SCRAMBLING AND INCORPORATION IN TURKISH[*]

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1. Turkish has a syntactic phenomenon which I shall refer to as "Case Drop"; this is to be understood as a purely descriptive term. Case Drop is found with structural Case[1] only (most conspicuously, with Accusative), and under certain semantic/pragmatic conditions whose nature shall not concern us here[2]. It will suffice for our purposes to say that non-specific NPs which are in a syntactic configuration where they are assigned structural Case are not marked with an overt Case morpheme and have to surface to the immediate left of the verb of their clause. Some examples of Case Drop follow:

"Nominative Drop":
(1) a.   Çocuğ-u   <u>arı</u>   sok - tu
              child-Acc. bee sting-Past
              'Bees stung the child'

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[1]By "structural Case" I mean those Cases that are assigned independently from θ-roles and which are assigned after D-Structure; for Turkish, these are Nominative, Accusative, and Genitive. Nominative and Genitive are assigned by verbal versus nominal AGR, respectively; Accusative is assigned by V. In contrast, I assume that oblique Cases enter the level of D-Structure already attached to their NPs and are necessary for successful thematic linking of those NPs to the verbs that select for such Cases. The term "structural Case", the way it is used here, is independent from morphological realization; thus, an NP can bear overt or non-overt structural Case. As it happens, oblique Case is always overt in Turkish. Accusative and Genitive are overt, unless they undergo Case Drop. Nominative is never overt. However, I view the "silent" nature of the Turkish Nominative as a very superficial property and choose to group the Nominative as an overt Case for syntactic purposes. A parallel can be drawn to <u>pro</u> as an empty element which is, however, exempt from the ECP and behaves in many respects as an overt pronominal.

[2]For detailed descriptions of this phenomenon, the reader is referred to Dede, Tura, Erdal and Nilsson as recent sources. Most textbooks of Turkish grammar will mention this phenomenon.

"Genitive Drop":

(2) a.   [Çocuğ-u <u>arı</u> sok - tuğ -un -u]   duy -du -m
             child-Acc. bee sting-Nomin.-3.sg.-Acc. hear-Past-1.sg.
             'I heard that bees stung the child'

"Accusative Drop":

(3) a.   Ahmet bütün gün <u>pasta</u> ye-di
                whole day cake eat-Past
          'Ahmet ate cake all day long'

The corresponding NPs with overt Case are not limited to the pre-verbal position; as subjects, their canonical position will be sentence-initial; as direct objects, while their unmarked position is pre-verbal, they can be scrambled freely:

(1) b.   <u>Arı</u> çocuğ-u   sok - tu
          bee child-Acc.   sting-Past
          'The bee stung the child'

(2) b.   [<u>arı -nın</u> çocuğ-u   sok - tuğ -un -u]   duy -du -m
          bee -<u>Gen</u>. child-Acc. sting-Nomin.-3.sg.-Acc. hear-Past-1.sg.
          'I heard that the bee stung the child'

(3) b.   <u>pasta-yı</u> Ahmet dün   akşam   ye-di
          cake-<u>Acc</u>.   yesterday evening day   eat-Past
         'Ahmet ate the cake yesterday evening'

In this short paper, I shall offer examples showing that word-order rigidity arising from "Case Drop" can lead to word-order flexibility. More specifically, I shall suggest that "Case Drop" is due to noun incorporation into the verb, and that such incorporation of N-heads enables stranded subconstituents of NP to move out of NP, since the trace left by scrambling can be antecedent-governed, while such antecedent-government is impossible without incorporation, due to the nature of the NP as a barrier to government. Incorporation voids the NP of barrierhood, since it renders the head of the NP non-distinct from the complex verb after incorporation.

I now turn to some examples to illustrate the correlation between scrambling and incorporation.

2.   While Turkish is known to be rather word-order free (to such an extent that even non-verb-final orders are possible), phrases like NPs and PPs cannot usually be broken up:[3]

(4) a. Dün   sokak-ta   [çok yaşlı bir adam-a] rasla-dı -m
       yesterday street-Loc. very old   man-Dat. meet-Past-1.sg.
          'Yesterday I met a very old man in the street'
    b.*Dün   sokak-ta   [e_i bir adam-a] rasla-dı-m <u>çok yaşlı</u>$_i$ [4]

Suppose we have a theory of boundedness that rules out the ungrammatical instances of Scrambling, because nothing can adjoin to the NP (since it is an argument) before moving further, as indeed it cannot:

(5) *Dün   sokak-ta   [e_i bir adam-a] <u>çok yaşlı</u>$_i$ rasla-dı-m

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[3]One exception to this generalization is a possessor in a possessive NP:

(i) a. [Ahmed-in   karı -sın -ı]   tanı -mı -yor   -um
                      -Gen. wife-3.sg.-Acc. know-Neg.-Pres.Progr.-1.sg.
         'I don't know Ahmet's wife'
     b.   [e_i karısını] tanımıyorum <u>Ahmed-in</u>$_i$

Note that a possessor and the head in a possessive NP are "linked", since the head is marked for agreement with the possessor; modifiers, quantifiers and *other material in an NP, on the other hand, do not agree with the head in any way.*
Let us say that the reason why possessors appear to be moveable out of their NP is that there is a resumptive <u>pro</u> in their original position, licensed and identified by the agreement marker on the phrasal head. In non-possessive NPs, scrambling of subconstituents is impossible, since a <u>pro</u> would not be licensed, and a non-pronominal empty category would be illicit, due to locality constraints.

[4]Such constructions are sometimes found in poetry, but not in prose.

3.   I now turn to the type of example which is of crucial interest to this paper, namely a construction where incorporation and scrambling interact. In such examples certain phrasal parts can move out, if the head has been incorporated into the V, i.e. if the head lacks the overt structural Case marker that is expected; corresponding examples where the head carries an overt structural or oblique Case marker are ungrammatical:

(6) a.   ?Bir   daha [e$_i$ bir terzi[5] bul-a   -ma-m   sen-in gibi$_i$
          one time   a   taylor find-Abil.-Neg.-1.sg. you-Gen. like
          'I won't ever be able to find a taylor like you again'

    b.   *Bir   daha [e$_i$ bir terzi-yi] bul-a-ma-m   sen-in gibi$_i$[6]
                                                       -Acc.

(7) a.   ?[e$_i$ Bir haydut] gör-dü   -m   dev gibi
                a   robber   see-Past-1.sg. giant like
          'I saw a robber (big) like a giant'

    b.   *[e$_i$ Bir haydut-tan] kaç-tı   -m   dev   gibi
                            -Abl. flee-Past-1.sg.
          'I fled from a robber (big) like a giant'

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[5]It might be objected here that a string like bir terzi is a syntactic N' rather than a bare N. If so, it wouldn't be clear how incorporation could take place. However, I assume that only items like terzi, an N, incorporate, leaving the rest of the phrase behind. The question that now arises is whether we wouldn't be--wrongly--predicting that the string [bir t] can scramble freely. This is not a problem, however, for two reasons: firstly, bir certainly cannot scramble by itself, since only maximal projections seem to be able to scramble. Secondly, even if the string [bir t] were a maximal projection (rather than an X', as I am assuming here), it wouldn't be able to scramble, either, since there is independent evidence that empty-headed maximal projections cannot scramble. (The reason for this restriction might well be due to the ECP, as is suggested in Lamontagne and Travis (1987).)

[6]Note that (6)b. is ungrammatical only under the crucial reading where the scrambled PP originates within the NP object. The example is grammatical under the (for us) irrelevant reading: 'I cannot find a taylor like you did (i.e. in the manner in which you found a taylor).

Needless to say, the non-scrambled versions of all of these examples are grammatical. The generalization seems to be that when the head of the phrase cannot be incorporated because it is overtly marked for Case, the rest of the phrase cannot scramble out.

4.   Time has come to address the question of how incorporation yields the two word order effects just illustrated, namely the fixed pre-verbal position of non-specific NPs without overt structural Case morphemes on the one hand, and the freedom of subconstituents of such NPs to scramble out of the larger phrase on the other. I address these two issues in turn.

I am assuming with Baker (1988) that incorporation is due to head movement. The moved (N-)head then forms a complex word with the verb. The verbal complex governs the whole NP (just as the simple verb did before the movement) canonically, which is to the left in Turkish, since the language is head-final; thus, the verb also governs the head position of the NP. The trace left behind by the moved N-head is thus properly governed, while such a trace in head position of an NP which is in (VP-external) canonical subject position (i.e. in Spec/IP) (or in any other VP-external "scrambled" position) would violate the ECP. The obligatory position of NPs without overt (structural) Case to the immediate left of the V is thus explained.

Note that I am assuming, along with Baker, that incorporation from canonical, IP-initial subject position is not possible. However, in a language like Turkish, subjects can incorporate nevertheless, since they can optionally originate in VP-internal position. I thus assume an account similar to what has been proposed by other syntacticians for Germanic languages like Dutch and German, where a VP-internal subject can receive Case in-situ (cf. den Besten 1984, Reuland 1990 and others) and which I advanced as a possible analysis for Turkish in Kornfilt 1984. AGR, which is the Case assigner to subjects, is part of the verb in these languages and is thus able to govern and, consequently, to Case-mark within the VP. If so, subjects as well as objects can have their head nouns incorporate into the verb under government.

Before turning to the second central issue, namely how incorporation can make scrambling possible, I would like to address the following question:

5. Why should Case Drop be limited to structural Case?

Let us assume that oblique Case enters syntax already pre-attached to its phonological host, so as to enable the NP to receive a θ-role. Structural Case, on the other hand, is assigned in the syntax, and the appropriate θ-roles can be assigned to (as yet) un-cased arguments.

Assume now further that NPs are actually embedded within Case Phrases (KPs), as complements of a K-head. Where such a K-head is phonologically filled with an overt Case marker (as it always has to be for oblique Case and may be so filled for structural Case), the N-head of the NP cannot move further up into the V[7]; even if it could, its trace would not be governed by the V: the overtly headed KP would act as a barrier to government. I am further assuming that functional heads like K and AGR cannot incorporate into the lexical category V. Thus, the NP-complement of a KP or of an AGR-P (cf. Kornfilt 1984, corresponding to DP in Abney 1987) is never stranded as a result.[8]

Where the K-position is empty, the N could move into that position, and further into the V; the traces left behind would both be properly governed.[9] (Note, incidentally, that if the assumptions made here are correct, we would have an
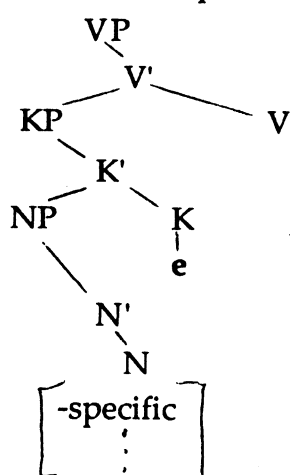
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[7]I am thus assuming that the moving N, which might have undergone movement to a filled K, cannot move onwards to V, taking the K along. This is presumably due to the aforementioned restriction against functional categories incorporating into V. Neither can such an N excorporate from a filled K.

[8]If such categories were to incorporate, two problems would arise: Where an overt functional head incorporates, it would not be obvious how to then raise the N so as to form the overtly cased or overtly agreeing word; where the empty K incorporates, the stranded NP without overt Case would be predicted to be able to scramble freely, and this is obviously impossible, as we saw earlier in this paper.
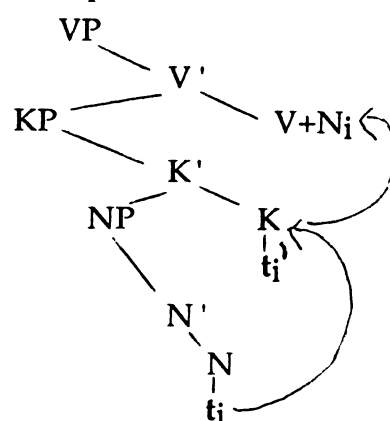
[9]The trace in the K-position would be properly governed by the V, or, actually, by the incorporated antecedent in the verbal complex; the trace in the N-position would be governed by the intermediate trace in K.

additional argument in favor of Baker's claim that incorporation is syntactic.) The following rough diagrams illustrate the structures before and after noun incorporation:

Before incorporation

```
        VP
          \
         _V'_____
       KP        V
         \
          K'
        _/ \
     NP      K
       \     |
        \    e
         N'
          \
           N
        ┌─────────┐
        │ -specific│
        │    :     │
        └─────────┘
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After incorporation

```
        VP
          \
         _ V'
       KP      \
         \      V+N_i
          K'
        _/ \
     NP      K
       \     |
        \    t_i
         N'
          \
           N
           |
           t_i
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While this account covers the facts of Case Drop[10], it is not immediately corroborated by word-order facts, since Turkish is head-final, and it is not obvious that noun incorporation indeed strands the remainder of the NP: The sequential order between the (putatively) stranded material and its head would remain the same after incorporation.

Furthermore, incorporation in Turkish (if this is indeed the nature of Case Drop in Turkish) does not involve any change in grammatical relations for the remainder of the NP--a phenomenon of particular interest for some of the languages studied by Baker.

In spite of these inconclusive points, I would like to claim that, through the interaction of scrambling and incorporation, Turkish does make an interesting

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[10]Actually, I have not addressed the question of why Case Drop is restricted to--and, indeed, obligatory in--non-specific NPs. This is a very wide-ranging topic which cannot be made justice to in this short paper which concentrates on a different point. However, I would like to mention an idea which I have sketched out elsewhere (cf. Kornfilt forthcoming), which posits overt structural Case realization as a PR phenomenon. The phonological feature matrices in K need the presence of the feature [+specific] in N, as an assimilatory requirement of sorts. Where the feature [specific] has a negative value, it will be treated as absent altogether, and the phonological features will not be filled in.

contribution with respect to incorporation. Note that these facts have remained undiscussed in the literature on Turkish syntax so far. Furthermore, they are of a type expected by Baker's theory and yet not often found, or, if found, are "murky" (cf. Baker, p. 103).

6.   I would like to suggest the following account to explain the observed correlation between incorporation and scrambling:

There is a weak Subjacency violation in all of these examples, and this explains why even the better examples are not perfect. If so, it is irrelevant for the (im)possibility of adjunction to NP whether there is a trace (left by incorporation) in the head position of the NP as in the a.-examples of (6) and (7) or whether there is a full N as in the b.-examples; such adjunction is always (weakly) ruled out.

In order to explain why the b.-examples are worse, I will take recourse to the notions of government and Case (as assigned under government).

I shall assume, along with Baker and Chomsky (1986), that a verb can govern its complement and the head of that complement, but not the rest of that complement phrase. In other words, the maximal projection node dominating the complement phrase acts as a barrier between the verb and the non-head part of the phrase. However, when the head of the phrase moves into the verb, a movement chain is established between the trace in head position and the antecedent within the complex verb. According to B., the head of the previous barrier is now <u>not distinct</u> from the complex V, due to this movement chain (since the complex V includes the antecedent of the trace in the head position of the former barrier); therefore, the phrasal projection is not a barrier any longer. The verb will now govern whatever material the incorporated head governed previously (cf. Baker, p. 64, definition 65 of the Government Transparency Corollary: "A lexical category which has an item incorporated into it governs everything which the incorporated item governed in its original structural position.").

Why should government by the verb be important for the trace left by scrambling? Note that this trace is governed by the head of the NP in the ungrammatical examples; hence, no ECP violation should ensue.

However, the scrambling trace needs to be antecedent-governed, since it is not θ-governed (cf. Chomsky (1986), p. 17). Where the NP out of which scrambling has taken place is overtly headed, the NP-projection will act as a barrier to antecedent-government. On the other hand, where incorporation has applied, the NP is not a barrier to government, as just explained. I assume that the scrambled antecedent has adjoined to VP; if so, the VP is not a barrier to antecedent-government, either (since it does not exclude the adjoined antecedent).

What is important here is not that the verb governs the scrambling trace, but rather that antecedent-government of that trace is not blocked--neither by the NP itself, nor by the verb as a closer governor. The latter is due to Minimality: According to Chomsky's (1986) definition of "narrow" Minimality (cf. p. 42, #91) the verb would not be a closer governor than the antecedent, since the VP doesn't immediately dominate the scrambling trace; Rizzi's (1989) notion of Relativized Minimality would have the same effect, since V would be a "Head-Governor" and not an "Antecedent-Governor". What is important, rather, is that the original barrierhood of the NP is voided, due to incorporation of its head (and the "non-distinctness", in Baker's terms, of the head of the NP and the complex V). As a result, antecedent-government of the scrambling trace becomes possible.

Note that the array of the scrambling and incorporation facts we have seen is just as predicted by Baker via his Government Transparency Corollary. However, Baker also states that while possessor stranding examples due to N-incorporation are found, they are more restricted than his theory would predict (p.103), and also that "complement raising" is apparently not found (p.104), while predicted by the theory; both types of "data available in the literature are unfortunately murky and unclear" (p.104). If the treatment of the Turkish stranding facts offered here is on the right track, the data are of the kind predicted and, while coming from an unexpected source, are neither murky nor unclear.

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