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Pseudo-incorporation of agents

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1 Introduction

Baker (1988) has shown that head-incorporation is only possible for complement NPs, since traces of incorporated N heads are subject to ECP, and therefore they must be properly governed as shown in (1a). Traces of external arguments (agentive subjects), on the other hand, cannot be properly governed as in (1b). Therefore, head-incorporation is only allowed for objects in transitives and for subjects in unaccusatives, but it is not possible for subjects in transitives and unergatives:

\begin{align*}
(1) & \quad a. \quad S \\
& \quad NP \quad VP \\
& \quad NP \\
& \quad N_1^0 \quad V_0^0 \\
& \quad t_i \\
& \quad b. \quad S \\
& \quad NP \quad VP \\
& \quad t_i \quad V_0^0 \\
& \quad NP
\end{align*}

Turkish has been frequently cited in the literature as a language that exhibits head incorporation à la Baker (1988) (Mithun, 1984; Knecht, 1986; Nilsson, 1986; Schroeder, 1999; Kornfilt, 2003; Aydemir, 2004; among others). The data in (2a) and (3a) illustrate examples of head-incorporation in transitives and unaccusatives in Turkish, respectively. The examples in (2b) and (3b), on the other hand, are their unincorporated counterparts:

\begin{align*}
(2) & \quad a. \quad \text{Ali kitap okudu.} \quad \text{(theme incorporation—transitive verb)} \\
& \quad \text{Ali book read} \\
& \quad \text{Ali did book reading.} \\
& \quad b. \quad \text{Ali kitab-i okudu.} \\
& \quad \text{Ali book-acc read} \\
& \quad \text{Ali read the book.} \\
(3) & \quad a. \quad \text{Köy-e doctor geldi.} \quad \text{(theme incorporation—unaccusative verb)} \\
& \quad \text{village-dat doctor came} \\
& \quad \text{Doctors came to the village.} \\
& \quad b. \quad \text{Doktor köy-e geldi.} \\
& \quad \text{doctor village-dat came} \\
& \quad \text{The doctor came to the village.}
\end{align*}
However, unlike other head-incorporation languages, Turkish allows agent incorporation. This is a very productive phenomenon. Agents in both transitives as in (4a) and unergatives as in (5a) can freely undergo incorporation. Note that examples (4b) and (5b) illustrate unincorporated counterparts of (4a) and (5a) respectively:

(4) a. Ali-yi ari soktu. (agent incorporation—transitive)
   Ali-acc bee stung
   Ali got bee stung.
b. Ari Ali-yi soktu.
   bee Ali-acc stung
   The bee stung Ali.

(5) a. Agoa-cta kus ottiyor. (agent incorporation—unergative)
   tree-loc bird singing
   There is bird singing in the tree.
   bird tree-loc singing
   The bird is singing in the tree.

The data in (4a) and (5a) posits a strong challenge for a head-incorporation analysis. In the following, we will show that the head-incorporation analysis is not compatible with Turkish data and propose a new account that unifies both cases of theme and agent incorporation by making use of the pseudo-incorporation analysis of Massam (2001).

2 Turkish and Head-incorporation

2.1 Former Accounts of the Data

Based on the data given in Examples (2a) and (3a) above Turkish has been analyzed as a head-incorporation language. A noun head incorporates into a verb head forming a complex \( V^0 \) as in (6) either in the lexicon or in syntax (see among others Mithun, 1984; Knecht, 1986; Nilsson, 1986; Schroeder,

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Note that agent incorporation is also observed in languages like Hungarian (Ex. ia) and Hindi (Ex. ib). For discussion see Öztürk (2004):

(i) a. Janos-t kutya harapdalja
   J-acc dog bite-frequentative-3sg
   Janos is being bitten by a dog  (Aniko Csirmaz, p.c.)
b. Puure raut mujhe muchchaR kaaTua raha
   Whole night 1-dat mosquito kept-biting
   Mosquitoes kept biting me all night  (Dayal, 2003:8)
The main motivation for such an analysis comes from the fact that unlike case-marked arguments as shown in (7a) incorporated NPs cannot be scrambled away from the verb as in (7b):

(7) a. Et-i Bebek-ten aldi-m.
   meat-acc Bebek-abl bought-lps
   The meat, I bought it from Bebek.

b. *Et Bebek-te aldi-m.
   meat Bebek-loc bought-lps
   I bought meat from Bebek.

2.2 Are Immediately Preverbal Bare Nouns Head Categories?

Taylan (1986) presents one piece of evidence for the head status of immediately preverbal bare nouns. Focus particles like bile can intervene between the verb and the bare noun. This implies that the verb and the noun do not form a morphologically complex V°:

(8) AH kitap bile okudu.
   AH book even read.
   AH did even book reading.

There is also further evidence against the head status of the incorporated noun. It is possible to delete the verb under identity stranding the bare noun. This suggests that the verb and the bare noun are independent syntactic constituents:

(9) Ali kitap okudu, dergi değil.
   Ali book read, magazine not
   Ali did book reading, not magazine (reading).

Furthermore, conjunction of the verb with another verb taking a cognate object is possible:
(10) Ali kitap aldı ve sattı.
Ali book bought and sold
Ali did book buying and selling.

Also it is possible to modify the incorporated noun by an adjective as in (11a) and by participles as in (11b):

Ali sour apple ate
Ali did sour apple eating.
Ali speak-participle person looked for
Ali looked for someone to talked to.
c. Ali oku-yacak kitap aldi.
Ali read-participle book bought
Ali bought books to read.

The evidence given in (8–11) strongly suggests that immediately preverbal bare nouns are not head categories, but they are independent syntactic constituents. Therefore, head-incorporation analysis is not compatible with Turkish.

3 Turkish as a pseudo-incorporation language

Masam (2001) shows that the non-referential nominal in the construction given in (12) in Niuean is a phrasal category. This NP and the verb act as a single unit in syntax. Massam calls these constructions Pseudo-Incorporation:

(12) Ne imu [køkəfe kono] a Mele.
past drink coffee bitter abs Mele (Massam, 2001:158)
Mary drank bitter coffee.

As seen in (13a) in Turkish, it is not possible to co-refer to immediately preverbal bare nouns with a pronominal element. That is, they do not set discourse referents. Furthermore, they lack number interpretation, that is, they do not denote singularity or plurality.

Ali book read Color-3ps red-past
Ali did book reading. It was red.
Given that bare nouns are non-referential and number neutral, they should be free from any functional projections such as DPs and NumPs, which are associated with referentiality and number information respectively (Longobardi, 1994; Ritter, 1991; Borer, 2004; among others). Therefore, we consider them as purely predicative NPs.

Establishing the NP status of immediately preverbal bare nouns in Turkish draws a parallel between the Niuean and Turkish constructions. We propose that Turkish bare nouns like the Niuean ones are also pseudo-incorporated NPs and they have the following structure:

\[
\text{NP} \rightarrow V
\]

3.1 Syntactic Status of Pseudo-incorporated NPs

The question we will be investigating in this section is whether pseudo-incorporated NPs are syntactic arguments or not. Before we focus on pseudo-incorporated themes as given in (2a) let us first take a look at how internal arguments bearing the theme role behave syntactically in Turkish. The accusative marked object kitab-ı in (15a) is visible to other syntactic processes that strictly target internal arguments, such as passivization as shown in (15b):

Ali book-acce room-loc read-past
Ali read the book in the room.

b. Kitap oda-da oku-n-du. (personal passive)
book room-loc read-pass-past
The book was read in the room.

However, pseudo-incorporation of themes as given in (2a) does not yield a personal passive like (15b) but an impersonal passive as shown in (16). This implies that pseudo-incorporation of themes are on a par with unergatives, i.e. structures without objects, which also yield impersonal passives as illustrated in (17):

Ali book-acce room-loc read-past
Ali read the book in the room.

b. Kitap oda-da oku-n-du. (personal passive)
book room-loc read-pass-past
The book was read in the room.
(16) Oda-da kitap oku-n-du. (impersonal passive)
    room-loc book read-pass-past
Book-reading was done in the room.
    *The book was read in the room.

(17) a. İnsanlar koştu. (unergative)
    people ran
People ran.
b. Koş-ul-du. (impersonal passive)
    run-pass-past
Running was done.

This suggests that bare themes in pseudo-incorporation constructions do not occur in syntactic object positions. Thus, we conclude that pseudo-incorporated themes are not syntactic arguments and that they should be analyzed instead as part of the predicate, which in turn is interpreted as on a par with unergative constructions.

Pseudo-incorporation of agents as illustrated in (4a), on the other hand, patterns with unaccusatives, i.e. structures without external arguments. They strictly avoid passivization, despite the presence of an overtly marked accusative object:

    Ali sting-pass-past
    Ali was bee stung.

Note that example (4b), which has a definite subject, does allow passivization as seen in (19) below, where the verb has two syntactic arguments, namely the object and the subject.

    Ali (this) bee by sting-pass-past
    Ali was stung by (this) the bee.

This contrast suggests that pseudo-incorporated agents are not subjects. Therefore, (4a) cannot be considered to be transitive, but it patterns with unaccusatives, which also do not allow passivization:

(20) a. Cocuk büyü-du.
    child grow-past
    The child grew up.
b. *büyü-n-dü.
    grow-pass-past
There is further evidence for the non-subject status of agents in pseudo-incorporation cases. As shown in (21b), pseudo-incorporated agents cannot control \( PRO \) unlike the referential subject given in (21a). Furthermore, again unlike referential subjects, pseudo-incorporation of agents is not compatible with adverbs targeting agentive subjects, as evident from the contrast between (22a) and (22b):

\[(21) \quad \text{a. Polisi } \text{Ali-yi [\( \text{PRO}_l \text{sorgula-mak } \text{icin} \)] tutukla-di.} \\
\quad \text{police } \text{Ali-acc } \text{interrogate-to for arrest-past} \\
\quad \text{The police arrested Ali to interrogate him.} \\
\quad \text{b. *Ali-yi [\( \text{PRO}_l \text{sorgula-mak } \text{icin} \)] polisi tutukla-di.} \\
\quad \text{Ali-acc } \text{interrogate-to for police arrest-past} \\
\quad \text{Police-arresting happened to Ali to interrogate him.} \\
\]

\[(22) \quad \text{a. Polis Ali-yi kasttli olarak tutukla-di.} \\
\quad \text{police Ali-acc intentionally arrest-past} \\
\quad \text{The police arrested Ali intentionally.} \\
\quad \text{b. *Ali-yi kasttli olarak polis tutukla-di. (pseudo-incorporation)} \\
\quad \text{Ali-acc intentionally police arrest-past} \\
\quad \text{Police-arresting happened to Ali intentionally.} \\
\]

The examples discussed above suggest that agents in pseudo-incorporation cases do not function as external arguments, that is, they are not syntactic subjects.\(^2\) To summarize, pseudo-incorporated bare nouns in Turkish do not function as syntactic arguments, even though they have full NP status.

### 3.2 Immediately Preverbal Bare Nouns as Complex Predicates

Taylan (1984) discusses the characteristics of non-derived modifiers in Turkish, which are morphologically ambiguous between adjectives and adverbs. In order to be interpreted as adverbs these modifiers have to occur immediately preverbally. If they precede a syntactic object they can only be interpreted as adjectives as shown in (23a). However, in the case of pseudo-incorporation it is possible to interpret them as adverbs preceding pseudo-incorporated NPs:

\[(23) \quad \text{a. Ali } \text{hesli kitab-i } \text{oku-du. (referential objects)} \\
\quad \text{Ali quickly book-acc read-past} \\
\quad \text{Ali read the (#quick) book (*quickly).} \\
\]

\(^2\)Note that Aygen (2002) argues for null expletives in Turkish, however, Öztürk (2001, 2004) argues that verbal agreement can check EPP in Turkish, therefore there is no need for covert expletives à la Alexiadou and Anagnostopoulou (1998).
b. Ali *hızlı* kitap oku-du. (pseudo-incorporated theme)
   Ali quickly book read-past
   Ali read the (#quick) book (quickly).

This provides further evidence for the non-argument status of pseudo-incorporated NPs. This suggests that pseudo-incorporated NPs should be analyzed as part of the verb complex. That is, they have to be analyzed as forming a complex predicate in the form of [NP+V] along with the verb. Semantic accounts of (pseudo) incorporation assume that (pseudo) incorporated nouns are of predicate type (VanGeenhoven, 1998; Farkas and de Swart, 2003; Dayal, 2003; Chung and Ladusaw, 2004). We argue that being both predicative categories the complement NP and the lexical verb form a complex predicate at the V-bar level. Lacking functional categories, this level is a purely predicative level. Thus complex predicate formation is allowed at this point in the derivation in the absence of any functional projections.

### 3.3 Further Evidence for Complex Predicate Formation

#### 3.3.1 Idioms

In addition to pseudo incorporation cases, certain idioms in Turkish also involve immediately preverbal bare nouns, which can be interpreted either as agents or themes as shown in (24a) and (24b) respectively:

(24) a. Ali-yi *kurt* kaptı. (agent)
   Ali-acc wolf snatched
   Ali got hurt.
   b. Ali *surat* astı. (theme)
   Ali face hung
   Ali made a sour face.

As shown by the tests of focus particle insertion in (25a) and verb deletion in (25b), these bare nouns in idioms also behave as NP categories syntactically:

(25) a. Ali bu problem-e *kafa m patlatt?*
   Ali this problem-dat head Q burst
   Did Ali spend mental energy on this problem?
   b. Ali bu problem-e *kafa patlattı, senin gibi *çene değil.*
   Ali this problem-dat head burst, you like jaw not
   Ali spent mental energy on this problem, not just talk a lot about it like you did.
Given that idioms have fixed lexicalized meanings, we argue that idioms with immediately preverbal NPs can also be considered as another instance of complex predicate formation on a par with pseudo-incorporation cases. Thus, a verb and a predicative NP form a predicate complex in the form of [NP+V].

3.3.2 Light Verb Constructions with *et-* “do”

Another construction in Turkish that involves immediately preverbal bare nouns is the light verb construction. Light verb constructions in Turkish are formed with a non-Turkic noun root and the light verb *et-* “do,” similar to the well-known *suru* “do” in Japanese (Saito & Hoji 2000):

(26) Meclis yasa-yi redd etti.
    assembly law-acc reject did
    The assembly rejected the law.

The predicative noun in light verb constructions also have the full NP status syntactically, as shown by the tests of focus particle insertion in (27a) and verb deletion in (27b):

(27) a. Meclis yasa-yi [NPredd] mi etti?
    assembly law-acc reject Q did
    Did the assembly reject the law?

    assembly law-acc reject not, accept did
    The assembly did not reject but accept the law.

These tests clearly show that the light verb *et-* and its complement form a complex predicate, again in the form of [NP+V] in parallel to the pseudo incorporation cases and idioms in Turkish.

3.4 Complex Predicate formation in Syntax

As argued above pseudo incorporation, idiom formation and light verb construction all share the same structure [NP+V]. We propose the structure given in (28) as the main phrase structure of Turkish. In this structure, any NP which is the immediate sister of the lexical verb head will be interpreted as part of the complex predicate. In order to be interpreted as syntactic ar-
arguments, i.e. as subjects or objects, NPs need to occur in the Spec of higher functional projections.3

(28)

\[
\begin{array}{c}
\text{subject} \\
\text{object}
\end{array}
\]

Complex Predicate → VP

4 Theta-role Assignment in Pseudo-incorporation

In the discussion above we have shown that pseudo-incorporated NPs form complex predicates along with the verb. Thus, they do not function as syntactic arguments. However, they are associated with specific theta-roles, even though they do not act as full syntactic arguments. We argue that this is possible since pseudo-incorporated nouns, being syntactically visible NPs, can check off case features on relevant functional heads. This case-checking is evidenced under causativization.

When an unergative as in (29a) is causativized in Turkish, the agent always gets marked for accusative case as illustrated in (29b). However, in the case of a transitive structure with an already accusative marked object as in (30a), causativization leads to the dative marking of the agent, but not accusative, as seen in (30b). This is due to the double-case constraint in Turkish, which does not allow the presence of the same case more than once within the same clause (Aissen, 1974; Taylan, 1984; among others):

Note that we assume a full-blown Neo-Davidsonian model (Lin, 2001; Borer, 2004), where all the arguments of the verb are introduced via separate functional projections. For details see Öztürk (2004).
(29) a. Ali koş-tu. (unergative)
    Ali ran.
       Ayşe Ali-acc run-cause-past.
       Ayşe made Ali ran.

(30) a. Ali balığ-ı tuttu. (transitive)
    Ali fish-acc caught
    Ali caught the fish.
       Ayşe Ali-dat/acc fish-acc catch-cause-past
       Ayşe made Ali catch the fish.

Causativized theme incorporation cases also pattern with transitives and still require the agent to be marked for dative but not accusative, as shown in (31b) under causativization:

(31) a. Ali balık tut-tu. (pseudo incorporation of themes)
    Ali fish catch-past
    Ali went fishing.
       Ayşe Ali-dat/acc fish catch-cause-past
       Ayşe made Ali go fishing.

(32) 

```
TP
   /\   
T'  AgentP T
   /\    /\  kitap okudu,
MERGE  subject  Ag'
    /\                
Cocuk  -nom       Ag'
    /\                        
ThemeP  AG  [+Case]  nom
    /\                      
Theme' t_i        
    /\                         
Complex Predicate  VP  Theme  [+Case]  acc
      /\                        
      V' t_i                
    /\  
[NP + V]
```
This implies that the pseudo-incorporated theme is still associated with the accusative case, though accusative is not morphologically realized. Therefore, it does not allow the introduction of another accusative marked argument into the structure.

In (32) the NP predicative kitap "book" is merged as a sister to the lexical verb head and forms a complex predicate in the form of [NP+V]. At this point the NP is not associated with any theta role. It is simply a predicate. When the verb movement takes place, the [NP+V] complex moves to the Theme head, which bears the case feature. Case on Theme head has to be checked, otherwise it will cause the structure to crash (inverse case filter). We assume that in pseudo-incorporation constructions, there is no referential DP to be merged into the Spec position of ThemeP, which will be realized as the object. The pseudo-incorporated noun with the full NP status is a good candidate to check off the case feature on the Theme head. As case checking is crucial for visibility and theta role interpretation, when the NP in complex predicate checks off the case feature on Theme head, it gets associated with the theme role. This is how the sentence is interpreted as a case of pseudo-incorporation of themes.

Agent incorporation cases also pattern the same way. In this case, there is no DP to be merged to the subject position. Therefore, the NP within the [NP+V] complex checks off the nominative case and the predicative NP, thus, is interpreted as the agent.

Note that the crucial point under the complex predicate analysis of pseudo incorporation is that the predicative NP within the [NP+V] complex is not associated with any theta role within the lexical VP domain. It can acquire a theta reading only in the absence of a referential argument to be merged into the Spec positions of theta role introducing functional heads. Since pseudo-incorporated NPs do not originate from a syntactic argument position but are merged lower in the structure, they are not subject to the restrictions that the nouns under head-incorporation are. Therefore, NPs bearing any theta roles can be pseudo-incorporated.

Note that only in the absence of referential DPs, the NP within the [NP+V] complex can check off case feature and be associated with a theta role. If all Spec positions of theta role introducing functional heads are filled with referential DPs then an NP within the verb complex cannot be associated with any theta role and retain its predicative interpretation, as there will

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4Öztürk (2004) argues in detail that Turkish is an in-situ case checking language. That is, case feature is available in theta position unlike English where case features are introduced at projections such as VP or TP which are higher than theta positions.

5This may be due to the presence of a weak case feature, which is incompatible with referential NPs along the lines of de Hoop (1992).
not be any case feature for it to check. This is what yields light verb constructions, discussed above. Lack of feature checking by the NP within [NP+V] complex is attested by the availability of accusative case to the object argument:

(33) Meclis yasa-yi redd-(*i) etti
assembly law-acc reject-(acc) did
The assembly rejected the law

5 Conclusion

To conclude, I have shown that what has so far been claimed to be a case of head-incorporation in Turkish is in fact a case of pseudo-incorporation with features very distinct from head incorporation. Under this account it is possible to account for the differences between languages like Turkish and the ones discussed by Baker (1988) in terms of argumenthood and theta role restrictions with respect to incorporation.

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