Right Adjunction in the Right Peripheries

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0. Introduction
The primary goal of this paper is to investigate some instances of rightward scrambling in Turkish, and propose an analysis for them adopting a theory in which Θ-roles are considered to be features. More explicitly, it will be suggested that instances of rightward scrambling should be interpreted as base-generation/-pure merge, where the timing of merger is argued to be determinable by the strength of the Θ-feature of the selected category. The empirical domain of this study covers rightward scrambling in the context of nominalized embedded clauses in Turkish. Two puzzling observations will be at the center of the investigation: (i) The grammaticality of local rightward scrambling within a nominalized complement clause depends on whether the nominalized clause itself is rightward scrambled or in-situ, and (ii) while long distance rightward scrambling of an XP out of an in-situ embedded clause is grammatical, local rightward scrambling of an XP within an in-situ embedded clause is ungrammatical. In addition to the assumptions noted above, two more assumptions of the current analysis will be that (i) right-adjunction is an option available in the grammar, and (ii) lowering at LF is possible in line with Bošković and Takahashi (1998).

This paper is organized as follows: Section 1 lays out the facts examined in the paper. Section 2 outlines the proposal, and Section 3 demonstrates how it fares with respect to the relevant facts. Section 4 considers a number of predictions of the proposal, and Section 5 concludes the paper by presenting a summary.

1. Turkish Facts
One type of complement clause in Turkish that will be the empirical focus of this paper is formed by the nominalization of the embedded verb. I will call such
complement clauses *Nominalized Complement Clauses* (henceforth, DPNCC), an example of which is given in (1) below (see Kennelly 1996, Kornfilt 1985, 2001, Aygen 2002, a.o., for detailed investigation of such complement clauses):

(1)  

we-NOM Cem-GEN car-DAT get in-NOML-3sgAgrN-ACC know-PRES-1pl.  
‘We know that Cem got in the car.’

The example in (1) illustrates the following well-known characteristics of DPNCCs: (i) DPNCCs are morphologically marked for nominalization, (ii) Vs of DPNCCs bear nominal agreement morphology triggered by the embedded subject, which is marked Genitive, and (iii) the nominalized V of DPNCCs bears possessive and case morphology.

One of the major observations which is of primary importance to this study has been previously reported in Sezer (1978), Kennelly (1996), Kornfilt (1997). According to them, a constituent of a DPNCC cannot appear to the right of the embedded V, an instance of scrambling which I will call in this paper *Local R(rightward)-Adjunction*.\(^1\) See an example of this in (2):

(2)  

we-NOM Cem-GEN get in-NOML-3sgAgrN-ACC car-DAT know-PRES-1pl.  
‘We know that Cem got in the car.’

The ungrammaticality of Local-R-Adjunction to DPNCCs is not limited to argumental XPs. Non-argumental XPs such as time adverbs and/or PPs also cannot be locally R-Adjoined. Witness the ungrammaticality of the sentences in (3) where an adverb and a PP, respectively, appear in the post-embedded-V position:

(3)  

we-NOM Cem-GEN car-DAT get in-NOML-3sgAgrN-ACC today know-PRES-1pl.  
‘We know that Cem got in the car today.’

we-NOM Cem-GEN car-DAT get in-NOML-3sgAgrN-ACC bag-with know-PRES-1pl.  
‘We know that Cem got in the car with a bag (on his back).’

\(^1\) I use traces only to indicate the canonical positions of DPs in Turkish. The reader should not interpret this as an indication of my subscription to *movement* as a theoretical device since I do not appeal to movement in my explanation of facts. Therefore, when used, the term movement will only be used figuratively, and this will be signaled by single quotes (i.e., ‘movement’).
Curiously, while Local-R-Adjunction of an embedded argument/adjunct XP is not available as an option, Non-Local-R-Adjunction of an embedded XP to the extended projection of the matrix V yields a perfectly grammatical sentence as illustrated in (4) below:

    we-NOM Cem-GEN get in-NOML-3sgAgN-ACC know-PRES-1pl. car-DAT
    ‘We know that Cem got in the car.’

In the next section, an attempt is made to formulate an analysis.

2. The Proposal
The following basic assumptions are adopted towards an analysis:

(i) I assume that a grammar model without D-structure and Projection Principle (as in Chomsky’s Minimalist Program) leaves open the possibility of movement and/or lowering into Θ-positions, following Bošković (1994), Bošković and Takahashi (1998), Lasnik (1995).

(ii) Θ-roles are features that need to be checked, and like any other syntactic features, they come in two varieties (cf. Chomsky 1995, for ϕ- and Case-features): strong Θ-features and weak Θ-features (cf. Bošković and Takahashi 1998, Lasnik 1995).

(iii) Following standard assumptions regarding strong and weak features, I assume that

A. A strong Θ-feature has to be checked prior to SPELL-OUT upon initial MERGE (i.e., within the maximal projection of the Θ-checker).

B. A weak Θ-feature is not forced to MERGE within the maximal projection of the Θ-checker, and its checking may be delayed until after SPELL-OUT (see Chomsky 1993, where unchecked strong features are ill-formed PF objects). The checking mechanism in question is category lowering.

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2 I should note at this point that Kornfilt (1998) also argues for an analysis adopting Chomsky’s (1986) ban on adjunction, which is appealed to below, although her analysis and the current one radically differ in details. Furthermore, Kornfilt (1998) deals exclusively with the basic data given in (2); she does not extend her analysis to cover the larger set of data addressed in the present study.

3 See Boeckx and Hornstein (2004) for more recent arguments that Θ-roles are features. See also Bošković (1994).

4 As far as I can tell, there is in principle nothing in the system to ban feature lowering. The question is whether feature lowering has different repercussions than category lowering, an issue I will not discuss further. I will stick to category lowering in this paper.
(iv) Following Bošković and Takahashi (1998), I assume that scrambling involves base-generation, i.e., base-generated adjunction. More precisely, scrambled elements are base-generated in their surface positions, undergoing lowering to the Θ-position in LF the Θ-feature being weak. (The lowering will actually not play any role in my analysis. What is important to me here is that traditional scrambling involves base-generation, and that the relevant Θ-feature is weak.)


In line with the assumptions in (5), I would like to adopt a slightly revised version of Chomsky’s (1986) ban on adjunction.

(6) Ban on adjunction (revised)
Adjunction to a category bearing strong Θ-features is disallowed.

Adopting (6) as a major ingredient of my analysis, I will also investigate the validity of the following two hypotheses in an extension of the current analysis to several contrasts between Turkish and English, which essentially follows Bošković and Takahashi’s (1998) proposal regarding Japanese/English:

(7) (i) Argumental XPs in Turkish may optionally bear strong or weak Θ-features.
(ii) Argumental XPs in English may not bear weak Θ-features. (In other words, English is not a scrambling language.)

3. Analysis
Let us first consider the sentence in (1) where there is no R-Adjunction of any kind, repeated below as (8) for convenience:

we-NOM Cem-GEN car-DAT get.in-NOML-3sgAgrN-ACC know-PRES-1pl.
‘We know that Cem got in the car.’

There are two DPs in (8) that are crucial for our purposes. One is the complement clause itself, a DPNCC, and the complement of the embedded V, call it DPDAT. We can conjecture then that both DPNCC and DPDAT enter the derivation with

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3 (i) is an example of a type of sentence this ban rules out (data due to McCloskey 2006:7-8):
(i) a. She swore that [IP [after she finished her thesis] [IP she would move to Paris]]
   b. *She swore [CP [after she finished her thesis] [CP that she would move to Paris]]
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strong Θ-features, which suggests that they are to merge before Spell-Out (by 5iiiA). (9) gives a partial graphic illustration of the derivation of (8):

(9)

The sentence in (2), repeated below as (10), involves a post-embedded-V constituent and the sentence is ungrammatical.


‘We know that Cem got in the car.’

Under the current analysis the non-canonical appearance of the DPDAT in (10) will be accounted for as follows: As a theoretical possibility, DPDAT may bear weak Θ-features while DPNCC may bear strong Θ-features. Given the assumptions about the timing of merger in (5) this amounts to saying that the DPNCC requires early merge (i.e., merge-in-the-base) while the DPDAT does not. See the derivation of (10) below (The tree is again only partial):
The ungrammaticality of (11) is due to the ban on adjunction as formulated in (6): Adjunction (i.e., pair-merge) of any category to a category with strong Θ-features is banned. In the case of (11), then, adjunction of DPDAT to DPNCC is not permitted. An assumption remained unarticulated thus far shows itself in the derivation depicted in (11), in which DPDAT is R-Adjointed to DPNCC. Notice that the DPDAT is not R-Adjointed to a lower category in the tree, for instance, TP. The assumption that a postverbal constituent is R-Adjointed to the highest XP in the structure is not novel and previously argued for in Kural (1997) in a different context, so I adopt it here.6

Recall from Section 1 that a post-embedded-V adjunct in Turkish is as degraded as an argument DP in the same position (cf. (2)). The relevant examples were given in (3), though here I only repeat the one in (3a) as (12) below:

6 The assumption in question is important because ‘movement’ (or movement, an issue which demands further exploration, and that would go beyond the scope of this paper) to pre-subject position, which I take to be (left-) adjunction to TP, does not yield ungrammaticality. The relevant example is (i):

we-NOM car-DAT Cem-GEN get-in-NOML-3sgAgrN-ACC know-PRES-1pl.
“We know that Cem got in the car.”

Notice that adjunction to TP in (i) is not banned simply because TP does not bear Θ-features.
The ungrammaticality of (12) is once again accounted for assuming that the DPNCC has strong $\Theta$-features, and the adjunction of the non-argumental XP to it is precluded by (6) as illustrated in (13):

$\text{(13)}$

The grammaticality of (4), repeated below as (14), is interesting: while the Local-R-Adjunction of embedded material yields ungrammaticality, as has been discussed and analyzed above, Non-Local-R-Adjunction of embedded material is perfectly grammatical:

$^7$ Non-Local R-Adjunction of an adverb with scope over the embedded clause is ungrammatical as (i) shows:

$^i$ *Biz [Cem-in araba-ya bin-diğ-in-I] bil-iyor-uz $\text{dün.}$

`we-NOM Cem-GEN car-DAT get.in-NOML-3sgAgrN-ACC know-PRES-1pl. yesterday`

`We know that Cem got in the car yesterday.'

The ungrammaticality of (i) is accounted for under the current analysis given that (i) the adverb is base generated in its surface position, and not moved at all, and (ii) there is no reason for it to lower at LF into some position within the embedded clause (i.e., a position where it may take scope) given that lowering would not be $\Theta$-feature-driven for adjuncts. See Bošković and
we-NOM Cem-GEN get.in-NOML-3sgArgrN-ACC know-PRES-1pl. car-DAT
‘We know that Cem got in the car.’

Suppose that the DPNCC in (14) has strong Θ-features, and it is merged early with the embedded V whereas DPDAT has weak Θ-features, thus not forced to MERGE within the maximal projection of its Θ-checker. In the case of (14), DPDAT is adjoined (i.e., pair-merged) to the highest maximal projection TP, as shown in (15):8,9

(15)

The weak Θ-feature of the ‘moved’ DPDAT is then checked via lowering at LF. This analysis of (14) makes it possible to give an explanation of why the non-Locally R-Adjoined DPDAT is not subject to the RIGHT ROOF CONSTRAINT of Ross (1967). Under the current analysis, DPDAT is not moved but base-generated in its

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8 I assume here that the highest projection in a matrix clause is TP but this assumption is not crucial for the current analysis, and it may well be CP along the lines of Kural (1997).
9 Note that I do not adopt a model invoking Phases or Multiple Spell-Out.
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surface position, and therefore is not subject to the restrictions that movement is subject to. The assumption here is that lowering is not constrained by the standard locality restrictions imposed on raising, setting CED effects aside.\(^{10}\)

4. Further Predictions

Notice that the facts from Turkish examined thus far do not exhaust the theoretical possibilities. There are two other possibilities, which have not yet been considered, and in fact are predicted to be grammatical under the current analysis. Let us now see what they are:

(16) DPNCC has weak \(\Theta\)-features, while DPDAT has strong \(\Theta\)-features.

(17) \(\checkmark\) Biz ti bil-iyor-üz [Cem-in araba-ya bin-diğ-in-i],
we-NOM know-PRES-1pl. Cem-GEN car-DAT get.in-NOML-3sgAgrN-ACC
‘We know that Cem got in the car.’

(18) Both DPNCC and DPDAT have weak \(\Theta\)-features.

(19) \(\checkmark\) Biz ti bil-iyor-üz [Cem-in ti bin-diğ-in-araba-ya],
we-NOM know-PRES-1pl. Cem-GEN get.in-NOML-3sgAgrN-ACC car-DAT
‘We know that Cem got in the car.’

(19) presents an interesting piece of data particularly when it is compared with the ungrammatical (2). The major difference between (19) and (2) is that while both involve Local R-Adjunction in the embedded context, only the former also has its complement clause placed to the right of the matrix verb. That, in fact, is an important factor in explaining the grammaticality of (19) since in (19) the locally R-Adjoined DPDAT is adjoined to DPNCC with weak \(\Theta\)-features, and the ban in (6) is irrelevant. In (2), however, the DPDAT involves adjunction to DPNCC with strong \(\Theta\)-features, which is a violation of (6).

A brief digression is in order here concerning the assumed structural analysis of (19). As indicated by the bracketing in (19), the DPDAT is within the boundaries of the DPNCC (i.e., the former is Locally-R-Adjoined to the latter), and the DPNCC itself is also R-Adjoined to the highest functional category in the extended projection of the matrix verb. As pointed out to me by Norvin Richards (p.c.), this is indeed not the only possible analysis of (19). One might conjecture that the DPDAT is extracted from the DPNCC either before or after the latter is also ‘moved.’ Put differently, the DPDAT and the DPNCC may be R-Adjoined to

\(^{10}\) I would like to only note in passing that instances of Non-Local R-Adjunction (=‘long distance rightward scrambling’) show CED effects, which may be a problem for the base-generation analysis entertained in this paper. I leave this issue unaddressed in this paper due to space limitations, but for an articulated analysis factoring island-sensitivity in, see Sener (in progress). For relevant discussion of island sensitivity and scrambling, see also Bošković (2004b).
different layers of the extended projection of the matrix V. Such an analysis makes a clear prediction: A matrix-V-related adverb should grammatically appear between the DPNCC and the DP DAT if the extraction analysis of the DP DAT is on the right track. The ungrammaticality of (20) rules out this option, though: A matrix-V-related adverb cannot intervene between the DPNCC and the DP DAT when both of them are in the postverbal field:

(20) *Siz 
\[\text{t}_i \text{ öğren-ecek-siniz} \text{[Cem-in \text{t}_j \text{bin-diğ-in-i}_i]}\].
you-NOM learn-FUT-2pl. Cem-GEN get.in-NOML-3sgAgrN-ACC
\[\text{gelecek hafta} \text{ arab-a-ya}_i\]
next week car-dat
‘You will know (by) next week that Cem has got in the car.’

Thus, I take the structural analysis given in (19) as the right one.

Another prediction of the current analysis that I will now briefly explore is based on the hypothesis stated in (7ii) in Section 2. Recall that (7ii) states that argumental XPs in English may not bear weak \(\Theta\)-features contrasting English with Turkish in the relevant respect. Following Bošković and Takahashi (1998), I take this to be the distinction between scrambling and non-scrambling languages (see also 7ii in Section 2).

Let us start the investigation by first considering the contrast between (21) and (22):

(21) **Adjunction to IP**
✓ Jane does not believe \([\text{CP that } [\text{IP yesterday } [\text{IP Mary scolded John}]]]\).

(22) **Adjunction to CP**
* Jane does not believe \([\text{CP yesterday } [\text{CP that } [\text{IP Mary scolded John}]]]\).

The grammaticality contrast between (21) and (22) indicates that while adjunction to IP is permitted, adjunction to CP is not. The prediction of the current analysis along with the assumption that \(\Theta\)-features in English may not be weak is that the grammaticality contrast between (21) and (22) should remain unaffected even when the CP is moved. Notice that moved is not in quotation marks this time as I assume that CP-topicalization in English is to be interpreted as *literal* movement, and thus different from the instances of ‘rightward scrambling’ in Turkish, which are argued to be base-generated.

(23) **CP topicalization**
✓ \([\text{CP That } [\text{IP Mary scolded John}]], \text{Jane does not believe }____\).

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11 Note that in Turkish an adverb with matrix scope (or scope over smaller domains such as vP/VP etc.) may legitimately appear in the postverbal field. See Şener (in progress).
12 Following Bošković and Takahashi (1998), I take this to be the distinction between scrambling and non-scrambling languages (see also 7ii in Section 2).
13 Notice that *moved* is not in quotation marks this time as I assume that CP-topicalization in English is to be interpreted as *literal* movement, and thus different from the instances of ‘rightward scrambling’ in Turkish, which are argued to be base-generated.
14 Judgments are due to Jonathan Bobaljik, Jon Gajewski, and William Snyder.
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(24) Topicalization of a CP hosting adjunction
   * [CP Yesterday [CP that [IP Mary scolded John]]], Jane does not believe ____.

(23) shows that topicalization of CPs in English is licit. The ungrammaticality of
(24) is surprising at first sight particularly when we take the grammaticality contrast between (2) and (19) from Turkish into consideration. Recall that, in
Turkish, ‘scrambling’ of a complement clause (i.e., DPNCC) is critical in that the
DPNCC only permits Local-R-Adjunction of an XP within it if the former is
‘rightward scrambled.’ As the ungrammaticality of both (22) and (24) shows,
however, in English, movement of a CP has no effect on (dis)allowing adjunction
to CP itself. This is what the current analysis predicts along with the clause in
(7ii): Since complement DPs/CPs may not bear weak Θ-features in English,
merger of such DPs/CPs must be early, that is, they must be merged immediately
with their Θ-checker. This means that the ban formulated in (6) will never fail to
rule out adjunction to complement DPs/CPs in English, as it always involves
adjunction to a category with strong Θ-features. I must leave a further exploration
of this idea to future research due to space limitations.

5. Summary and Conclusions
The chief empirical domain of this study has been postverbal constituents in
embedded and matrix contexts in Turkish. It has been shown that a theory that
adopts the hypothesis that Θ-roles are features, in which the strength of Θ-
features determines the timing of merger, accounts for the behavior of postverbal
constituents in the relevant contexts.

The current analysis also provides evidence for Bošković and Takahashi
(1998) proposal that strength of Θ-features determines crosslinguistic variation
with respect to whether or not a language has scrambling, distinguishing scram-
bling from topicalization and focalization this way. It was shown that the presence
of such a variation makes the right predictions in accounting for the presence or
absence of amelioration effects with scrambling for scrambled ele-
ments/topicalization for topicalized elements.

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