On adjunct control in Turkish

Ilknur Oded*

Introduction

The goal of this paper is to analyze the properties of adjunct control structures in Turkish. Adjunct control refers to the relation between an NP in the matrix sentence and the empty category in an adjunct clause. The following examples illustrate adjunct control in Turkish temporal adjunct clauses:

(1) *Kaya*$_i$ [PRO$_i$ *mektub-u* *oku-yunca*] *üzül-dü.*
Kaya letter-Acc read-Conv be sad-Past.3Sg
'Kaya got upset when/upon reading the letter.'

(2) *Kaya*$_i$ [PRO$_i$ *mektub-u* *oku-madan* *önce*] *gözlükler-i-ni*
Kaya letter-Acc read-Conv before glasses-Poss.3-Acc
tak-tı.
put on-Past.3Sg
'Kaya put on his glasses before reading the book.'

(3) *Kaya*$_i$ [PRO$_i$ *mektub-u oku-duktan* *sonra*] *gözlükler-i-ni*
Kaya$_i$ letter-Acc read-Conv after glasses-Poss.3-Acc
çıkar-dı.
take off-Past.3Sg
'Kaya took off his glasses after having read the book.'

Adjunct control structures (1) through (3) are instances of Obligatory Control (OC) as the empty category in these sentences can only be interpreted as the subject NP *Kaya*. Also note that adjunct control structures formed with *-y(I)ncA* 'when', *-mAdAn önce* 'before doing something' and *-DIktAn sonra* 'after having done something' as in the sentences above exhibit the properties of non-finite structures as they do not bear tense or agreement markers. We will argue in this paper that purpose control structures such as (4) pattern like temporal adjunct clauses in (1) through (3) since they behave like adjuncts and exhibit OC reading:

(4) *Kaya*$_i$ [PRO$_i$ *tren-i* *yakala-mak için*] *acele et-ti.*
Kaya-Nom train-Acc catch-Inf for hurry-Past.3Sg
'Kaya hurried in order to catch the train.'

Sentence (4) is an instance of OC because the empty category in this sentence is obligatorily controlled by the matrix NP *Kaya*. The purpose clause in (4) is formed with *-mAk* which is considered to be a hallmark of nonfinite complementation as we discuss below.

* University of Maryland.

In the next section, we will give a brief outline of the properties of non-finite complementation in Turkish. Then, we will investigate whether the sentences above can be analyzed within the Movement Theory of Control (MTC).

1. Non-finite complementation in Turkish

Typically control structures in Turkish are formed with the infinitival *-mAK* as the following examples illustrate:

(5a) *Emel*$_i$ [PRO$_i$ *git-mek*] *isti-yor.*
Emel go-Inf want-Prog3Sg
'Emel wants to go.'

(5b) *Emel*$_i$ *Kaya-yı* [PRO$_i$ *sinema-ya* *gitme-ğe*] *ikna et-ti.*
Emel Kaya-Acc cinema-Dat go-Inf-Dat convince-Past.3Sg
'Emel convinced Kaya to go to cinema.'

(5c) [PRO$_{arb}$ *Koş-mak*] *sağlıklıdır.*
run-Inf healthy-GM
'To run is healthy.'

In the sentences above, (5a) is an example of obligatory subject control and (5b) is an example of obligatory object control. (5c), on the other hand, illustrates arbitrary control. As can be seen in these examples, control constructions in Turkish are formed by the infinitival *-mAK*. As pointed out by George and Kornfilt (1981), in Turkish agreement determines finiteness. *-mAK* structures appear in non-finite clauses, which do not bear agreement as can be seen in (5). Therefore, PRO typically appears in Turkish with *-mAK* structures, which are marked by the absence of agreement. In other words, the absence of agreement serves as a demarcation for control structures.

Small *pro*, on the other hand, appears in the subject position of matrix clauses and in embedded clauses formed with *-yAcAK*, *-DIK* and *-mA*, which are marked with agreement as exemplified in the following sentences:

(6a) pro *gid-iyor-um.*
go-Prog-1Sg
'I am going.'

(6b) *Öğretmen* *öğrenci-ler-e* [pro *alıştırma-lar-ı* *çabuk*
teacher-Nom student-Pl-Dat exercise-Pl-Acc quickly
bitir-me-leri-n-i] *söyle-di.*
finish-VN-Poss.3Pl-Acc tell-Past.3Sg
'The teacher told the students to finish the exercises quickly.'

(6c) *Öğretmen* *öğrenciler-in* [pro *alıştırmalar-ı* *çabuk*
Teacher-Nom student-Pl-Gen exercise-Pl-Acc quickly
bitir-dik-leri-n-i] *söyle-di.*
finish-VN-Poss.3Pl- Acc tell-Past.3Sg
'The teacher said that students finished the exercises quickly.'

(6d) *Öğretmen* *öğrenciler -in* [pro *alıştırmalar-ı* *çabuk*
teacher-Nom student-Pl-Gen exercise-Pl-Acc quickly
bitir-ecek-leri-ni] *söyle-di.*
finish-VN-Poss.3Pl-Acc tell-Past.3Sg
'The teacher said that students would finish the exercises quickly.'

As can be seen in the sentences above, the embedded clauses, which are formed with nominalizing suffixes *-mA*, *-DIK* and *-yAcAK* and bear an agreement marker, signal the presence of the null pronominal pro. This null pronominal is similar in nature to the one found in languages such as Italian, Spanish etc.

After describing the environments where PRO and pro appear in Turkish, let us underline a difference between Turkish and English control predicates. The distribution of control predicates in Turkish differs from the one in English. As noted by Taylan (1996), not all verbs that allow a control construction in English can be used with a control construction in Turkish. For instance, in English verbs such as *tell* and *notify* are typical examples of control predicates. Unlike English, in Turkish equivalents of these verbs such as *söyle-* 'tell' and *bildir-* 'notify' etc. do not take control structures but instead take a finite complement clause where the verb is inflected for agreement as illustrated in the following example:

(7) **Ben* (∅ *on-a* *erken* *kalk-mağ*)*-ı* *bildir-dim/söyle-di-m.*
(8) *Ben* (*on-a* *erken* *kalk-ma-sı-n*)*-ı* *bildir-dim/söyle-di-m.*
I he-Dat early get up-VN-Poss.3Sg-Acc tell-Past.1Sg
'I told him to get up early.' (Taylan 1996: 53)

As can be seen above, in (7) the presence of *-mAK* without agreement renders the sentence ungrammatical whereas it is grammatical with the complement structure in (8) in which the verb in the complement is inflected for agreement.

2. Adjunct Control within MTC

Within GB, raising and control structures have been analyzed differently. While raising structures have been seen as the products of movement, control structures have been analyzed through the empty category PRO and control theory. However, recent minimalist studies, notably the Movement Theory of Control (MTC) as proposed in Hornstein (1999), Boeckx et al. (2010) and subsequent attempt to eliminate PRO and control theory by analyzing control as a product of movement akin to raising structures, and PRO as a residue of movement.

Sentence (9) below is given as an example of adjunct control in Boeckx et al. (2010):

(9) *John*$_i$ *saw Mary after* PRO$_i$ *eating lunch.* (Boeckx et al. 2010: 89)

Boeckx et al. (2010) argue that the sentence above is an example of Obligatory Control (OC) because it exhibits the properties of OC:

(10a) *John*$_i$ *said* [*that* [*Mary*$_k$*'s brother*]$_m$ *left* [*after* PRO$_m$/*$_i$/*$_k$/*$_w$ *eating a bagel*]
(10b) *John left before* PRO *singing and Bill did too.* '... and Bill$_i$ left before he$_i$/*John sang.'
(10c) *Only Churchill left after* PRO *giving the speech.*
'[Nobody else]$_i$ left after he$_i$/*Churchill gave the speech.' (Boeckx et al. 2010: 87)

Sentence (10a) illustrates that PRO in adjunct clauses requires a local antecedent. Sentence (10b) shows that PRO headed adjunct clauses have sloppy reading under ellipsis. In other words, (10b) has the reading paraphrased as "... Bill left before Bill sang" but not the reading "... and Bill left before John sang." Lastly, (10c) shows that PRO in adjunct clauses can only have a bound interpretation when it is controlled by "only + NP." That is to say (10c) can be paraphrased as (11a) but not as (11b):

(11a) *Only Churchill left after* PRO *giving the speech.*
(11b) *Only Churchill left after Churchill gave the speech.*

After noting that (9) is an instance of adjunct control, for the analysis of sentence (9), Boeckx et al. (2010) give the derivational steps illustrated in (12):

(12) *John*$_1$ *saw Mary after* PRO$_1$ *eating lunch.*
(12a) Applications of Select, Merge and Copy:
Num = {*John*$_0$, T$^{\varphi+}{}_1$, *saw*$_0$, *Mary*$_0$, *after*$_0$, T$^{\varphi-}{}_0$, *eating*$_0$, *lunch*$_0$}
PP = [*after John* T$^{\varphi-}$ *eating lunch*]
VP = [*saw Mary*]

(12b) Copying of John:
PP = [*after John* T$^{\varphi-}$ *eating lunch*]
VP = [*saw Mary*]
N = *John*

(12c) Merger of John and VP:
PP = [*after John* T$^{\varphi-}$ *eating lunch*]
VP = [*John saw Mary*]

(12d) Merger of PP and VP:
[$_{VP}$ [$_{VP}$ *John saw Mary*] [$_{PP}$ *after John* T$^{\varphi-}$ *eating lunch*]]

(12e) Selection of T$^{\varphi+}$:
Num = {*John*$_0$, T$^{\varphi+}{}_0$, *saw*$_0$, *Mary*$_0$, *after*$_0$, T$^{\varphi-}{}_0$, *eating*$_0$, *lunch*$_0$}
[$_{VP}$ [$_{VP}$ *John saw Mary*] [$_{PP}$ *after John* T$^{\varphi-}$ *eating lunch*]]
T$^{\varphi+}$

(12e) Merger of T$^{\varphi+}$and VP:
TP = [T$^{\varphi+}$ [$_{VP}$ [$_{VP}$ *John saw Mary*] [$_{PP}$ *after John* T$^{\varphi-}$ *eating lunch*]]]

(12f) Copying of John: TP = [T$^{\varphi+}$ [$_{VP}$ [$_{VP}$ *John saw Mary*]
[$_{PP}$ *after John* T$^{\varphi-}$ *eating lunch*]]]
N = *John*

(12g) Merger of John and TP:
TP = [*John* [$T^{\varphi+}$ [VP [VP *John saw Mary*] [PP *after John* $T^{\varphi-}$ *eating lunch*]]]]

(12h) Deletion in the phonological component:
TP = [*John* [$T^{\varphi+}$ [VP [VP ~~*John* saw~~ *Mary*] [PP *after* ~~*John*~~ $T^{\varphi-}$ *eating lunch*]]]]
(Boeckx et al. 2010: 88)

As Boeckx et al. point out, in (12a) after the VP and PP have been assembled, the matrix verb saw still has its external theta role to assign. There is no remaining element in the numeration to receive this external theta role. However, Boeckx et al. (2010) assume that the NP John is still active for the purposes of A-movement because it could not check its case in the adjunct clause because the T head in this clause does not have a complete Φ-set. Therefore, they argue that the computation can create a copy of the NP John as in (12b) and merges it with the VP in (12c) which is an instance of sideward movement along the lines of Nunes (1995). This allows the external theta role of the verb saw to be discharged. Then the PP adjoins to VP in (12d) and the matrix TP is built as illustrated in (12e). Next the matrix subject moves [Spec TP] as illustrated in (12f) and (12g) and finally the deletion of the all the copies of the NP John other than the topmost copy gives us (12h). Note that in this derivation the NP John can check more than one theta role, as one of main assumptions of the MTC is that theta roles are features. Another important assumption within MTC is that the inter-arboreal movement as in the case of sideward movement in (12c) is possible (see Nunes 1995 for arguments for sideward movement).

3. Analyzing Turkish temporal adjunct clauses within MTC

As noted at the beginning of the paper, Turkish temporal adjunct clauses given in sentences (1) through (3) exhibit the properties of OC. Hence, within MTC Turkish temporal adjunct clauses can be analyzed on a par with the English sentence that has been discussed above.[1] Turkish sentence (1) would have the following derivational steps along the lines of Boeckx et al. (2010):

(13) *Kaya* [*mektubu okuyunca*] *üzüldü.*

(13a) Applications of Select, Merge, and Copy:
Num = {$Kaya_0$, $T^{\varphi+}{}_1$, *üzüldü*, $T^{\varphi-}$, $mektubu_0$, $okuyunca_0$}
PP = [$T^{\varphi-}$ *Kaya mektubu okuyunca*]
VP = [*üzüldü*]

(13b) Copying of Kaya:
PP = [$T^{\varphi-}$ *Kaya mektubu okuyunca*]
VP = [*üzüldü*]
N = *Kaya*

1 There are adjunct control structures in Turkish for which the applicability of MTC is less straightforward (see Oded 2006 for a detailed discussion of control in Turkish). I will not discuss those cases here due to space restrictions.

(13c) Merger of Kaya and VP:
PP = [$T^{\varphi-}$ *Kaya mektubu okuyunca*]
VP = [*Kaya üzüldü*]

(13d) Merger of PP and VP:
[VP [PP *Kaya* $T^{\varphi-}$ *mektubu okuyunca*] [VP [*Kaya üzüldü*]]

(13e) Selection of Tφ+:
Num = {$Kaya_0$, $T^{\varphi+}{}_0$, $üzüldü_0$, $T^{\varphi-}$, $mektubu_0$, $okuyunca_0$}
[VP [PP *Kaya* $T^{\varphi-}$ *mektubu okuyunca*] [VP [*Kaya üzüldü*]]
Tφ+

(13e) Merger of $T^{\varphi+}$ and VP:
TP = [$T^{\varphi+}$ [VP [PP Kaya $T^{\varphi-}$ *mektubu okuyunca*] [VP *Kaya üzüldü*]]]

(13f) Copying of Kaya:
TP = [$T^{\varphi+}$ [VP [PP *Kaya* $T^{\varphi-}$ *mektubu okuyunca*] [VP *Kaya üzüldü*]]]
N = *Kaya*

(13g) Merger of Kaya and TP:
TP = [*Kaya* [$T^{\varphi+}$ [VP [PP *Kaya* $T^{\varphi-}$ *mektubu okuyunca*] [VP *Kaya üzüldü*]]]]

(13h) Deletion in the phonological component:
TP = [*Kaya* [$T^{\varphi+}$ [VP [PP ~~*Kaya*~~ $T^{\varphi-}$ *mektubu okuyunca*] [VP ~~*Kaya*~~ *üzüldü*]]]]

The derivation illustrated in (13) is similar to the derivation in sentence (12). First the matrix VP and PP are assembled separately and then a copy of NP Kaya is created in (13b). Then the NP *Kaya* merges with the VP in (13c). This is an instance of sideward movement whereby the external theta role of the verb *üzüldü* 'got upset' is discharged. Then the PP adjoins to VP as in (13d) and the matrix TP is built as illustrated in (13e). Next the matrix subject moves [Spec TP] as illustrated in (13f) and (13g), and in the final step the lower copies of the NP *Kaya* are deleted as illustrated in (13h).

Note that adjunct control structures that display OC reading such as (1) through (3) in Turkish, or (12) in English challenges Agree-based Theory of Control (ATC) proposed in Landau (2000 and subsequent). Within ATC, adjunct clauses are not expected to license OC reading because an Agree relation cannot be established between the matrix clause and the adjunct clause.[2]

4. Adjunct status of purpose clauses

Now let us consider whether purpose clauses behave like adjuncts or arguments. Jones (1991) treats purpose clauses as adjuncts and offers a number of arguments for adjunct status of purpose clauses. One of these arguments is that a purpose clause is semantically

2 See Oded (2011) for a proposal that can account for adjunct control structures with OC reading within the framework of ATC.

optional in that a verb like *eat*, for instance, subcategorizes for an NP but it does not subcategorize for a purpose clause.

Another reason for treating purpose clauses as adjuncts is that purpose clauses are syntactically optional. Jones (1991) notes that the absence of an argument causes ungrammaticality whereas the absence of a purpose clause does not cause ungrammaticality as the following examples illustrate:

(14a) **John put the car.*
(14b) **John put in the garage.*

(15a) *Mary brought John along to talk to her.*
(15b) *Mary brought John along.* (Jones 1991: 66)

Citing McConnell-Ginet (1982), Jones (1991) points out that there are some examples that complicate the adjunct/argument distinction on the basis of syntactic optionality as some verbs seems to categorize for certain adverbial adjuncts:

(16a) *John teaches in Northampton.*
(16b) b. *John resides in Northampton.*
(16c) c. **John resides.* (Jones 1991: 67)

However, as Faraci (1974) and Jones (1991) point out even with a verb that commonly appears with purpose clauses such as *use* the overt syntactic presence of the purpose clause remains optional as the following example illustrates:

(17a) *John used the hammer* [*to pound the meat with.*]
(17b) *John used the hammer.* (Jones 1991: 67)

Therefore, following Jones (1991), we will assume that purpose clauses could be better classified as adjuncts.

5. Analyzing Turkish purpose clauses within MTC

Before discussing purpose clauses within MTC, let us note that purpose clauses in Turkish behave like adjuncts as well. The following example illustrate that similar to English, in Turkish purpose clauses are optional semantically and syntactically:

(18a) *Kaya*$_i$ [PRO$_i$ *tren-i* *yakala-mak için*] *acele et-ti.*
Kaya-Nom train-Acc catch-Inf for hurry-Past.3Sg
'Kaya hurried in order to catch the train.'

(18b) *Kaya*$_i$ *acele etti.*
Kaya-Nom hurry- Past.3Sg
'Kaya hurried.'

In Turkish, the verb *kullanmak* 'to use', which appears frequently with purpose clauses do not require the purpose clause to be syntactically overt similar to its English counterpart in (17):

(19a) *Kaya*$_i$ [PRO$_i$ *et-i* *döv-mek için*] *tokmağ-ı* *kullan-dı.*
Kaya meat-Acc pound-Inf for hammer-Acc use-Past.3Sg
'Kaya used the hammer to pound the meat with.'

(19b) *Kaya* *tokmağ-ı* *kullan-dı.*
Kaya hammer-Acc use-Past.3Sg
'Kaya used the hammer.'

Assuming that purpose clauses are adjuncts, let us consider the derivation of the sentence (20a), which exhibits OC reading since the empty category in (20a) is obligatorily controlled by the matrix subject *Kaya*. The derivational step in (20a) proceeds the one in (13) whereby the NP *Kaya*, originates in the adjunct purpose clause and then sideward moves to the matrix clause as schematized in (20b):

(20a) *Kaya*$_i$ [PRO$_i$ *tren-i* *yakala-mak için*] *acele et-ti.*
Kaya-Nom train-Acc catch-Inf for hurry-Past.3Sg
'Kaya hurried in order to catch the train'

(20b) [$_{TP}$ *Kaya* [T$^{\varphi+}$ [$_{VP}$ [$_{PC}$ ~~*Kaya*~~ *treni yakala-mak için*] [$_{VP}$ ~~*Kaya*~~ *acele etti*]]]]

Hence, both temporal clauses and purpose clauses in Turkish behave like adjuncts and both of them illustrate OC reading and therefore both can be analyzed as instance of NP movement along the lines of Boeckx et al. (2010). As noted earlier, the availability of OC in adjunct clauses such as (20a) raises a problem for ATC since according to ATC adjunct control is expected to instantiate NOC reading.

Conclusion

In this paper we analyzed control in temporal adjunct clauses and suggested that control in these structures can be analyzed within MTC. Then we noted that both in English and Turkish, purpose clauses behave like adjuncts rather than arguments in terms of semantic and syntactic optionality, and therefore can be treated as an instance of adjunct control as well. We proposed that assuming that purpose clauses exhibit adjunct control, they could be analyzed within MTC. However, note that since a full treatment of adjunct control structures is beyond the scope of this paper, we have not discussed here more complicated cases of control, where the pragmatic and discourse factors determine the choice of the antecedent for the empty category in the adjunct clauses. Needlessly to say, in these cases MTC, or any syntactic account of control for that matter, would face challenges.

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