkish, given that it is not compatible with the prosodic and discourse facts presented here. If head-final RCs (including those in Japanese) are usually stressed and if they present new information, it does not make sense to consider them as background information. It is likely that Koike was thinking of non-restrictive RCs only, for he makes no distinction between restrictives and non-restrictives.

unified solution that does not get rid of the IP movement, but rather posits it as “focus movement” that happens at PF. This not only provides a motivation for the movement of IP, thereby solving the first problem, but it also suggests that the Binding Theory and Relativized Minimality are both not at work at this level, thus solving the second and third problems, too.

I also proposed that this movement targets not the SpecDP position as Kayne argues, but the Specifier of an XP that is between DP and CP. On this account, whereas this movement, by itself, forms a restrictive relative clause, further movement of IP up to SpecDP forms a non-restrictive relative clause. While the first movement is a focus movement, the second is a non-focus movement. This is compatible with the prosodic and discourse facts given in this paper, and also solves the fourth and fifth problems associated with the movement of IP.

All things considered, the proposal made here not only captures all the relevant facts and problems in a unified way, but it also proposes, for the first time, a solution to why IP moves and the motivation behind this movement and other related facts. Finally, though my data and examples come from Turkish, there is some evidence showing that the arguments made in this paper may be true for all head-final languages.

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