Multiple Subject Positions: A Case of Perfect Match between Syntax and Prosody

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1. Introduction

The question of where in the sentence nominative arguments can appear has been well studied within the fields of syntax (e.g. Heycock 1993; Tateishi 1994; Ura 1996 for Japanese) and semantics (e.g. Diesing 1992; Kratzer 1996 for English and German). Most of the debate has centered around the issue of whether a nominative phrase has to be licensed in SpecTP (e.g. Chomsky 1991) or if it may remain in its base position (i.e. internal to vP/VP, Agree model in Chomsky 2000). In particular, it has been suggested, for several languages such as German, Greek, Japanese and Turkish, that, in these languages, certain subjects might be vP/VP-internal, never raising to SpecTP (see e.g. Haider 2005 and Wurmbrand 2006 for German; Alexiadou & Anagnostopoulou 2001 for Greek; Tateishi 1994 for Japanese; Kornfilt 1984 and Öztürk 2004, 2005 for Turkish).

In this paper, we provide, for the first time, prosodic evidence in support of this position: We show, focusing on Turkish, that, in this language, two phonological phrases (PPhs) are created in a simple sentence containing a definite subject and an unaccusative verb, one PPh for the subject and one for the verb (suggesting that definite arguments are in a different syntactic projection than the verb), whereas only one PPh is created in the case of an indefinite subject preceding such a verb (suggesting that indefinite arguments stay within the same projection as the verb, i.e. vP/VP-internal). The latter option is not available when the verb is unergative, while the former is not available for existential constructions (more on this below), providing independent evidence for the way we assume syntax-prosody interface works in Turkish.

The paper is organized in the following way: in Section 2, we make a general introduction to the question of syntactic subject positions, and follow this with a discussion of certain word order effects from Turkish that have implications for determining the syntactic subject positions in this language. In Section 3, we first make a brief introduction to Prosodic Phonology, the theoretical framework we will be adopting here. Then, we follow this with an introduction to Turkish prosody and present a complete picture of how prosodic phrasing works in this language. In particular, we describe, for the first time, the intonational phrase (I) in Turkish, and its interaction with the Phonological Phrase (PPh). Later, in Section 4, we present the current proposal by showing how prosody gives us insight into the issue of syntactic subject positions. We provide independent evidence for this proposal, in Section 5, based on constructions like unergatives and existentials. Finally, we conclude the paper in Section 6.

2. Syntactic Subject Positions and the Case of Turkish

2.1. Where does a Subject Appear in Syntax?

There are, in general, two different views in the literature with respect to where a subject (i.e. a nominative phrase) is licensed in syntax. On one view, subjects are licensed in SpecTP (i.e. SpecTP must be filled) (e.g. Chomsky 1981), in which case movement is involved because of the EPP requirement on T (Chomsky 1991, 1995). On another (more recent) view, nominative subjects can stay...
in situ, and Case-licensing can thus be met via Agree, in which case no movement is involved (Chomsky 2000). The two options are illustrated in (1) below:

(1) Possible subject positions:
   (i) SpecTP
   (ii) SpecVP or lower

2.2. The Case of Turkish: Argument Positions and Definiteness

In Turkish, depending on definiteness/specificity,1 arguments occupy different linear positions in the sentence. This is easier to see with objects since definite objects in Turkish are overtly marked whereas indefinite objects are not. No such distinction is made in the case of subjects (except for subjects of embedded clauses, see Kornfilt 1984); therefore, we first start with objects, and will then move on to the case of subjects though the latter is the actual focus of this paper.

In Turkish, morphologically marked objects are definite/specific whereas their morphologically unmarked (or bare) counterparts are indefinite/non-specific. This can be seen in (2): non-specific/indefinite nominals don’t move from their base-positions whereas specific nominals can be scrambled (e.g. Dede 1986; Enç 1991; Kornfilt 1997).

(2) a. Mehmet (dün/çatal-la) suşi-y-i (dün/çatal-la) ye-di
   Mehmet (yesterday/fork-with) sushi-Acc (yesterday/fork-with) eat-PAST
   “Mehmet ate the sushi yesterday/with a fork.”

b. Mehmet (dün/çatal-la) suşi (*dün/*çatal-la) ye-di
   Mehmet (yesterday/fork-with) sushi (*yesterday/*fork-with) eat-PAST
   “Mehmet ate sushi yesterday/with a fork.”

In sum, non-specific objects (i.e. bare nominals) occur in their pre-verbal position whereas specific objects do not have to (see also Kornfilt 1984, 2003).

As for subjects, in matrix clauses, they are morphologically unmarked in Turkish (see e.g. Kornfilt 1984, 1997; Göksel & Kerslake 2005). Nevertheless, we can still see a contrast, in word order, between indefinite/non-specific and definite/specific nominals similar to the one between (2a) and (2b) above. Examine (3):

(3) a. Dün adam gel-di
   yesterday man come-PAST
   “Yesterday, a man/the man arrived.”

b. Adam dün gel-di
   man yesterday come-PAST
   “Yesterday, the man/*a man arrived.”

Whereas adam “man” in (3a) could have a definite or an indefinite interpretation, it could only be interpreted as definite in (3b). It follows, then, that an indefinite subject must occur in the immediately pre-verbal position whereas a definite subject does not have to. Facts like these have been taken to suggest that indefinite subjects of unaccusative verbs stay in situ, never raising to SpecTP whereas definite nominals can move to the canonical (sentence-initial) subject position (see also Kornfilt 1984, 1997; Öztürk 2004, 2005).

In this paper, we provide independent prosodic evidence in support of the position that indefinite arguments are, and remain, vP/VP-internal, never raising to SpecTP. We further show, however, that definite nominals must raise to SpecTP,2 irrespective of whether they have the order (3a) or (3b).

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1 We use the terms ‘definiteness’ and ‘specificity’ interchangeably, for this doesn’t have an effect on our proposal. The overt object marker –i in Turkish is, in fact, a specificity marker (see Enç 1991), but as Enç also points out, every definite noun in Turkish (and arguably in all languages) is, at the same time, indefinite, though the converse is not necessarily true. Thus, whenever we talk about a definite argument, this could also be considered as a specific argument.

2 We do not take a position as to why this movement occurs: It could, for example, be due to EPP reasons. The exact nature of the movement is not relevant for the purposes of our account; in fact, our account would work even if definite arguments were to be base-generated in SpecTP.
other words, we argue that there are multiple subject positions in Turkish, one for indefinite (possibly SpecVP) and another for definite subjects (possibly SpecTP).

We adopt the view that a clause takes only one specifier and one complement (cf. Fukui & Speas 1986; Kayne 1994); on such a view, the word order contrast observed in (3a) vs. (3b) is not surprising: In (3b), since SpecVP is already occupied by the adverbial, and given that multiple specifier positions are not possible, the only other subject position left for the nominative to occupy is SpecTP. And this is a position for definite subjects; therefore, the indefinite interpretation does not obtain. In (3a), on the other hand, SpecVP is available for the subject adam to occupy, for the adverbial dün can, with this order, occur, for example, in SpecTP, giving us the indefinite interpretation of the subject. Furthermore, since, for adverbials like dün, there are more positions available than just the SpecVP or SpecTP, it is also possible for the subject to occupy SpecTP, even when the adverbial appears in sentence-initial position, thereby giving us the definite interpretation of (3a).

In sum, our proposal is that there are multiple subject positions in Turkish; indefinite subjects stay in SpecVP, whereas definite subjects must raise to SpecTP. In addition to the word order facts outlined in this section, we provide independent prosodic evidence for this approach in the following sections.

3. Prosodic Phonology and Turkish Prosody

Before moving on to a prosodic account of the facts outlined above, we make an initial attempt in this section at showing how prosodic phrasing and the syntax-prosody interface work in Turkish. We start with some background on Prosodic Phonology (see e.g. Selkirk 1984, 1986; Nespor & Vogel 1986), the phonological framework we adopt in this paper.

3.1. Prosodic Phonology

Prosodic constituents are typically assumed to be organized into a hierarchy as in (4) below:

(4) Intonational Phrase (I)
     Phonological Phrase (PPh)
     Prosodic Word (PWd)
     Foot (Ft)
     Syllable (σ)

Sounds are organized into syllables, syllables into feet, feet into prosodic words (PWds), PWds into phonological phrases (PPhs), and PPhs into intonational phrases (Is). Each constituent has a head, either the rightmost constituent it dominates, or the leftmost. For example, the head of a PPh is either the rightmost or the leftmost PWd depending on the language. Languages tend to respect the “strict layering” of these constituents (Selkirk 1984, 1986), though this is violated under certain well-defined circumstances (e.g. the organization of certain functional material, see e.g. Selkirk 1995).

In this paper, we focus on higher-level prosodic constituents, i.e. the PWd, PPh and I, which are underrepresented in previous research on Turkish prosody, especially the I, as we will show in the next section.

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3 As with Kayne (1994), we do not make a distinction between specifiers and adjuncts. We further assume that subjects of certain unaccusatives are base-generated in SpecVP in Turkish, not in the complement position (see Nagai 2010 for more on this).

4 This is not, of course, possible for every adverbial; it wouldn’t, for example, hold true for low adverbials.
3.2. Turkish Prosody

In Turkish, phrase level stress/prominence is assigned to the leftmost prosodic word (PWd) level (i.e. PPh head = leftmost PWd) (indicated with boldface in (5)).

(5) a. [ό adám]PPh
    that man
    “that man”

    b. [ό]PPh6
    that
    “that”

    c. [adám]PPh
    man
    “man”

If this is the only utterance in context, then, I-level stress/prominence will also naturally fall on the head of this PPh, which is underlined below (as well as bolded since this is also the head of a PPh):

(6) a. [[ό] adám]PPh]I
    that man
    “that man”

    b. [[ό]PPh]I
    that
    “that”

    c. [[adám]PPh]I
    man
    “man”

The crucial case though is when there is more than one PPh in an utterance. Which PPh would then be the head of the I-phrase? This question has, so far, been left unanswered in the literature. In fact, the domain of the Turkish I-phrase has never been defined before, with researchers sometimes treating even full sentences as a PPh (see e.g. Kabak & Vogel 2001), which is unable to capture certain data (see below; see also Inkelas & Orgun 2003). Now, given that the PPh in Turkish corresponds roughly to a syntactic phrase, as with most languages, the domain of the Turkish I-phrase can be determined by looking at constructions that have more than one syntactic phrase. Examine, for example, (7), where there are two syntactic projections (i.e. maximal projections except for TP): In this construction, there are two PPhs which both bear their own PPh-level stress, creating two stressed elements in a sentence like (7a), where it is not the leftmost, but rather the rightmost element that is most prominent in the sentence. That is, the rightmost PPh is chosen for main I-level stress. The head of an I in Turkish is, thus, the rightmost PPh (i.e. I-head = rightmost PPh):

Prosodic representation:                                Syntactic representation:
(7) a. [[ό PPh] [adám]PPh]I                              b. [TP [DP O] T \T \T [DP/NP adam]]
    “That is a man.”                                     “That is a man.”

Note that (5a) and (7a), which differ in prosody, look alike on the surface, except that (7) probably ends in a null copula (Kornfilt 1997).

In sum, higher level prosodic phrasing in Turkish could be summarized in two points as in (8), the first following from the previous literature (i.e. Kabak & Vogel 2001), the second proposed here:

(8) a. The head of a PPh in Turkish is the leftmost PWd (indicated in boldface in this paper).
    b. The head of an I-phrase in Turkish is the rightmost PPh (underlined in this paper).

Given (8), certain facts of Turkish prosody and syntax are no more a mystery. The reason why in some constructions stress falls on the leftmost word (e.g. (5a)) and sometimes the rightmost (e.g. (7b)) follows directly from (8) and its interaction with syntax.

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5 PWd-level stress is indicated with an acute accent in this paper, and falls almost always on the final syllable of PWds. There are exceptions however; see Inkelas & Orgun 1998, Kabak & Vogel 2001, Özçelik 2009, van der Hulst & van de Weijer 1991 for different accounts of regular and exceptional word-level stress in Turkish.

6 A single (C)V syllable can be proosified in Turkish. So Turkish does not seem to have a Minimal Word requirement. This is likely because most words in Turkish, including content words, do not have foot structure (see Özçelik 2009 for more on this and for the argument that a PWd directly dominates a σ in Turkish).

In this section, we present prosodic evidence in support of our proposal that indefinite subjects in Turkish must stay in situ whereas definite subjects have to raise up to SpecTP. First, note that bare nouns in Turkish are ambiguous between a definite and an indefinite interpretation (Kornfilt 1997; Göksel & Kerslake 2005). A sentence like Man arrived could, thus, have two different readings:

(9) a. Adam gel-di.                                           b. Adam gel-di.
    man    arrive-PAST                                       man    arrive-PAST
    “The man arrived.”                                       “A man arrived.”

Notice that (9a) and (9b) look exactly the same on the surface. If, however, the observation in (8) is right, and if, as discussed in Section 2, Turkish definite and indefinite subjects occupy different positions in syntax, then the two sentences could be expected to differ in prosody. In fact, this prediction is borne out; examine (10a) vs. (10b):

     man       arrive-PAST                                   man       arrive-PAST
     “The man arrived.”                                       “A man arrived.”

Whereas (10a) has a prosodic structure that is composed of two phonological phrases, (10b) differs in that it only has one phonological phrase. In (10a), both the subject and the predicate are stressed, for both PWds are, at the same time, heads of PPhs. The predicate, in this example, bears slightly more stress than the subject, for this PPh is also the head of the I, since, in Turkish, the rightmost PPh is the head of an I, as stated in (8b) above. In (10b), on the other hand, only the subject is stressed, for there is only one PPh, and the subject is the head of this PPh, since it is the leftmost PWd within the PPh (see (8a)). Moreover, since this is the only PPh within I, it is also the head of that I; after all, it is both the rightmost and the leftmost PPh within that I. Therefore, the subject in this example gets both PPh- and I-level stress. Prosodic trees for these two constructions are provided in (11) below:

(11) a.                              b.                              I
     PPh    PPh
     |       |
     PWd    PWd
     |       |
     adam   geldi
     |       |
     adam   geldi

We argue, based on these facts, that the definite adam ‘man’ in (9a) (or (10a)) is external to the root-VP in syntax (thus creating its own phonological phrasal domain (see (11a))) whereas the indefinite adam ‘man’ in (9b) (or (10b)) remains within the same projection as the verb (and thus sharing the same phonological phrase with it (see (11b)).

This is in line with the word order facts illustrated in (12) (repeated from (3)):

      yesterday man arrive-past                           man yesterday arrive-past
      “Yesterday, a man/the man arrived.”                  “Yesterday, the man/*a man arrived.”

The prosodic structures for (12a) - on both indefinite (see (13a)) and definite (see (13b)) interpretations - are given below:

      yesterday man arrive-PAST                            yesterday man arrive-PAST
      “Yesterday, a man arrived.”                            “Yesterday, the man arrived.”
Both definite and indefinite interpretations are, therefore, possible, though with different stress patterns and thus different prosodic structures. In (13a), *adam* "man" is within the same projection as the verb (i.e. vP/VP), and therefore, the two share the same PPh. In (13b), however, *adam* has moved up to SpecTP, and thus creates its own PPh.

(12b), on the other hand, cannot have an indefinite interpretation since the subject *adam* has to be in SpecTP here, for the SpecVP position is now occupied by the adverbial *dün*. The subject cannot, thus, be within the same projection as the verb, and does not, therefore, share the same PPh with it:

(14) (= (12b)) [ [Adám] PPh [dún gel-di] PPh]I
    "Yesterday, the man/*a man arrived."

Possible syntactic structures for (13a/b) and (14) are provided respectively in (15) and (16) below:

(15) a. [TP Dün [VP adam gel-di]] b. [XP Dün [TP adam [VP gel-di]]]

(16) [TP Adam [VP dünceldi]]

In conclusion, a correlation exists, in Turkish, between the syntactic phrasal domain where a nominative subject appears and the prosodic phonological phrasal domain.

5. Independent Evidence for the Current Account

5.1. Unergative Construction

One type of independent evidence for the current proposal comes from unergative constructions: Bare nouns in these constructions cannot have an indefinite interpretation, as shown in (17) and (18):

    "The man laughed."

b. *[Adám gül dú] PPh]I
    "A man laughed."

(18) a. [ [Adám] PPh [uyu dú] PPh]I
    "The man slept."

b. *[Adám uyu dú] PPh]I
    "A man slept."

Though the examples (17a) and (18a) are both grammatical since the definite nominative *adam* ‘man’ is outside of the root-VP (and thus creating its own separate phonological phrase), (17b) and (18b) are not since the nominative in these examples cannot be an internal argument of the verb (and cannot thus stay within the same phonological domain as the verb), for, under the standard assumption, arguments of unergative verbs have to be external, introduced by a functional head such as v (e.g. Kratzer 1996; Chomsky 1995).

That subjects in unergative constructions cannot have an indefinite reading is not surprising if subjects of unergatives cannot be internal and if, as we argued above, Turkish indefinites have to be vP/VP-internal. What is surprising is that, in accordance with the predictions of our proposal, the prosodic structure with a single PPh (the one associated with the indefinite reading) does not obtain here. This suggests that definite vs. indefinite interpretations of nominals in Turkish is not just the result of a prosodic strategy alone, but one that has a syntactic motivation. In other words, it is not simply the case that having one PPh in a sentence composed of a subject and a predicate will give one an indefinite interpretation of the subject and having two will result in a definite interpretation. If that was the case, there would be no reason for unergatives not to permit the indefinite interpretation (or the prosodic structure with one PPh, compare e.g. with (10b)).

In sum, subjects of an unergative verb must raise to SpecTP, and thus creating a PPh separate from that of the predicate, thereby necessarily resulting in a definite reading. They cannot occur in the vP/VP-internal position, for subjects of unergatives have to be external, and thus, the prosodic
structure with a single PPh (one in which the verb and the subject share the same PPh) is not possible. The fact that unergatives behave differently in this respect from unaccusatives (see e.g. (10)) suggests that the issue clearly lies right at the syntax-prosody interface.

5.2. Existential Construction

In existential constructions, we see the mirror image of what is happening with unergatives: Because of the Definiteness Effect (DE) (Milsark 1977), subjects of existentials cannot have a definite interpretation, and the prosodic representation with two PPhs is ungrammatical, too, for this would imply, for Turkish, that the subject would have to raise to SpecTP, i.e. the position for definite subjects.7 Examine (19):

(19) a. *[[Adám][PPh vár][PPh]]I
    man exist(ent)
    “There is the man.”

b. [[Adám vár][PPh]]I
    man exist(ent)
    “There is a man.”

Creating two PPhs is, therefore, ungrammatical. As with unergatives, notice again that if there was no syntactic motivation for the prosodic structures we have proposed here, there would be no reason why (19a) is ungrammatical, just like there would then be no reason for (17b) (or (18b)) to be ungrammatical. Prosody by itself is not enough to explain the presence of definite vs. indefinite interpretations; the issue lies at the syntax-prosody interface.

This is also supported by word order facts: Whereas the locative-nominative-existential order is grammatical (see (20a)), nominative-locative-existential order is not (see (20b)), for the latter would mean that the nominative has to raise to SpecTP (again assuming that multiple specifiers are prohibited), and thus gain a definite interpretation since the SpecVP position in this example is already occupied by the locative:

(20) a. Ev-de adam var.
    home-at man exist(ent)
    “There is a man at home.”

b. *Adam ev-de var.
    man home-at exist(ent)
    “There is the man at home.”

Compare these facts with the English data in (21): In English, too, subjects of existentials cannot be definite, though there are no accompanying prosodic effects:

(21) a. There is a man at home.

b. *There is the man at home.

On the other hand, the DE is not observed in English under certain circumstances. For example, under the list reading, existentials could have definite subjects (see White et al. 2009 for more on such contexts). An example is provided in (22) below:

(22) √There is the man, his wife and also his son.

In Turkish, too, there are cases when the DE is not observed. One such case is when the nominative is focused. In these contexts, definite nominals can occur in existentials. Nevertheless, we do not see, in these cases, the prosody that is associated with definite nominals. That is, existentials with focused definites do not have the prosodic structure in (19a), but rather have the one in (19b). This could be because the focus position in Turkish is SpecVP, the very position where indefinite subjects occur. This is reasonable especially given that Turkish (narrow) focus position is usually assumed to be the pre-verbal position. Further evidence for this is provided by the ungrammaticality of sentences like (20b): this sentence is ungrammatical even under the focused interpretation of the subject, for the subject in this sentence can not escape the DE by simply being in the focus position since this position (assuming that it is SpecVP) is already occupied by the locative.

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7 Things are different for negative existentials, where the DE is not observed in Turkish (see White, Belikova, Hagstrom, Kupisch, & Özçelik 2009)
5.3. Indefinite ‘bir’ vs. numeral ‘bir’

Though, as illustrated in (9), Turkish does not have a definite article, nor does it require the usage of an indefinite article, it arguably has an optional indefinite article, unstressed bir (see e.g. Göksel & Kerslake 2005; Kornfilt 1997). When bir is used as an indefinite article, a single PPh is created, similar to (9b) above, in simple sentences containing an NP and a predicate. Stressing the verb in such a construction is, again, ungrammatical (unless the subject is topicalized):

\[(23) a. \text{[Bir adám gel-dí] PPh I} \quad \text{b. *[Bir adám]PPh [gel-dí]PPh I}\]

“A man arrived.”

The fact that adam, rather than the indefinite article bir, bears the PPh-level stress in (23a) should not confuse the reader. This is because the indefinite bir is cliticized/adjointed to the PWd in Turkish (see e.g. Goad & White 2004; 2007); that is, it cannot create its own PWd, as with articles in most languages (see Selkirk 1995 for a general review). So it is not the first PWd in a PPh. That is, the rule outlined in (8a) still holds true; the first PWd is stressed in a PPh in Turkish.

This is confirmed by an analysis of the numeral bir, which is distinguished from the indefinite bir on the basis of the fact that it is stressed (see e.g. Erguvanli 1984; Kornfilt 1997; Öztürk 2005).

\[(24) a. \text{[Bír adám gel-dí] PPh I} \quad \text{b. *[Bír adám]PPh [gel-dí]PPh I}\]

“One man arrived.”

When the numeral (stressed) bir is used, it can create its own PWd (see also Goad & White 2004), and can, therefore, be the first PWd in a PPh, and thus head it. Prosodic trees with indefinite and numeral bir are provided below in (25a) and (25b) respectively:

\[(25) a. \quad b. \]

\[
PPh
  \quad PWd
    \quad PWd
    \quad bir
    \quad PWd
    \quad adám
    \quad geldi
\]

Note that this is similar to existentials (see e.g. (19)) in that only one PPh could be created, and is different from unergatives (see e.g. (17)), where two PPhs had to be created. This is not surprising since both nominals with an indefinite article and nominals modified by numerals, like nominatives in existentials, are crosslinguistically indefinite, and thus the prosodic representation that is observed with definite subjects is not allowed, making a construction like (24b) ungrammatical.

6. Conclusion

In this paper, we have presented prosodic evidence showing that nominative subjects in Turkish are not necessarily licensed in SpecTP, but that they sometimes stay in situ. We have demonstrated that this is the case when the subject is indefinite. We have argued, on the other hand, that definite subjects, unlike their indefinite counterparts, must raise to SpecTP. The evidence for this comes from the fact that only one PPh is created in a simple sentence composed of an indefinite subject and a predicate, whereas two PPhs are created when the subject of such a sentence is definite. The former fact, we argued, suggests that both the subject and the predicate are within the same syntactic projection, i.e. vP/VP, while the latter suggests that the subject has moved out of the vP/VP, up to
SpecTP, thereby creating its own PPh.

We have also made an initial attempt at creating a general picture of prosodic phrasing in Turkish, whose status was not previously clear, especially with respect to the intonational phrase (I). We have shown, in this paper, that the head of an I-phrase in Turkish is the rightmost PPh.

In sum, this paper presents a case from Turkish that lies right at the syntax-phonology interface: The syntactic conclusions we made in this paper were possible thanks to a consideration of prosody. Likewise, some of the prosodic facts we presented could be achieved thanks to a consideration of syntax.

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