Anti-subject orientation in Turkish

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Abstract

Pronouns in Turkish exhibit anti-subject orientation (ASO) effects in that a pronoun cannot be coreferential with a subject if it is (i) within the same clause as the subject, or (ii) in an embedded subject position of a nominal clause and there is no other subject that intervenes. To account for these ASO effects, unlike previous studies which assume that pronouns undergo adjunction to a functional head by LF-movement, we propose a feature-movement analysis where the movement process takes place in narrow syntax by adjoining the categorial feature [+PRONOUN] to functional heads in the structure in a cyclic fashion in order to finally adjoin to a functional head which is both non-defective and verbal. Based on this feature-movement procedure, our system derives the ASO effects of pronouns as follows. When the [+PRONOUN] feature adjoins to a functional head, it also joins its Complete Functional Complex (CFC) which functions as the binding domain for the pronoun. Thus, in compliance with Principle B, the pronoun will be interpreted as disjoint from any DP also included within this domain, while any DP out of this domain can be coreferential with it. As [+PRONOUN] adjoins to more than one functional head in its way to the head it targets, it is included within more than one CFC, accounting for its different binding relations with each DP in the structure.

Key words: anti-subject orientation, binding, Principle B, pronoun, feature movement

I. Introduction

In the literature of binding studies it has long been observed that the binding relation between a subject and a pronoun is constrained in some languages by a phenomenon which is called anti-subject orientation (ASO) by Vikner (1985). In these languages, third person pronouns cannot be coreferential with a local subject although they are allowed to have a coreferential reading with a non-subject antecedent. For example, as seen in (1)-(3), Norwegian, Russian, and Hindi-Urdu are all ASO languages where subjects cannot enter into a binding relation with a local pronoun, whereas objects can. In contrast, (4) shows that English is free of this binding restriction.

(1) Joni fortalte Ola om [hans/oni] kone
Jon told Ola about his wife
‘Joni told Ola about his wife.’
Norwegian (Hestvik, 1990, p.154)

(2) Petja predstavil Maše [*ego/eej tetju]
Petja introduced Maše,DAT *his/her,POSS aunt,ACC
‘Petja introduced his/her aunt to Maše.’
Russian (Asarina, 2005)

(3) har łaɾki-nej sita,ko [uskɑ,oni kɑmɑrəe *oni] dɪkʰɑyɑ
every girl-ERG Sita-ACC her room show.PAST
‘Every girl showed Sita her room.’
Hindi-Urdu (Kidwai, 2000, p.92)

(4) John told Mary about [his/her] son

Although not mentioning the term ASO, some studies in Turkish literature note that the same restriction applies to Turkish as well (Erguvanlı-Taylan, 1986; Sezer, 1991; Özsoy, 1992; Turan, 1995, among others). For instance, with respect to binding relations between pronouns and subjects as well as objects, (5)a exactly patterns with other ASO languages shown in (1)-(3). Further, as seen in (5)b-c, a pronoun in an embedded subject position cannot be bound by a matrix subject, either. In contrast, (6)a-b illustrate that it is possible for a pronoun to be bound by a subject when another subject intervenes.

Ali Ayşe-DAT (s)he-DAT picture-PL-3POSS-ACC show-EV.3SG
‘Ali showed Ayşe his/her pictures.’
(Sezer, 1991, p.170)

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Erol Ahmet-ACC he-GEN go-PART-3POSS place-DAT take-PAST.3SG
‘Erol, took Ahmet, to the place where he was going.’ (Sezer, 1991, p.172)

Ayşe Alev-DAT she-GEN tomorrow Ankara-DAT go-VN-3POSS-ACC tell-PAST.3SG
‘Ayşe, told Alev, that she will go to Ankara tomorrow.’ (Özsoy, 1992, p.81)

Alev Ayşe-GEN she-ACC pinch-VN-3POSS-ACC tell-PAST.3SG
‘Alev, said that Ayşe, pinched her.’

Ali I-GEN he-GEN come-VN-3POSS-ACC hear-VN-1POSS-ACC know-NEG-PROG.3SG
‘Ali, doesn’t know that I heard that he, arrived.’ (Sezer, 1991, p.173)

To account for the Turkish data seen in (5)-(6), Sezer (1991) proposes a domain restriction that he calls
*Obviation Principle*, which prevents the third person pronoun to be bound by a c-commanding subject. Özsoy (1992), on the other hand, argues for a structural constraint according to which no binding relation between two items both occupying Spec positions would be allowed.

Although both Sezer (1991) and Özsoy (1992) are significant attempts to the issue in Turkish, we argue that neither proposal is adequate to deal with the problem as a whole. Instead, in accordance with the gist of LF-movement analyses for pronouns such as Hestvik (1990), Avrutin (1994), and Asarina (2005), we propose a feature-movement analysis which assumes that categorial features of pronouns undergo adjunction to the next higher functional head in syntax in a cyclic fashion until they finally adjoin to a functional head which is both non-defective and verbal.

The organization of the paper is as follows. In section 2, previous approaches to ASO will be briefly reviewed focusing especially on the LF-movement approach that our proposal is based on. In this section we will also discuss previous generative analyses of Turkish ASO, namely Sezer (1991) and Özsoy (1992). In section 3, spelling out the proposal of the study, we will discuss, from a minimalist perspective, how Turkish ASO facts can be accounted for. Section 4 will conclude the study.

2. Approaches to ASO

2.1 Parameterized binding domains

As ASO is a binding property of pronouns, it is Principle B of standard Binding Theory (Chomsky, 1981), presented in (7), which is supposed to account for this phenomenon.

(7) **Principle B (standard version)**

A pronoun must be free in its binding domain

However, as seen in the examples given so far, (7) is unable to explain why in some languages subjects cannot bind pronouns though objects can. To account for this, one can follow Vikner (1985) and Manzini and Wexler (1987) who suggest that Binding Theory is parameterized and Principle B should be revised as in (8) to account for the fact in ASO languages.

(8) **Principle B (revised version)**

A pronoun must not be bound by a subject in its binding domain.

Under the parameterization approach, non-ASO languages such as English make use of the standard version of Principle B while it is the revised version of this binding principle which is in use in ASO languages. Note that each version of Principle B results in a different binding domain with respect to its “size”. A language that has the parameter stated in (7) would have a smaller binding domain for pronouns which excludes all potential antecedents including subjects and objects. Hence, the binding domain of the pronoun in the English example in (4) is the NP his/her son. On the other hand, (8) defines a different kind of binding domain in which binding of pronouns is possible but subjects are not allowed to enter into a binding relation with them. Thus, as the examples in (1)-(3) make it clear, (8) will result in a larger binding domain than (7) will.

Regarding Turkish facts, in clear contrast to (7), (8) can capture the fact that in each example in (5) it is only the object which is allowed to be coreferential with the pronoun although both the subject and the object are supposed to be in the same binding domain. As for (6), the revised version of Principle B can again
successfully capture the ASO facts of Turkish in that the binding domain of a pronoun is defined by the domain of the next higher subject in which no coreferential relation between them is allowed.

However, there is an obvious problem with the parameterization approach. As Asarina (2005) notes, it is quite unclear why there should be a difference between languages in terms of the kinds of NPs, i.e. subject/object, that can take part as antecedents in binding relations in some languages but not others. She also shows counter evidence from Russian which undermines the revised version of Principle B in (8).²

2.2. LF-movement

In addition to proposals that rely on parameterized binding domains, there is also another group of studies that are based on LF-movement of pronouns, most of which are fairly parallel to LF-movement analyses of anaphors such as Lebeaux (1983), Pica (1987), Reinhart and Reuland (1991), and Chomsky (1995). Lebeaux (1983) was the first to suggest LF-movement of anaphors to account for the difference between binding conditions of reflexive and reciprocal pronouns in English. Along the same line, to account for long-distance anaphor binding, Pica (1987) proposes that there are two morphologically different types of anaphors: head- and phrasal-anaphors (X⁰ and XP types, respectively). Among these types, monomorphemic anaphors, namely head-anaphors, undergo LF-movement to INFL (T⁰ in current terms) as illustrated in (9). Here, the binding domain of α is the Complete Functional Complex (CFC) that includes both α and its governor as defined in (10).

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² Space limitations do not allow us to discuss this issue in detail here. We refer interested reader to Asarina’s work to see the Russian examples and the discussion surrounding them with respect to applicability of the revised Principle B to this language.
Along these lines, Hestvik (1990, 1992) proposes that in parallel to the subdivision of anaphors, there are head- and phrasal-pronouns as well and that both head-anaphors and head-pronouns must adjoin to a functional head by LF-movement\(^3\) although phrasal-anaphors and phrasal-pronouns must be in the Spec position of their governing heads. This explains the difference between ASO and non-ASO languages in that languages in the former group have head-pronouns while those in the latter group have only phrasal-pronouns. According to Hestvik, Principle A must be satisfied in either S-structure or LF although Principle B must be satisfied in both S-structure and LF. He claims that this accounts for the fact that pronouns in ASO languages can be bound by object antecedents. Although attractive, Hestvik’s approach seems to be undermined by crosslinguistic facts in that there are only head-pronouns in a number of languages including also non-ASO ones.

According to Avrutin (1994), on the other hand, the reason why pronouns may undergo LF-adjunction is that they can be interpreted as bound variables. He gives the following rule for the structural position of pronouns as well as anaphors when they have bound variable interpretation:

(14) **Structural position of bound variables (Avrutin, 1994)**

At LF, a pronoun or anaphor interpreted as a bound variable must join to a functional projection.

Avrutin maintains that the value of an element interpreted as a bound variable depends on its operator even if it has φ-features. Thus, in compliance with (14), a pronoun must undergo LF-movement to the Spec position of a functional head such as D\(^0\) or T\(^0\). According to this analysis, the pronoun *his* in the English example in (15) can be bound by the subject *John* because it undergoes movement to Spec,DP before Spell-Out (cf. (16)). This makes DP the binding domain of the pronoun in compliance with CFC defined in (10), so the subject can bind the pronoun. However, in Turkish (as well as in Russian as in Avrutin’s original analysis) the pronoun in (17) remains in its base position in syntax (but not in LF as seen in (18)b), hence, as shown in (18)a, Spec,DP is empty in the structure which reaches to PF. According to Avrutin, this makes the binding domain of the pronoun to extend to IP, which includes the subject DP. Thus, it is this domain extension which is responsible for the resulting ASO effect.

(15) John, told Tom about [his\(_{i}\) wife]

(16) PF: [DP his\(_{i}\) D\(^0\) \[NP t\(_i\) [N wife]]

(17) Ali\(_i\) Ahmet’le\(_j\) [onun\(_{i}\) karı] hakkında konuştu

   Ali\(_i\) Ahmet-INST he-GEN wife-3POSS about talk-PAST.3SG

   ‘Ali\(_i\), told Ahmet, about his\(_{i}\) wife.’

(18) a. PF: [DP \[NP o-nun \[N karı-sı]\] D\(^0\)]

   b. LF: [DP o-nun, [NP t\(_i\) [N karı-sı]] D\(^0\)]

Unlike Hestvik (1992) and Avrutin (1994), Asarina (2005) claims that pronouns that are interpreted as bound variables have different properties in English and Russian/Norwegian. According to her analysis, in LF, pronouns with [+F] features must occupy Spec,IP while those with [-F] features must be in the Spec of their governors. She also suggests that a pronoun pied-pipes all material in its phrase along with it when it moves to a functional projection.

Although both parameterized binding domains and LF-movement approaches seem to account for ASO facts in Turkish examples such as seen in (17), they fail to explain why in sentences such as presented in (19) the pronoun in the embedded subject position exhibits ASO effects:

(19) Psikiyat\(_r\) hastasi\(_{-i}\)-n\(_{a}\) [o-nun\(_{i}\) hayal kur-duğ-u-nu] söyle-di

   psychiatrist patient-3POSS-DAT he-GEN dream think-VN-3POSS-ACC tell-PAST.3SG

   ‘The psychiatrist, told his patient that he\(_{i}\) is daydreaming.’

Assuming that the pronoun in this sentence is generated in the embedded Spec,vP, the next functional projection for it to move in LF will be the embedded Spec,TP, fulfilling the movement requirement of Hestvik (1992), Avrutin (1994), and Asarina (2005). Note that in this case the CFC will be the whole

\(^3\) One of the strongest arguments in favor of LF-movement of pronouns to T\(^0\) is the overt movement of clitics in Romance languages. Consider the French example in (i), where the pronoun undergoes such a movement:

(i) \[TP Jean le\(_{i}\)-T\(^0\) [TP lave t\(_i\)]

   Jean it wash.PROG

   ‘Jean washes it.’
embedded sentence so the pronoun will be free to be bound by either the subject or the object of the matrix sentence, contrary to fact. This suggests that we need to revisit these analyses to account for Turkish ASO facts, which is the subject of section 3. However, before moving on to our analysis, let us first look at some previous studies on Turkish, dealing with the issue.

2.3 Previous analyses of Turkish ASO

In the literature of Turkish generative studies, there are mainly two proposals pertaining to ASO facts. One of them, Sezer (1991), proposes a principle restricting the binding domain of pronouns and the other one, Özsoy (1992), suggests a structural constraint regarding structural positions of the elements in binding relation. We consider these proposals to be grouped with the approach introduced in section 2.1 although they do not directly refer to parameterization of Principle B.

To begin with, Sezer (1991) considers the issue a domain problem and, along the lines of Disjoint Reference Principle (Lasnik, 1976) and Marked Pronominal Disjoint Reference Principle (Yang, 1983—in Sezer, 1991), proposes to explain binding properties of Turkish pronouns by the Obviation Principle presented in (20).

(20) Obviation Principle (Sezer, 1991, p.187)

(a) The pronoun \( o(n) \) in subject position is disjoint from a c-commanding subject (if there is one) in its obviation{-domain.

(b) The o-domain of \( o(n) \) is the c-domain of the SUBJECT that minimally c-commands the host of \( o(n) \).

(c) where SUBJECT – subject or strong AGR{ELEMENT}.

Yang (1983) argues that SUBJECT is parameterized as to include both the subject and AGR in some languages while it only includes AGR in others. As seen in (20)c, Sezer claims that in Turkish it can either be subject or strong AGR. According to him, AGR is strong if it occurs with tense under INFL, i.e. \( T^3 \), and weak if INFL only includes AGR. Now, let us consider the examples in (21)-(23) to see how the Obviation Principle accounts for them.

(21) a. *Ali, [o-nun, arabı-st]-ni sat-tı
   Ali he GEN car-3POSS-ACC sell-PAST.3SG
   ‘Ali sold his car.’

b. *Ali, [o-nun, kazan-acağ]-i-nı tahmin et-mi-yor-du
   Ali he GEN win-VN-3POSS-ACC guess AUX-NEG-PROG-PAST.3SG
   ‘Ali did not guess that he won.’
   (Sezer, 1991, p.185)

In (21)a-b, the o-domain of the pronoun is the whole sentence because the matrix subject Ali is the only subject which minimally c-commands the host of the pronoun, i.e. the possessive NP and the whole embedded sentence in (a) and (b) sentences respectively. Thus, in both sentences SUBJECT is ‘subject’. This is also the case for (22)a-b, where the NP which minimally includes the host of the pronoun, i.e. the embedded sentences in both examples, has weak AGR, so it does not have a SUBJECT as defined in (20):

(22) a. *Başbakan, [[o-nun, istifa et-me-si-nin] sebeb-i-nı] açıklık-di
   prime minister he GEN resigning AUX-VN-3SG-GEN reason-3SG-ACC explain-PAST.3SG
   ‘The prime minister explained the reason for his resignation.’

   Ali he GEN spy be-VN-3POSS claim-PL-3POSS-ACC deny-PROG.3SG
   ‘Ali denies the claims that he is a spy.’
   (Sezer, 1991, pp.181, 182)

On the other hand, the o-domain of the pronoun in both examples in (23) is the embedded sentence since the embedded INFL has strong AGR due to having both AGR and tense (Sezer argues that the participial suffixes –DIK and –ACAK indicate non-future and future tenses, respectively). Thus, in both sentences strong AGR in INFL is the SUBJECT that minimally c-commands the host of the pronoun:

   Ali he GEN car-3POSS-GEN accident do-VN-3POSS-ACC yet learn-NEG-PAST.3SG
   ‘Ali has not heard yet that his car made an accident.’

   Ali he GEN write-VN-3POSS article-PL-GEN when publish-PASS-VN-3POSS-ACC ask-PROG.3SG
   ‘Ali asks when the articles that he wrote will be published.’
   (Sezer, 1991, p.181)
According to the second analysis, Özsoy (1992), the binding constraint under consideration here can be explained in relation to syntactic positions of antecedents and pronouns. As shown in (24), this analysis proposes that there would be no coreferential relation between an antecedent and a pronoun if they both occupy Spec positions:

(24) *[Spec,...] ... [Spec,...] (Özsoy, 1992, p.84)

Let us see how this constraint accounts for the ASO facts in the sentences in (25), taken from Özsoy (1992):

(25) a. Hande, [o-nun/ı defter-i-ne] resim çiz-di
   Hande she-GEN notebook-3POSS-DAT picture draw-PAST.3SG
   ‘Hande, draw a picture to her notebook.’

   Alev Aysê-GEN she-ACC pinch-VN-3POSS-ACC tell-PAST.3SG
   ‘Alev, said that Aysê pinched her/ı notebook.’

   Aysê Alev-DAT she-GEN tomorrow Ankara-DAT go-VN-3POSS-ACC tell-PAST.3SG
   ‘Aysê, told Alev that she/ı will go to Ankara tomorrow.’

   Alev Aysê-GEN Mehmet-DAT (s)he-GEN today school-DAT come-NEG-VN-3POSS-ACC
do-yu-du
   tell-VN-3POSS-ACC hear-PAST.3SG
   ‘Alev, heard that Aysê told Mehmet that today she/ı will not come to school.’

In (25)a, the pronoun is in the Spec position of a NP and its antecedent NP Hande occupies the Spec position of INFL; so, according to (24), they cannot be coreferential. In contrast, as the pronoun in (25)b is not in a Spec position, it can be bound by the matrix subject. In both (25)c and d, the pronoun occupies the Spec position of an embedded INFL and in both sentences it cannot be bound by the next higher subject, which is also in a Spec position. On the other hand, as seen in (25)d it can be bound by the matrix subject because there is another subject intervening between them, which suggests that the position of the intervening subject is in the binding domain of the pronoun whereas that of the matrix subject is not.

To summarize this section, we saw that the first approach which relies on parameterized binding domains has a serious conceptual drawback in terms of accounting for crosslinguistic ASO facts as to why there should be a difference between subjects and objects that enter into a binding relation with a pronoun. Turkish studies can be grouped with this approach seem not to be exempt from this criticism. Both proposals discussed in this subsection are, we believe, significant attempts to make a somewhat more structural explanation to Turkish ASO facts but still they fail to cover the data as a whole. Sezer’s (1991) Obviation Principle focuses solely on the binding restrictions on pronouns in subject position which cannot be bound by a c-commanding subject, leaving binding relations that they can successfully enter with object antecedents completely aside. Thus, the Obviation Principle and the like are not the right choice if we want to deal with the whole issue. In contrast, Özsoy’s (1992) structural constraint seems in principle to be capable to cover these cases as well except that she hardly discusses this possibility since her focus is also mainly on the subject-to-subject binding restrictions. On the other hand, Sezer’s (1991) examples seen in (23) indicate that Spec-to-Spec binding that Özsoy (1992) prohibits for Turkish pronouns is in fact possible if strong AGR, to use Sezer’s terminology, dominates the host of the pronoun. This indicates that the relevant constraint for Turkish ASO would be something which is more than Spec-to-Spec restriction.

In contrast to the approach that relies on parameterized binding domains, we believe that the LF-movement approach is more promising to account for crosslinguistic ASO facts. In the next section, we will propose an analysis to account for Turkish ASO data in accordance with the gist of this approach.

3. Proposal

3.1 The feature-movement analysis

In the previous section, we saw that the LF-movement approach derives ASO facts from LF-movement of pronouns to a functional head such as T\. Although what motivates a pronoun to raise to a functional head was not discussed in detail in earlier studies such as Hestvik (1992) and Avrutin (1994), this question has become more important in recent generative studies where it is commonly assumed that movement must be feature-driven. For example, as noted above, Asarina (2005) suggests that the difference between ASO and
non-ASO languages depends on whether pronouns/anaphors have [+F] or [−F] features. She argues that at LF, pronouns/anaphors with a [+F] feature must occur in a functional head, while those with a [−F] feature should stay in specifiers of their governors. According to Asarina, this explains the different binding behaviors of pronouns in both types of language. In ASO languages such as Russian and Norwegian, pronouns have a [+F] feature which requires them to occur in T0 in LF allowing them to be within the same CFC as the subject, hence the ASO effect. On the other hand, in English type languages, pronouns have [−F] features so they never be within the same CFC as the subject, accounting for the lack of ASO effects.

As discussed in the previous section, this kind of feature-driven analysis is more promising to account for the ASO/non-ASO difference in universal grammar. So, we believe that an analysis such as proposed by Asarina (2005) forms a good theoretical basis that can be followed to deal with the issue in Turkish. However, we differ from LF-movement analyses of this kind in two respects. First, in line with some recent studies which suggest that binding conditions may be reduced to narrow syntactic operations (Epstein et al., 1998; Hicks, 2009; Hornstein, 2000, 2006; Kayne, 2002; Zwart, 2002; Zwart, 2006), we assume that the movement of relevant features of pronouns to functional heads such as INFL/T0 (cf. (9)) takes place in narrow syntax, not in LF. Second, we also assume that it is categorial features of pronouns/anaphors, not an abstract [+F] feature, which undergoes movement, in narrow syntax, to a functional head in order to adjoin to it.

In regard to categorial features of pronouns and anaphors, we follow Zwart (2002) who argues that the inventory of NP types is as seen in (26) rather than Chomsky’s (1981) standard classification of NPs that relies on the distinction between [± ANAPHR] and [± PRONOMINAL].

(26) Inventory of NP types (Zwart, 2002)

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+ REFERENTIAL
  PRO

± VARIABLE
  ±
  +

R-expressions
PRONOUN

pronouns anaphors
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According to (26), pronouns and anaphors are included in the super-category PRONOUN, which is [+REFERENTIAL, +VARIABLE]. For ease of reference, we consider the super-category PRONOUN a feature, i.e. [+PRONOUN], that pronouns and anaphors have in common. So, we assume that it is this super-categorial feature of pronouns/anaphors which undergoes movement to a functional head. We suggest that the functional head that this feature needs to adjoin is a non-defective verbal head and that it cyclically moves passing all functional heads in its way until it reaches to the head that it targets. Once it adjoins to such a head it stops there.

Now, let us discuss how we account for Turkish ASO facts. Recall that, as seen in (27), a pronoun involved within a DP cannot be coreferential with a local subject although it can be bound by an object. To account for this ASO effect, we suggest that the [+PRONOUN] feature of the pronoun onun ‘his/her’ in (27) first undergoes adunction to the closest functional head D0 in narrow syntax, which is followed by its subsequent movement to the next higher functional head, namely v0. This cyclic movement operation is illustrated in (28).

(27) Psikiyatı̈r1 hasta-si-na3 [ o-nun=ı̈j durum-u-nu] anlat-ı̈
pyschiatrist patient-3POSS-DAT he-GEN mood-3POSS-ACC tell-PAST.3SG

‘The psychiatrist, told his patient about his mood.’
Note that, in (28) each copy of the [+PRONOUN] feature belongs to a different CFC, which is assumed to function as a binding domain in the literature as we summarized in the previous section. According to (28), then, at the point when DP₂ 'hastasına ‘to his patient’ is merged with the structure, CFC₁ has already been created and as this domain does not include DP₂, the pronoun is allowed to be coreferential with it, respecting Principle B. However, D₀ is a nominal head so the categorial feature cannot stop there. When v₀ merges with the structure, the movement of [+PRONOUN] is triggered once again and it adjoins to v₀ and as v₀ is a non-defective verbal head, the movement of the feature stops in this point. This results in a structure where [+PRONOUN] is included within the same CFC, i.e. CFC₂, as the subject DP psikiyatr ‘psychiatrist’, i.e. DP₁.

Consequently, in accordance with Principle B, the pronoun and the subject DP cannot be allowed to be coreferential, hence the ASO effect. Thus, the derivation process illustrated in (28) explains why the subject, DP₁, cannot be coreferential with the pronoun while the indirect object, DP₂, can. Note that, further movement of the subject DP to Spec,TP will not change its binding relation with the pronoun because the [+PRONOUN] feature adjoined to v₀ will move to T₀ as well along with the movement of the verb.

3.2. Binding within the embedded clause

Let us consider now how the binding relations between a pronoun and other DPs are established in sentences such as (19), repeated in (29), where the pronoun is in the subject position of an embedded clause.


‘The psychiatrist, told his patient that he\_v03 is daydreaming.’

As depicted in (30), the embedded subject pronoun in (29) is base-generated in Spec,VP so its categorial feature cannot adjoin to v₀, which is below the pronoun. It then needs to adjoin to the next higher functional head, which is T₀. However, note that T₀ has no φ-features in this derivational point so the categorial feature of the pronoun waits until T₀ gets its φ-features from a higher functional head by feature-inheritance (Chomsky, 2008). Normally, T₀ inherits φ-features of C₀ but in this case C₀ has none, as evidenced by nominal agreement on the subject, i.e. the genitive Case (Ulutaş, 2009). In line with Ulutaş (2009), who follows an earlier version of Richards (2011), we assume that in Turkish nominalized clauses C₀ is defective and that T₀ inherits φ-features of a functional category above C₀ that has a nominal nature, i.e. n₀.5 Once T₀ inherits n₀’s φ-features, the subject moves to Spec,TP to check its genitive Case while the [+PRONOUN] feature undergoes adjunction to T₀. In this point CFC₁ is created and as the matrix object, DP₂, is out of this domain the pronoun is allowed to be coreferential with it when DP₂ is merged with the structure.

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4 Chomsky (2008) argues that all uninterpretable features belong to phase heads. The φ-feature of the phase head C₀ is transferred to T₀ via a mechanism of feature-inheritance.

5 In order to explain their nominal character, Kennelly (1996) analyzes Turkish nominalized clauses as DPs over TPs, while Kornfilt (2006) proposes the existence of an nP-shell that turns a categorically hybrid CP into a genuine DP/NP. All these claims imply that the CPs –if any– in nominalized clauses differ from the CPs in main clauses.
Recall that [+PRONOUN] seeks a (non-defective) verbal head but the embedded T\(^0\) has a nominal character in (30) since it inherits \(n^{0}\)’s φ-features. Thus, the categorial feature on T\(^0\) cannot continue to reside there. Consequently, upon merger of matrix v\(^0\), [+PRONOUN] undergoes adjunction to it by syntactic movement. This is where the categorial feature stops moving because it finally finds a functional head which is non-defective and verbal. Here, it is within the same CFC as the matrix subject; hence, they are not allowed to be coreferential.

(30)

Note that although the derivations seen in (28) and (30) belong to very different structures, their similarity is quite striking in that in both the lower CFC defines a nominal domain and the higher one, namely the one where movement of [+PRONOUN] stops, has a verbal nature. Thus, this analysis has the advantage of accounting for the resulting ASO effects in a parallel fashion in both matrix and embedded contexts. Now let us see how this analysis fares with embedded finite clauses such as seen in (31). The analysis predicts that, in contrast to nominal clauses, the movement of the categorial feature must stop in a functional head in the embedded clause so that the pronoun in the embedded subject position can be coreferential with the matrix subject.

(31) Başbakan, san-iyor ki [o, hep iktidar-da kal-acak]
    primer minister think-PROG.3SG that he always power-LOC remain-FUT.3SG
    ‘The prime minister, thinks that he, will always remain in power.’

This prediction is borne out. As seen in the derivation in (32), in this case embedded C\(^0\) is non-defective, i.e. φ-complete, so T\(^0\) inherits φ-features of C\(^0\). Thus, in contrast to (30), in this derivation T\(^0\) has a verbal character. Consequently, it functions as the head for [+PRONOUN] to reside for the rest of the derivation because it is both non-defective and verbal. This explains the lack of ASO effects in (31) in compliance with CFC defined in (10).
There are two other constructions we need to discuss in relation to embedded nominal clause. One is seen in (33), where the pronoun occupies the subject position of the most deeply embedded nominal clause. In exactly the same way as seen before in (30), the [+PRONOUN] feature of the subject pronoun of CP₁ adjoins to T₀ after the latter inherits φ-features of n₁. Because T₀ has now a nominal nature as we discussed above, [+PRONOUN] undergoes further movement to v₀ of CP₂. As v₀ is both non-defective and verbal, the categorial feature resides there for the rest of the derivation and thus cannot be coreferential with the subject of CP₂, Ahmet, although it is allowed to be bound by the matrix subject Ayşe which is out of the CFC in which [+PRONOUN] occurs. Note that Sezer’s (1991) Obviation Principle wrongly predicts that the pronoun in this example cannot be coreferential with the subject of either CP₂ or CP₁ since both DPs are out of the obviation domain of the pronoun, which would be defined here by strong AGR, in Sezer’s terms. Thus, although both of the embedded clauses have the same type of agreement, i.e. nominal, our analysis correctly predicts that the embedded subject pronoun has different binding relations with subject DPs of CP₂ and CP₁.

(33) [CP₁ Ayşe, [CP₂ Ahmet-in, [CP₁ o-nun, o ne yap-tiğ-i-ni] bil-me-diğ-i-ni] zanned-iyor] 
   Ayşe Ahmet-GEN he-GEN what do-VN-3POSS-ACC know-NEG-VN-3POSS-ACC think-PROG.3SG
   ‘Ayşe, thinks that Ahmet, doesn’t know what she/he did.’

On the other hand, as for the pronouns in the object position of an embedded clause, (34) shows that these constructions do not exhibit ASO effects. As seen in this sentence, a pronoun in an embedded object position is free to be bound by either the subject or the object of the matrix sentence, contrary to the case seen in (29).

(34) Doktor, hemşire-ye, [hasta-st-nmak, o-nu, o sev-me-diğ-i-ni] söyle-di
   Doctor nurse-ACC patient-POSS-GEN he-ACC like-NEG-VN-3POSS-ACC say-PAST.3SG
   ‘The doctor, told the nurse, that his patient, do not like he’

(35) DP hastasının
    VP onu sevmediğini

As seen in the derivation of (34), shown in (35), the pronoun is base-generated inside the VP so when the embedded v₀ is merged with the structure, the categorial feature of the pronoun undergoes adjunction to v₀. As is the case in (33), the categorial feature resides here for the rest of the derivation since being a non-defective verbal head, v₀ satisfies all of its requirements. Thus, the relevant CFC for the pronoun is the
embedded vP, accounting for the fact that either one of the DPs in the matrix sentence can be an antecedent for it, though the embedded subject cannot.

4. Conclusion

In this study we scrutinized binding properties of pronouns in Turkish with respect to ASO effects they exhibit in both matrix and embedded contexts. Previous studies on Turkish ASO mainly focus on cases where a third person pronoun in the embedded subject position cannot be coreferential with the matrix subject, leaving the fact that they can be bound by non-subject antecedents almost completely aside. Showing that previous proposals cannot account for the facts of Turkish ASO, we proposed a feature-movement analysis based on LF-movement analyses such as Hestvik (1992), Avrutin (1994), and Asarina (2005). However, unlike these analyses, we propose to drive ASO effects from syntactic movement of the categorial feature [+PRONOUN] (Zwart, 2002) that pronouns as well as anaphors have in common. We suggest that [+PRONOUN] needs to adjoin to a functional head in syntax, which must be both non-defective and verbal. In order to adjoin to such a head, [+PRONOUN] undergoes cyclic movement until it finds its target. Based on this feature-movement procedure, our system derives the ASO effects of pronouns as follows. When the [+PRONOUN] feature of a pronoun adjoins to a functional head, it also joins its CFC (Chomsky, 1986) which functions as the binding domain for the pronoun. Thus, in compliance with Principle B, the pronoun will be interpreted as disjoint from any DP also included within this domain, while any DP out of this domain can be coreferential with it. As [+PRONOUN] adjoins to more than one functional head in its way to the head it targets, it is included within more than one CFC, accounting for its different binding relations with each DP in the structure.

For example, the [+PRONOUN] feature of a pronoun inside an embedded object DP undergoes cyclic movement to D$^0$ and embedded v$^0$ joining their CFCs. Consequently, it can be bound by any clausemate non-subject DP that c-commands it as the non-subject DP is out of D$^0$’s CFC, but cannot be bound by the embedded subject DP because being base-generated in Spec,vP the subject DP is included in the CFC of v$^0$ which also includes [+PRONOUN] that already adjoined to it. As v$^0$ is a non-defective verbal head, it satisfies all requirements of [+PRONOUN] so it remains in this position for the rest of the derivation no matter if the embedded sentence is a nominal or finite clause. On the other hand, binding properties of a pronoun in the embedded subject position depends on the nature of the embedded clause. If it is a nominal clause, i.e. one with a genitive subject, its T$^0$ cannot satisfy the ‘verbal’ requirement of the [+PRONOUN] feature of the subject pronoun so it undergoes further movement to matrix v$^0$, where all of its requirements are satisfied. As a result, the matrix subject cannot be coreferential with the pronoun, but the matrix object can. However, if it is a finite clause, being both non-defective and verbal, the embedded T$^0$ satisfies all requirements of [+PRONOUN] so it does not undergo further movement. Hence, because [+PRONOUN] remains in the CFC of the embedded T$^0$, it can have a coreferential reading with the matrix subject.

References
