Non-canonical pseudo-incorporation in Turkish

Jinwoo Jo & Bilge Palaz

Abstract

This paper discusses pseudo-incorporation in Turkish. We claim with Öztürk (2009) that Turkish allows not only a theme but also an agent to undergo pseudo-incorporation. In addition to an agent, we show that Turkish also allows a goal and even more than one nominal to be pseudo-incorporated in a single clause. The existence of the non-theme and multi-nominal pseudo-incorporation in Turkish poses non-trivial problems for the previous analyses of pseudo-incorporation, which assume that pseudo-incorporation can take place only between a lexical verb and its complement in the syntax (Massam 2001). We claim the correct generalization, instead, is that pseudo-incorporation may take place between a property-denoting nominal and any predicate, either lexical or structural, that has not been saturated in the event domain with which the predicate is associated. Building on Chung and Ladusaw (2004), we formalize the generalization as an LF condition which constrains the non-saturating mode of semantic composition, *Restrict*, to apply in a certain structural environment. The LF condition not only accounts for the possibility of agent, goal, and multi-nominal pseudo-incorporation in Turkish, but it also offers an explanation for the impossibility of agent pseudo-incorporation in certain environments in the language. We also show that the proposed analysis properly captures the patterns of scrambling facts in the pseudo-incorporation constructions in Turkish. Finally, the crosslinguistic variation of pseudo-incorporation is attributed to the way in which the syntax interfaces with the semantics in each language.

Keywords: Turkish, pseudo-incorporation, multi-nominal incorporation, saturation, predicate restriction, syntax-semantics interface

1 Introduction

Some languages exhibit the phenomenon of so-called pseudo-incorporation, in which a bare nominal shows semantic properties analogous to morphosyntactically incorporated nouns (Sadock 1980; Mithun 1984; Baker 1988) without forming a single morphological unit with a verb.[1] The most commonly found type of pseudo-incorporation in these languages is theme pseudo-incorporation in ordinary transitive clauses (Massam 2001; Dayal 2011, 2015; Baker 2014; Johnson 2015), where a nominal, which would otherwise be interpreted as the theme participant of the event denoted by a transitive verb, is interpreted instead to qualify the verbal event. In fact, it is reported that in many languages, pseudo-incorporation is allowed only between a verb and its theme argument (e.g., Hindi[2]). The limited application of pseudo-incorporation as such has motivated the series of analyses which assume that pseudo-incorporation is licensed only when the target bare nominal is the complement of a lexical verb in the syntax (Massam 2001; Öztürk 2009; Dayal 2011, 2015; Baker 2014; Johnson 2015).

1. The properties of morphosyntactic noun incorporation are not exactly the same with those of pseudo-incorporation. For instance, it has been often claimed that a morphosyntactically incorporated noun introduces a discourse referent which can be referred back to by a pronominal element (Sadock 1980; Baker 1996), whereas a pseudo-incorporated nominal, in general, does not (Öztürk 2005; Dayal 2011). There are also instances which do not appear to involve any incorporation process and yet share some properties with morphosyntactic noun incorporation and pseudo-incorporation (e.g., German bare plurals which take narrow scope with respect to other operators). In this regard, van Geenhoven (1998) proposes that they all undergo the process of "semantic incorporation" and accordingly can be analyzed along the same lines. See Farkas and de Swart (2003) for an objection to this view. In this paper, we will use the term "semantic incorporation" in a non-technical sense to refer to the process that brings about the semantic properties that morphosyntactic noun incorporation and pseudo-incorporation are often claimed to be responsible for. We thank an anonymous reviewer for raising this point.

2. Dayal (2011) reports that some Hindi speakers allow agent pseudo-incorporation in a certain context as exemplified in (i).

Turkish is one of the languages that exhibit pseudo-incorporation as a productive grammatical process.[3] What is particularly interesting about Turkish is that pseudo-incorporation can take place in a much wider range of environments than the one suggested by the previous analyses. Specifically, as Kornfilt (1984, 1997, 2009, 2020) and Öztürk (2004, 2005, 2009), among others, note, Turkish appears to allow not only a theme but also an agent to be pseudo-incorporated into a verb as shown in (1) and (2), respectively.[4]

(1) Ali kitap oku-du.
Ali book read-PST
'Ali did book-reading.'
(Öztürk 2009:335, (1a))

(2) Ali-yi arı sok-tu.
Ali-ACC bee sting-PST
'Ali got bee-stung.'
(Öztürk 2009:335, (3a))

In addition to themes and agents, we show in this paper that goals can also undergo pseudo-incorporation in Turkish as exemplified in (3).

(3) Öğretmen hasta öğrenci-yi doktor-a yolla-dı.
teacher sick student-ACC doctor-DAT send-PST
'The teacher did to-doctor-sending the sick student.'

Even more interestingly, it appears that Turkish allows more than one nominal to be pseudo-incorporated in a single clause as well. Examples of the "multi-nominal pseudo-incorporation" are presented in (4) and (5). The sentences in (4a–b) exemplify two-nominal pseudo-incorporation: in (4a), an agent and a theme are pseudo-incorporated in a single transitive clause; and in (4b), a goal and a theme are pseudo-incorporated in a single ditransitive clause. Those in (5a–b) exemplify three-nominal pseudo-incorporation where an agent, a goal, and a theme are all pseudo-incorporated in a single ditransitive clause.

(4) a. Dün bizim hastane-miz-de doktor hasta bak-ma-dı.
yesterday our hospital-POSS-LOC doctor patient examine-NEG-PST
'Yesterday, doctor-patient-examining did not take place in our hospital.'

b. Bu yıl üniversite-ye öğrenci yolla-ya-ma-dık.
this year university-DAT student send-ABIL-NEG-PST
'This year, we could not do student-to-university sending.'

(5) a. Sistem hata-sın-dan dolayı bugün doktor ev-e hasta yolla-ma-dı.
system error-POSS-ABL due.to today doctor house-DAT patient send-NEG-PST
'Due to the system error, doctor's patient-sending-to-home did not take place today.'

(i) puurii raat mujhe machchaR kaaTtaa rahaa
whole night I-DAT mosquito bite-IMP PROG
'I was getting mosquito-bitten all night.'
(Dayal 2011: 131, fn. 11, (i))

Note, however, that agent pseudo-incorporation seems to be highly restricted to only a few cases, if there is any case other than (i), in Hindi. We take this to mean that agent pseudo-incorporation in Hindi is not a productive grammatical process contrary to that in Turkish which will be discussed later in the paper.

3. Turkish allows an adverbial element to intervene between a semantically incorporated nominal and the predicate (see Section 3), and it allows the nominal to scramble away from the predicate to the front (or back) of the sentence (see Section 4). These indicate that the "semantic incorporation" found in Turkish is not an instance of morphosyntactic noun incorporation. See also, e.g., Öztürk (2009) for further evidence showing that Turkish is not a head-incorporation language.

4. Turkish examples in the paper are constructed by the co-author of the paper in consultation with six native speakers of Turkish, unless indicated otherwise.

b. Son zamlar-dan sonra geçen bayram, ev sahibi misafir-e şeker tut-a-ma-dı.
latest price.increases-ABL after last festival host guest-DAT candy hold-ABIL-NEG-PST
'After the recent price increase, host's candy-serving-to-guest could not take place in the last festival.'

Note that in (1)–(5), the nominals that we claim to be pseudo-incorporated are interpreted to qualify the verbal events by restricting their domains in the relevant sense, rather than being interpreted as individual participants of the events. In fact, these nominals exhibit the characteristic properties of a pseudo-incorporated nominal. We discuss these properties in Section 2, showing that agent, goal, and multi-nominal pseudo-incorporation actually exists in Turkish.

The possibilities of non-theme and multi-nominal pseudo-incorporation in Turkish suggest that the common assumption that pseudo-incorporation applies only between a lexical verb and its structural complement may not be adequate. Assuming the common views that different θ-roles are associated with different structural positions (Perlmutter and Postal 1984; Baker 1988) and a head can have a single complement at most (Kayne 1984), the cases of agent, goal, and multi-nominal pseudo-incorporation in Turkish would hardly be accounted for in any straightforward manner if the application of pseudo-incorporation were limited to occur between a lexical verb and its complement. Accordingly, a new analysis of pseudo-incorporation is called for, at least for Turkish, in which the target nominals of pseudo-incorporation are allowed to occupy structural positions other than the complement of a lexical verb. In this paper, we suggest one such analysis based on the non-saturating mode of semantic composition, *Restrict*, proposed by Chung and Ladusaw (2004).[5]

More specifically, we first assume with Chung and Ladusaw that a property-denoting bare nominal and a predicate can be composed via Restrict as illustrated in (6a–b).

(6) a. [$_{VP}$ *kitap oku*]
book read
b. Restrict (λx[book(x)], λyλe[read(e,y)]) = λyλe[book(y) & read(e,y)]

The function of Restrict is to compose a predicate with a property-denoting nominal, yielding a new predicate with the denotation that the nominal is a restrictive modifier of the predicate. Here, the nominal itself does not saturate the predicate that it is composed with; the degree of saturation of the predicate remains unchanged. The unsaturated variable is viewed to be existentially closed only at a later stage of the derivation. We claim that the interpretation of pseudo-incorporation is attained because a predicate is composed with a bare nominal through Restrict as in (6a–b).

Based on this view of pseudo-incorporation, we propose that Restrict is subject to the following structural constraint that holds at LF.

(7) Restrict may apply between a property-denoting nominal node N and a predicate-denoting node P only if there is no predicate-denoting node Q dominated by P such that P and Q are minimally dominated by the same VoiceP and Q is saturated by its sister.

What Condition (7) in essence states is that pseudo-incorporation is possible between a predicate (either it is an atomic lexical item or a structurally complex syntactic object such as Voice'[6]) and a property-denoting nominal, only if the predicate has an argument variable unsaturated in the previous stages of semantic composition within the same event domain (i.e., within the same VoiceP, assuming that the event variable is closed at the end of VoiceP; see Chung and Ladusaw 2004). In other words, we claim that pseudo-incorporation is possible only when the predicate has "no history of saturation" within a single event domain. As will be clearer in later sections, Condition (7) offers a less restricted environment for pseudo-incorporation than the complementation approach does, thereby permitting not only theme but

5. See Farkas and de Swart (2003) for a similar, but not quite the same, approach to pseudo-incorporation under the framework of Discourse Representation Theory. The proposal in this paper is compatible with Farkas and de Swart's approach, as far as we can tell, if it is assumed that "Unification" in Turkish applies in the structural environment formalized in (7) below in the text.

6. See also Legate (2014) for cases in which Restrict is applied at the VoiceP level.

also non-theme and multi-nominal pseudo-incorporation in Turkish. We will also show that the proposed condition is not too permissive in that it properly rules out ungrammatical cases of non-theme and multi-nominal pseudo-incorporation such as agent or agent-theme pseudo-incorporation in the ditransitive.

The general view of pseudo-incorporation in this paper is that semantic composition, whose rules include Functional Application, Event Identification, Restrict, etc., is processed at LF, and the possibility of applying Restrict at LF is claimed to be regulated by Condition (7). In this view, whether or not Condition (7) is satisfied at LF may be determined by the way in which the syntax feeds LF. We claim that non-theme pseudo-incorporation in Turkish is such a case and that it is possible because a theme argument, when it is specific/accusative-marked, is obligatorily extracted out of VP (to move to a position higher than the position where an agent argument is initially introduced) in the syntax (Diesing 1992; Kennelly 1994; Zidani-Eroğlu 1997; Kelepir 2001; Arslan-Kechriotis 2006), having VP remain unsaturated at LF and hence satisfying Condition (7). As for the possibility of multi-nominal pseudo-incorporation, it is attributed to the nature of Restrict itself: since Restrict is a mode of semantic composition that does not saturate a predicate, the successive application of Restrict would not lead to a violation of Condition (7). Detailed discussion of the proposal and analysis is presented in Section 3. In Section 4, we explore the interactions of pseudo-incorporation with some other grammatical operations such as A-movement, A'-scrambling, and the reconstruction effect, along with discussion of how they are accounted for under the proposed analysis.

The proposal in this paper makes some concrete predictions about the typology of pseudo-incorporation. For instance, if a given predicate-saturating theme argument is not obligatorily extracted out of VP in a language, then the language is predicted not to allow agent pseudo-incorporation in the transitive. In Section 5, we briefly present some of the predictions, along with concluding remarks, that may be tested against other languages that exhibit pseudo-incorporation. In this section, we also speculate about the nature of Condition (7).

It has been noted in the literature that a nominal may be semantically incorporated (van Geenhoven 1998) either when the nominal forms a single morphological unit with a verb ("(morphosyntactic) noun incorporation") or when it is a phrase that does not form a single morphological unit with a verb ("pseudo-incorporation"). In both cases, the predicate to which a nominal is semantically incorporated is an atomic lexical item. The primary purpose of this paper is to explore the possibility that a nominal may undergo semantic incorporation when the target predicate (as well as the nominal, for that matter) is a phrase, that is, the possibility that pseudo-incorporation applies between a bare nominal and a *phrasal* predicate. Consequently, the paper focuses on the syntactic aspects of pseudo-incorporation, rather than attempting to formulate its exact semantic properties. For the present purpose, Chung and Ladusaw's (2004) notion of Restrict provides an ideal theoretical tool for the analysis as it allows the essential characteristic of pseudo-incorporation to be attained through a grammatical operation rather than through distinctive, incorporating lexical items as in, e.g., van Geenhoven (1998), Dayal (2011), Gehrke and Lekakou (2013), Driemel (2019), and Sağ (2019). It is crucial in our view that pseudo-incorporation is not due to lexical idiosyncrasies (nor due to a lexical process, for that matter; cf. Espinal and McNally 2011); if it were, the possible as well as impossible patterns of non-theme and multi-nominal pseudo-incorporation in Turkish would not be easily accounted for. An anonymous reviewer wonders if Restrict was the right choice for the analysis of Turkish pseudo-incorporation in that Turkish, unlike Chamorro[7], does not allow the extra-object construction as illustrated below.

(8) * Ali Beyaz Kale-yi kitap oku-du.
Ali White Castle-ACC book read-PST
Intended: 'Ali book-read The White Castle.'

In that regard, Chung and Ladusaw (2004:113–114) note that Restrict is merely a way of interpreting a syntactic structure, not a rule that dictates how it should be built; and they speculate that the possibility of the extra-object construction may as well be due to a language-specific factor independently of Restrict itself such as the possibility of adjunction of a nominal at the VP level (i.e., it may be due to the fact

7. See footnote 18 for an example and relevant discussion.

that Turkish or Hungarian does not allow nominal adjunction, while Caddo or Chamorro does; see also Farkas and de Swart 2003:106). Moreover, if our analysis is correct, Turkish allows multiple application of Restrict within a single clause, a possibility that Chung and Ladusaw (2004:75) note along with the possibility of extra objects ("we might expect a restricted argument to remain available for semantic composition – for further restriction or even for saturation by an additional noun phrase"). This again makes Restrict be an adequate theoretical tool for the analysis. For these reasons, we will assume in the paper that pseudo-incorporation in Turkish is an instance of the application of Restrict, leaving to future research any remaining issues concerning this view.

2 Non-canonical pseudo-incorporation in Turkish

Before going into the analysis of pseudo-incorporation in Turkish, it is necessary to show that the non-canonical forms of pseudo-incorporation (i.e., instances of non-theme and multi-nominal pseudo-incorporation) actually exist in Turkish as their existence has not been widely recognized in the literature. The existence of non-canonical pseudo-incorporation is often not obvious on the surface because, unlike theme pseudo-incorporation, its application is generally not accompanied by omission of the case marker that was visible prior to the application. Yet, bare nominals associated with the agent or the goal θ-role do exhibit the semantic characteristics of a pseudo-incorporated nominal such as weak referential force, weak interpretation under ellipsis, name-worthiness, number neutrality, and obligatory narrow scope with respect to logical operators, etc. These cases support the view that an agent or a goal can undergo pseudo-incorporation in Turkish. We also report in this section the cases of multi-nominal pseudo-incorporation where more than one nominal exhibit the typical properties of a pseudo-incorporated nominal within a single clause, including agent-theme pseudo-incorporation in the transitive as well as goal-theme and agent-goal-theme pseudo-incorporation in the ditransitive.

2.1 Agent pseudo-incorporation

One of the most frequently noted properties of pseudo-incorporation is that a pseudo-incorporated nominal has weak referential force, and accordingly is hard (although it might not be impossible in certain contexts; see Ward, Sproat, and McKoon 1991) to be referred back to by a following pronominal element (Massam 2001; Farkas and de Swart 2003; Öztürk 2004, 2005, 2009; Dayal 1999, 2011).[8] The bare nominals with the agent θ-role which we argue have been pseudo-incorporated show this property in Turkish. This is illustrated in (9a–b): in (9a), *arı* 'bee' in the preceding sentence can be felicitously referred back to by a null pronoun in the following sentence, but in (9b), it is not possible.

(9) a. Arı$_i$ Ali-yi sok-tu. Aslında pro$_i$ kovan-ı uzak-ta-y-dı.
bee$_i$ Ali-ACC sting-PST actually pro$_i$ hive-POSS far-LOC-COP-PST
'Ali got bee$_i$-stung. Actually, its$_i$ hive was far away.'

b. Ali-yi arı$_i$ sok-tu. #Aslında pro$_i$ kovan-ı uzak-ta-y-dı.
Ali-ACC bee$_i$ sting-PST actually pro$_i$ hive-POSS far-LOC-COP-PST
Intended: 'Ali got bee$_i$-stung. Actually, its$_i$ hive was far away.'

The inability to provide a concrete discourse referent in (9b) suggests that *arı* in this example, unlike that in (9a), is interpreted as a restrictive modifier, not as an individual participant, of the verbal event; hence, pseudo-incorporated. Note in passing that the example in (9b) has the non-typical OSV word order. As will be clearer in later sections, adjacency with the verb is not a constraint imposed on pseudo-incorporation; it is simply the reflection of the structural position in which a property-denoting nominal is permitted to undergo pseudo-incorporation. Yet, agent pseudo-incorporation may still be identified by adjacency with the verb in general.

8. See Farkas and de Swart (2003:137) for the generalization in Hungarian that plural pseudo-incorporated nominals are fully discourse transparent, whereas singular ones are not and show some speaker variation. See also Dayal (1999, 2011) for relevant observation and discussion in Hindi.

Another property that a pseudo-incorporated agent shows is that it can have a weak interpretation under ellipsis as illustrated below.

(10) a. Köpek Ali-yi ısır-dı, Can-ı da.
dog Ali-ACC bite-PST, Can-ACC too.
'A dog bit Ali, and it bit Can, too.' (→ The same dog is involved in the biting events.)

b. Ali-yi köpek ısır-dı, Can-ı da.
Ali-ACC dog bite-PST, Can-ACC too.
'Ali got dog-bitten, and Can too.' (→ Different dogs could have been involved in the biting events.)

In (10a), *köpek* 'dog' is not pseudo-incorporated in the preceding clause, providing a concrete discourse referent; accordingly, the following elided clause can only have a strong interpretation as the English translation indicates. On the other hand, when *köpek* undergoes pseudo-incorporation as in (10b), the following elided clause may have a weak interpretation, suggesting that the pseudo-incorporated agent in the preceding clause does not provide a concrete discourse referent. Note that in (10b), all that is linguistically expressed is that Ali and Can have experienced some dog-biting events; whether or not the same dog is involved in the biting events depends entirely on the context.

Another well-known property of pseudo-incorporation is that it is licensed only when the resulting complex predicate denotes an activity that is "name-worthy" in one way or another (Mithun 1984; Asudeh and Mikkelsen 2000; Dayal 2011, 2015). That is, a bare nominal may be pseudo-incorporated into a verb only if the activity denoted by the resulting predicate is a well-established, typical activity (or "institutionalized" activity) in the community where the language in question is being used. Agent pseudo-incorporation in Turkish shows the name-worthiness property. Consider the contrast between (11a) and (11b):

(11) a. Park-ta çocuk ağlı-yor.
playground-LOC child cry-PRS
'Child-crying takes place at the playground.'

b. # Park-ta adam ağlı-yor.
playground-LOC man cry-PRS
Intended: 'Man-crying takes place at the playground.'

In the above examples, *çocuk* 'child' can but *adam* 'man' cannot be interpreted as qualifying the event denoted by the verb *ağla* 'cry', suggesting that *çocuk* but not *adam* can be pseudo-incorporated into *ağla* in Turkish. The contrast can be attributed to the fact that in Turkish culture, as in many other cultures, child-crying is considered to be a commonly observed, typical activity, whereas man-crying is not; in other words, the former but not the latter is worthy enough to be expressed by means of pseudo-incorporation as a commonplace subtype of crying activity.[9]

A pseudo-incorporated agent also exhibits what Dayal (2011) considers to be one of the hallmarks of pseudo-incorporation: number neutrality. In (12a), for instance, the agent bare nominal *arı* 'bee' is not pseudo-incorporated, and the sentence is interpreted to mean that a single bee, whether definite or

9. Although pseudo-incorporation necessarily involves an institutionalized activity, the opposite does not seem to hold true. That is, the fact that some activity is perceived to be institutionalized does not guarantee that it can be expressed by means of pseudo-incorporation. Consider the following example:

(i) # Park-ta çocuk gül-üyor.
playground-LOC child laugh-PRS
Intended: 'Child-laughing takes place at the playground.'

For children, laughing is as typical an activity as crying, but *çocuk* 'child' cannot be pseudo-incorporated into the verb *gül* 'laugh' in Turkish as shown in the infelicity of (i), while it can be pseudo-incorporated into the verb *ağla* 'cry' as shown in (11a). The example in (i) is felicitous only if there is a specific child who is laughing at the playground. The contrast between (i) and (11a) indicates that name-worthiness is not a sufficient but a necessary condition for pseudo-incorporation in Turkish.

indefinite, was involved in the repeated stinging event. In (12b), on the other hand, *arı* has a number neutral interpretation where the repeated stinging event may have involved multiple bees.[10]

(12) a. Dün tekrar tekrar arı Ali-yi sok-tu.
yesterday again again bee Ali-ACC sting-PST
'Yesterday, a bee kept stinging Ali.' (→ A unique bee kept stinging Ali.)

b. Dün tekrar tekrar Ali-yi arı sok-tu.
yesterday again again Ali-ACC bee sting-PST
'Yesterday, Ali kept being bee-stung.' (→ Different bees could have kept stinging Ali.)

The contrast illustrated in (12a–b) shows that an agent can in fact undergo pseudo-incorporation in Turkish, which gives an interpretation that cannot be captured by the semantics of a bare singular noun itself.

Yet another piece of evidence for agent pseudo-incorporation in Turkish comes from case marking. In Turkish, nominative case is always covert in the main clause; accordingly, the presence or absence of an overt case marker cannot be used to identify agent pseudo-incorporation. In the embedded clause, however, the structural subject is obligatorily marked with genitive case as shown in (13).

(13) Arı*(-nın) Ali-yi sok-tuğ-u-nu duy-dum.
bee*(-GEN) Ali-ACC sting-NMLZ-POSS-ACC hear-PST
'I heard that a bee stung Ali.'

Crucially, an agent cannot be marked with genitive case when it is pseudo-incorporated in the embedded clause. When marked with genitive, it cannot have the interpretation of a pseudo-incorporated nominal (see also Kornfilt 1997, 2009, 2020).

(14) Ali-yi arı(*-nın) sok-tuğ-u-nu duy-dum.
Ali-ACC bee(*-GEN) sting-NMLZ-POSS-ACC hear-PST
'I heard that Ali got bee-stung.'

This is analogous to the case marking pattern of theme pseudo-incorporation in Turkish (Kornfilt 1997, 2020; Öztürk 2004, 2005) and other languages like Sakha and Tamil (Baker 2014), supporting the view that *arı* in (14) has undergone pseudo-incorporation. Extending this observation to the agent in the main clause, we will assume that nominative case is not marked on a pseudo-incorporated agent although nominative case is phonetically null in Turkish and thus cannot be seen on the surface even when it exists.

Lastly, the scope facts also indicate that an agent can undergo pseudo-incorporation in Turkish. It is reported that pseudo-incorporated nominals take obligatory narrow scope with respect to logical operators (Massam 2001; Farkas and de Swart 2003; Chung and Ladusaw 2004; Dayal 2011, 2015). This appears to be the case for a pseudo-incorporated agent in Turkish: e.g., it obligatorily takes narrow scope with respect to negation as illustrated in (15).

(15) Ali-yi arı sok-ma-dı.
Ali-ACC bee sting-NEG-PST
Possible: 'It was not the case that Ali got stung by {a bee/bees}.'
Impossible: 'There {was a bee/were bees} that did not sting Ali.'

The obligatory narrow scope of *arı* 'bee' in (15) shows that it is not a simple indefinite, which can take either wide or narrow scope with respect to negation as illustrated in (16), and accordingly must be given an independent account.

(16) Arı Ali-yi sok-ma-dı.
bee Ali-ACC sting-NEG-PST
'It was not the case that Ali got stung by a bee.' *or* 'There was a bee that did not sting Ali.'

We take the contrast between (15) and (16) to indicate that the agent bare nominal *arı* has undergone pseudo-incorporation in (15) but not in (16).

10. Dayal (2011) suggests that the process of pseudo-incorporation itself does not bring about number neutrality and that the number neutrality arises when the associated event is atelic with expressions like *tekrar tekrar* 'again and again'.

2.2 Goal pseudo-incorporation

Öztürk (2009), who argues for the existence of agent pseudo-incorporation in Turkish, assumes that goal pseudo-incorporation is yet not possible. But evidence suggests that Turkish allows a goal to be pseudo-incorporated as well, having it exhibit the typical properties of a pseudo-incorporated nominal as a theme or an agent does.

First, the nominals with the goal θ-role that we argue are pseudo-incorporated have weak referential force as in the case of pseudo-incorporated agents shown in the previous subsection. This is exemplified in (17), where the pseudo-incorporated goal in the preceding sentence cannot antecede a null pronoun in the following sentence.

(17) Öğretmen hasta öğrenci-yi doktor$_i$-a yolla-dı. #Pro$_i$ muayenehane-si yakın-dı.
teacher sick student-ACC doctor$_i$-DAT send-PST pro$_i$ checkup.room-POSS close-COP.PST
Intended: 'The teacher did to-doctor$_i$-sending the sick student. His$_i$ office was close.'

A pseudo-incorporated goal also allows the weak interpretation under ellipsis as shown in (18), again just like a pseudo-incorporated agent. In (18), the elided clause may have the interpretation that Ali was not sent to the same doctor to whom Can was sent.

(18) Öğretmen Can-ı doktor-a yolla-dı, müdür de Ali-yi.
teacher Can-ACC doctor-DAT send-PST, principal also Ali-ACC
'The teacher did to-doctor-sending Can, and the principal did so for Ali, too.' (→ Different doctors could have been involved in the sending events.)

The name-worthiness condition holds for a pseudo-incorporated goal as well: a nominal like *doktor* 'doctor' can be pseudo-incorporated to the verb *yolla* 'send' in (19a), but a nominal like *hemşire* 'nurse' cannot in (19b), reflecting Turkish culture in which being sent to a doctor is considered to be an institutionalized activity for a medical checkup or treatment, but being sent to a nurse is not.

(19) a. Öğretmen Ali-yi doktor-a yolla-dı.
teacher Ali-ACC doctor-DAT send-PST
'The teacher did to-doctor-sending Ali.'

b. # Öğretmen Ali-yi hemşire-ye yolla-dı.
teacher Ali-ACC nurse-DAT send-PST
Intended: 'The teacher did to-nurse-sending Ali.'

A pseudo-incorporated goal also exhibits number neutrality. The example with the non-pseudo-incorporated goal nominal in (20a) means that Ali was sent to a unique doctor multiple times, whereas the corresponding pseudo-incorporation example in (20b) may mean that Ali was sent to different doctors, one after another.

(20) a. Dün tekrar tekrar doktor-a öğretmen Ali-yi yolla-dı.
yesterday again again doctor-DAT teacher Ali-ACC send-PST
'Yesterday, the teacher kept sending Ali to a doctor.' (→ Ali was sent to a unique doctor again and again.)

b. Dün tekrar tekrar öğretmen Ali-yi doktor-a yolla-dı.
yesterday again again teacher Ali-ACC doctor-DAT send-PST
'Yesterday, the teacher kept to-doctor-sending Ali.' (→ Ali could have been sent again and again to different doctors.)

The pattern is again analogous to the case of a pseudo-incorporated agent illustrated in the preceding subsection, showing that the pseudo-incorporated goal in (20b) has the peculiar semantic property distinct from that of a bare singular noun.

Finally, a pseudo-incorporated goal, just like a pseudo-incorporated agent, has obligatory narrow scope with respect to negation as shown below.

(21) Öğretmen hasta öğrenci-yi doktor-a yolla-ma-dı.
teacher sick student-ACC doctor-DAT send-NEG-PST
Possible: 'It was not the case that the teacher sent the the sick student to {a doctor/doctors}.'
Impossible: 'There {was a doctor/were doctors} to whom the teacher did not send the sick student.'

Note that the narrow scope of *doktor* 'doctor' in (21) is enforced only when it is interpreted as a restrictive modifier of the predicate, i.e., when it is pseudo-incorporated. The nominal in question may also be interpreted as an individual goal participant of the predicate as a simple indefinite; when it is, it can have either wide or narrow scope with respect to negation. In this sense, goal pseudo-incorporation is not as readily identifiable as theme or agent pseudo-incorporation, which is often accompanied by morphosyntactic cues such as case marking or word order. In the case of theme pseudo-incorporation (and agent pseudo-incorporation in the embedded clause, for that matter), the lack of case morphology signals that the nominal is pseudo-incorporated; and in the case of agent pseudo-incorporation (in the main clause), the marked word order (OSV) signals that the nominal is pseudo-incorporated. In the case of goal pseudo-incorporation, however, a pseudo-incorporated goal is not morphosyntactically distinguishable from its non-pseudo-incorporated counterpart: whether or not it is pseudo-incorporated, the nominal associated with the goal θ-role is marked with dative case and typically appears right before the verb.

The lack of morphosyntactic cues of a pseudo-incorporated goal may raise the question of whether what we are arguing to be a pseudo-incorporated goal is really an instance of pseudo-incorporation. Our standpoint is that it *is* an instance of pseudo-incorporation and that whether or not a nominal is pseudo-incorporated should be determined based essentially on its semantic properties. Morphosyntactic cues such as lack of case marking and word order may imply the application of pseudo-incorporation, but they should not be taken to be prerequisites for it as different languages show diverse morphosyntactic patterns of pseudo-incorporation. In a language like Hungarian (Kiss 2002) or German (Frey 2015), for instance, a pseudo-incorporated theme is reported to exhibit accusative case marking contrary to that in Turkish, Sakha, Tamil, etc. It is also reported that some Hindi speakers accept pseudo-incorporation with a strong determiner, which has led Dayal to speculate that "the reliable tests for [pseudo-]incorporation in Hindi would be purely semantic in nature" (Dayal 2011:127, fn. 5). Similarly, some NPs with the determiner *the* in English ("indefinite definites" or "weak definites": e.g., *I read* ***the newspaper*** *and so did Bill*, where the example is from Dayal 2015:73, (39b)) show the semantic properties that may be analyzed as instances of pseudo-incorporation (Schwarz 2014; Borik and Gehrke 2015; Dayal 2015). If weak definites in English are in fact instances of pseudo-incorporation, English will constitute another language which shows that morphosyntactic properties of a pseudo-incorporated nominal are not consistent across languages. Within Turkish too, not all caseless NPs show the semantic properties of a pseudo-incorporated nominal: e.g., theme NPs with a numeral can appear without accusative case when they are 'non-specific', yet they can antecede a pronominal element unlike pseudo-incorporated bare nominals (Aydemir 2004; Kamali 2008). As for the clause-level cues as well, languages differ from one another: pseudo-incorporation in Hungarian involves change in word order, whereas pseudo-incorporation in Hindi does not; Turkish and Hindi allow scrambling of a pseudo-incorporated nominal, whereas Sakha and Tamil do not. It has also been suggested that pseudo-incorporated nominals in Turkish are still associated with case although case marking is not morphologically realized (i.e., pseudo-incorporated nominals count as regular arguments with respect to case assignment; Kornfilt 1984, 2003; Öztürk 2009), whereas those in Niuean are not (e.g., the subject of a transitive verb is marked with absolutive case instead of ergative case when a theme is pseudo-incorporated; Massam 2001).

Returning to goal pseudo-incorporation in Turkish, the variable morphosyntactic patterns of pseudo-incorporation within and across languages noted above suggest that the presence of dative case does not necessarily disqualify a goal as a pseudo-incorporated nominal. The question then is why dative case remains on a pseudo-incorporated goal, whereas accusative case (or nominative case, although it is not visible) does not on a pseudo-incorporated theme (or agent). As an answer to this question, we suggest that it is because dative case on a goal is an instance of inherent case which signals the thematic relation

that the nominal has in the verbal event. If it were omitted, the argument structure of the verbal event would not be properly represented. In fact, if dative case is not an instance of inherent case, it may not appear on a pseudo-incorporated nominal. This is illustrated below.[11]

(22) a. Cem dün çocuğ-a bak-tı.
Cem yesterday child-DAT look.after-PST
'Yesterday, Cem looked after the child.'

b. Cem dün çocuk bak-tı.
Cem yesterday child look.after-PST
'Yesterday, Cem did babysitting.'

The example in (22a) shows that the verb *bak* 'look after' assigns dative case on its direct object in Turkish. Here, the object is a theme, not a goal, argument of the verb, which means that dative case on it does not encode a thematic relation. Hence, it is not an instance of inherent case, but of quirky case. Importantly, as shown in (22b), when the theme argument with dative case is pseudo-incorporated, the case marker no longer appears on the nominal unlike dative case on a goal argument. This shows that dative case remains on a pseudo-incorporated nominal only when it is the result of inherent case marking. With this observation, we tentatively conclude (leaving a more in-depth investigation to future research) that in Turkish, case that is not associated with a particular θ-role (structural or quirky case) is eliminated when a nominal undergoes pseudo-incorporation; whereas, case that is associated with a particular θ-role (inherent case) is not.

Finally, note that the existence of goal pseudo-incorporation may be rendered more evident if the numeral *bir* 'one' is added to the goal nominal as shown below.

(23) Öğretmen Ali-yi bir doktor-a yolla-dı.
teacher Ali-ACC one doctor-DAT send-PST
'The teacher sent Ali to a doctor.'

The example in (23) constitutes a minimal pair with the one in (19a). In the case of (23), the goal unambiguously refers to an individual participant, and it cannot be interpreted as a modifier of the verbal event; on the other hand, the goal in (19a) is ambiguous and may be interpreted either as an individual participant or as a restrictive modifier of the verbal event. The fact that the interpretation as an event modifier is available only when the nominal in question appears in its bare form indicates that it needs to be given an independent account, which we suggest is that it is the result of goal pseudo-incorporation.[12]

2.3 Multi-nominal pseudo-incorporation

Turkish appears to allow more than one nominal to undergo pseudo-incorporation within a single clause; or to put it rather informally, it appears to allow more than one nominal to be pseudo-incorporated to a single lexical verb.[13] The first case of "multi-nominal pseudo-incorporation" in Turkish that we report here is agent-theme pseudo-incorporation in the transitive shown in (24).[14] In (24), both the nominals

11. We thank Yağmur Sağ for pointing this out to us. See Sağ (2019) and Driemel (2019), among others, for discussion of case marking patterns accompanied by pseudo-incorporation.

12. We thank an anonymous reviewer for helpful discussion and suggestions relevant to the last four paragraphs.

13. Note that the possibility of multi-nominal pseudo-incorporation is not far-fetched considering that multiple morphosyntactic noun incorporation is not uncommon (Spencer 1995:459). We thank Ömer Demirok for bringing the possibility of multi-nominal pseudo-incorporation to our attention.

14. Kamali (2008) claims that agent-theme pseudo-incorporation is impossible in Turkish based on the example shown below.

(i) Köpék çocuk ısır-ıyor.
dog child bite-PRS
Possible: 'A dog is child-biting.'
Impossible: 'Dog-child-biting is taking place.'
(Kamali 2008:6, (18a))

The above example, however, appears to be ruled out as an instance of agent-theme pseudo-incorporation for an independent reason: it does not satisfy the name-worthiness condition. Note that the activities of 'getting dog-bitten' and 'doing child-

kedi 'cat' and *fare* 'mouse' can be interpreted to qualify the event denoted by *yakala* 'catch' rather than being interpreted as individual participants of the event. One piece of evidence that supports this view is that when multi-nominal pseudo-incorporation occurs in (24), neither of the pseudo-incorporated nominals can be referred back to by a following pronominal element; that is, they both can have weak referential force. This is shown in the infelicity of the following sentences in (24a) and (24b), where in the former the null pronoun is co-indexed with the pseudo-incorporated agent *kedi* and in the latter it is co-indexed with the pseudo-incorporated theme *fare*.

(24) Bizim bahçe-de kedi$_i$ fare$_j$ yakala-ya-ma-mış.
our garden-LOC cat$_i$ mouse$_j$ catch-ABIL-NEG-EV
'Cat$_i$-mouse$_j$-catching could not take place in our garden.'

a. # Son zamanlarda pro$_i$ iyice tembelleş-ti.
recent times pro$_i$ quite get.lazy-PST
'It$_i$ has gotten quite lazy lately.'

b. # Bir haftada pro$_j$ tüm tahıl-ımız-ı ye-di.
one week pro$_j$ all crop-3PL.POSS-ACC eat-PST
'It$_j$ has eaten up all our crops in a week.'

In a similar vein, an agent and a theme, both pseudo-incorporated in a clause, allow the weak interpretation under ellipsis as illustrated in (25). In this example, the elided clause may have the interpretation that cats and mice involved in the catching event that could not occur in our garden are distinct from those involved in the catching event that could not occur in your garden.

(25) Bizim bahçe-de kedi fare yakala-ya-ma-mış, sizinkin-de de.
our garden-LOC cat mouse catch-ABIL-NEG-EV, yours-LOC too.
'In our garden, cat-mouse-catching could not take place, and in your garden, it could not take place, either.' (→ Different cats and mice could have been not involved in the catching events.)

Both the agent and theme nominals in the construction in question show number neutrality as well. For instance, the example in (26) may mean that any number of cats kept catching any number of mice. That is, any combinations of different individuals in the sets of cats and mice could have been involved in the catching event, which cannot be captured by the semantics of bare singular nouns as noted earlier.

(26) Bizim bahçe-de tekrar tekrar kedi fare yakala-dı.
our garden-LOC again again cat mouse catch-PST
'Cat-mouse-catching kept taking place in our garden.' (→ Different cats and mice could have been involved in the repeated catching events.)

Lastly, the scope facts also indicate that both an agent and a theme can be pseudo-incorporated in a single transitive clause. In (27), for instance, both pseudo-incorporated nominals must have narrow scope with respect to negation; neither of the nominals is allowed to take wide scope, showing that these nominals are not simple indefinites.

(27) Bizim bahçe-de kedi fare yakala-ya-ma-mış.
our garden-LOC cat mouse catch-ABIL-NEG-EV
Possible: 'It was not the case that {a cat/cats} could catch {a mouse/mice} in our garden.'
Impossible: 'There {was a cat/were cats} that could not catch {a mouse/mice} in our garden.' / 'There {was a mouse/were mice} that {was/were} not caught by {a cat/cats} in our garden.' / 'There were {a cat/cats and a mouse/mice} that were not involved in the catching event in our garden.'

biting' can be expressed by means of pseudo-incorporation in Turkish (as in *Aliyi köpek ısırdı* 'Ali got dog-bitten' and *Köpek çocuk ısırdı* 'A dog did child-biting', respectively), suggesting that they are considered to be institutionalized activities. But the fact that the two activities are considered to be institutionalized respectively does not necessarily mean that the activity with the two specific kinds of participants as a whole is also institutionalized. This may be one of the reasons why examples of multi-nominal pseudo-incorporation are rare compared to those of single-nominal pseudo-incorporation. See also footnote 9 for relevant discussion.

Note that the examples discussed above are ambiguous between agent-theme pseudo-incorporation and theme pseudo-incorporation with a predicate-saturating agent argument (for instance, the example in (26) may also have the interpretation that a certain cat did mouse-catching again and again in our garden). This is because nominative case is phonetically null in Turkish and the word order of the construction involving agent-theme pseudo-incorporation is the same with that of the typical transitive construction, and consequently, a pseudo-incorporated agent is not morphosyntactically distinct from a non-pseudo-incorporated agent analogous to the case of goal pseudo-incorporation noted above. Such an ambiguity arises for the examples of multi-nominal pseudo-incorporation to be considered below as well, and it arises for the same reason. Recall from above that morphosyntactic cues should not be taken to be prerequisites for pseudo-incorporation as there is no consistent morphosyntactic cue for pseudo-incorporation within and across languages; accordingly, we have assumed with Dayal that the reliable tests for pseudo-incorporation are purely semantic in nature. Hereafter, we focus on the structure that would generate the 'semantic incorporation' interpretation, abstracting away from other potential structures which might generate the same surface form.

Turning to the second case of multi-nominal pseudo-incorporation, the same properties can be observed for a goal and a theme in the ditransitive, indicating the possibility of goal-theme pseudo-incorporation in Turkish. First, a goal and a theme, when pseudo-incorporated, exhibit weak referential force as illustrated in (28). The infelicity of the following sentences in (28a) and (28b) shows that neither the goal nor the theme in (28) can antecede a pronominal element.

(28) Son iki yıldır üniversite$_i$-ye öğrenci$_j$ yolla-ya-ma-dık.
last two year university$_i$-DAT student$_j$ send-ABIL-NEG-PST
'We could not do student$_j$-to-university$_i$ sending for the last two years.'

a. # Pro$_i$ kontenjan-ı düşük-tü.
pro$_i$ quota-POSS low-PST
'Its$_i$ quota was low.'

b. # Pro$_j$ puan-ı yet-me-di.
pro$_j$ score-POSS enough-NEG-PST
'His/her$_i$ score was not good enough.'

The pseudo-incorporated goal and theme allow the weak interpretation under ellipsis too as shown in (29), where Cem and Ali are academic advisors at a high school, part of whose job is to help students to go to universities of their choice.

(29) Son iki yıldır Cem üniversite-ye öğrenci yolla-ya-ma-dı, Ali de.
last two year Cem university-DAT student send-ABIL-NEG-PST, Ali too.
'Cem could not do student-to-university sending for the last two years, and Ali could not do so, either.' (→ Different universities and students could have been not involved in the sending events.)

The pseudo-incorporated goal and theme also exhibit number neutrality. This is shown in (30).

(30) Son on yıldır tekrar tekrar bizim lise üniversite-ye öğrenci yolla-dı.
last ten year again again our high.school university-DAT student send-PST
'Our high school did student-to-university sending again and again for the last ten years.' (→ Different students and universities could have been involved in the repeated sending events.)

And they obligatorily have narrow scope with respect to negation as illustrated in (31).

(31) Üniversite-ye öğrenci yolla-ya-ma-dık.
university-DAT student send-ABIL-NEG-PST
Possible: 'It was not the case that we sent {a student/students} to {a university/universities}.'
Impossible: 'There {was a student/were students} that our high school could not send to {a university/universities}.' / 'There {was a university/were universities} that we could not send {a student/students} to.' / 'There were {a student/students and a university/universities} that were not involved in the sending event.'

The examples in (28)–(31) show that both goal and theme can exhibit the properties of a pseudo-incorporated nominal within a single ditransitive clause, suggesting that goal-theme pseudo-incorporation is possible in Turkish as agent-theme pseudo-incorporation is.

The cases discussed so far are instances of multi-nominal pseudo-incorporation where two nominals in a clause are interpreted to qualify the verbal event. Under the view of pseudo-incorporation introduced briefly in Section 1 and discussed extensively in the next section, it is predicted that multi-nominal pseudo-incorporation should not be limited to two nominals. Pseudo-incorporation of more than two nominals is expected to be possible as long as the semantic process responsible for pseudo-incorporation, i.e., Restrict, satisfies Condition (7). In fact, as noted in Section 1, there are instances in Turkish where three nominals are pseudo-incorporated in a ditransitive clause. An example of three-nominal pseudo-incorporation is presented in (32), repeated from (5a). In (32), the nominals associated with the agent, goal, and theme θ-roles are all interpreted to qualify the event denoted by a ditransitive verb. Consequently, none of these arguments can be felicitously referred back to by a pronominal element as shown in the infelicity of (32a–c).

(32) Sistem hata-sı-ndan dolayı bugün doktor$_i$ ev$_j$-e hasta$_k$ yolla-ma-dı.
system error-POSS-ABL due.to today doctor$_i$ house$_j$-DAT patient$_k$ send-NEG-PST
'Due to the system error, doctor$_i$'s patient$_k$-sending-to-home$_j$ did not take place today.'

a. # Bu yüz-den hasta yakınları pro$_i$ oda-sın-ın önün-de toplan-dı.
this reason-ABL patient relatives pro$_i$ office-POSS-GEN front-LOC gather-PST
'That's why patient's relatives gathered in front of his/her$_i$ office.'

b. # Çünkü hemşireler pro$_j$ adres-in-i el-le kontrol et-mek iste-me-di-ler.
because nurses pro$_j$ address-POSS-ACC hand-with control do-INF want-NEG-PST-PL
'Because nurses did not want to check its$_j$ address by hand.'

c. # Bu yüz-den pro$_k$ yatağ-ı boşal-ma-dı.
this reason-ABL pro$_k$ bed-POSS empty-NEG-PST
'That's why his/her$_k$ bed did not become available.'

The three pseudo-incorporated nominals also allow the weak interpretation under ellipsis as shown below.

(33) Dün doktor ev-e hasta yolla-ya-ma-dı, bugün de.
yesterday doctor house-DAT patient send-ABIL-NEG-PST, today either.
'Yesterday, doctor's patient-sending-to-home could not take place, and today, either.' (→ Different doctors, patients, and homes could have been not involved in the sending events.)

They also show number neutrality as in (34).

(34) Bugün tekrar tekrar doktor ev-e hasta yolla-dı.
today again again doctor house-DAT patient send-PST
'Today, doctor's patient-sending-to-home took place again and again.' (→ Different doctors, patients, and homes could have been involved in the repeated sending events.)

And they take obligatory narrow scope with respect to negation.

(35) Sistem hata-sı-ndan dolayı bugün doktor ev-e hasta yolla-ya-ma-dı.
system error-POSS-ABL due.to today doctor house-DAT patient send-ABIL-NEG-PST
Only possible: 'It was not the case that {a doctor/doctors} could send {a patient/patients} to {a home/homes} today.'

We conclude based on the data in (32)–(35) that more than two nominals can be pseudo-incorporated in a single clause in Turkish.[15]

15. An anonymous reviewer asks why three-nominal pseudo-incorporation is impossible in an example like (i), even though teachers' giving homework assignments to students can be considered an institutionalized activity. In fact, as indicated in the English translation, the example can have the interpretations of theme or goal-theme pseudo-incorporation, but it cannot have the interpretation of agent-goal-theme pseudo-incorporation.

The discussion in this section might give the impression that Turkish freely allows pseudo-incorporation in unrestricted syntactic environments. This is not the case, for not all combinations of nominals in a clause can undergo pseudo-incorporation. For instance, a goal and a theme to the exclusion of an agent may undergo pseudo-incorporation as shown in (28)–(31), but an agent and a theme to the exclusion of a goal cannot do so as shown below.

(36) * Öğrenciler-e öğretmen ödev ver-di.
students-DAT teacher homework give-PST
Intended: 'Teacher-homework-giving took place to the students.'

This is in fact predicted by our proposal which will be discussed in detail in the next section. We will argue that an example like (36) is ruled out because the goal argument saturates a predicate at its base position (i.e., it saturates Appl'). The structural position where this saturation occurs is below Voice' with which an agent is to be composed via Restrict to give the pseudo-incorporation interpretation. Restrict between the agent and Voice', then, will be blocked according to Condition (7) introduced in Section 1, since the target predicate dominates a predicate which is saturated by an argument.

3 Deriving pseudo-incorporation in Turkish

3.1 The problems of the complementation approach

The previous analyses of pseudo-incorporation with the assumption that it applies only between a lexical verb and its complement in the structure cannot easily account for the facts in Turkish illustrated in the previous section. As pseudo-incorporation in Turkish can apply not only to a theme but also to an agent or a goal, the complementation approach will not be able to maintain the widely acknowledged correlations between θ-roles and structural positions (Perlmutter and Postal 1984; Baker 1988).[16] Specifically, since Chomsky (1995) and Kratzer (1996), the standard assumption has been that an agent argument is introduced by an independent functional head, v or Voice, rather than by a lexical verb.[17] The complementation approach needs to allow exceptions to or dispense entirely with this assumption in order to account for agent pseudo-incorporation in Turkish. The case of goal pseudo-incorporation poses the same problem if it is assumed with Marantz (1993), Pylkkänen (2008), and Bruening (2010), among several others, that a goal argument in the ditransitive is introduced by an applicative head rather than by a lexical verb itself. The possibility of multi-nominal pseudo-incorporation is also problematic if a verb is allowed to have one complement at most (Kayne 1984). In short, the complementation approach is

(i) Öğretmen öğrenci-ye ödev ver-di.
teacher student-DAT homework give-PST
Possible: 'A teacher did homework-giving to a student.' *or* 'A teacher did homework-giving-to-student.'
Impossible: 'Teacher's homework-giving-to-student took place.'

In footnote 9, we pointed out that the name-worthiness condition is only a necessary condition for pseudo-incorporation, and consequently, not all institutionalized activities can be expressed by means of pseudo-incorporation. This can be the case for (i); that is, the fact that teacher's giving homework assignments to students is taken to be an institutionalized activity does not guarantee that it can be expressed by means of pseudo-incorporation. The impossibility of pseudo-incorporation for certain institutionalized activities may be due to some constraint(s) in the grammar or due to some conceptual factor(s) outside the grammar proper. We will have to leave this matter for future research.

16. See Massam (2001) and Clemens (2014) for the case of instrument pseudo-incorporation in Niuean.

17. The hypothesis of severed external arguments has not been unchallenged, however (We thank an anonymous reviewer for pointing this out). For instance, Horvath and Siloni (2002) argue, within the framework of the Theta System (Reinhart 2002), that the external argument is not an argument that is introduced by an independent functional head like Voice, but instead is an argument that is introduced in the outermost specifier position of VP. For our purposes, Horvath and Siloni's (2002) view is not radically different from the hypothesis of severed external arguments that we are assuming in the paper, since their system also enforces the hierarchical positions in which arguments with different θ-roles are introduced in the structure. Öztürk (2004, 2005, 2009), on the other hand, claims that the external argument (as well as the internal argument, for that matter) is severed from a lexical verb, but it can be introduced in the complement position of the verb in the form of a bare nominal. The nominal at Compl,VP, then, is associated with the agent θ-role by agreeing with the agent-introducing functional head above in the structure. See below in the text for an empirical problem for such a view.

not readily compatible with the post-Davidsonian view of argument structure (Ramchand 2008) widely assumed in the syntax literature.

Even if one does not acknowledge (at least the strongest version of) the correlations between θ-roles and structural positions or comes up with a system where a non-theme θ-role can be associated with the complement of a verb in certain contexts (e.g., Öztürk 2004, 2005, 2009), the complementation approach may still suffer from an empirical problem. In Turkish, certain adjectives can be used adverbially at the edge of VP. Importantly, pseudo-incorporated nominals should appear in different positions relative to the adjectival adverb according to the θ-role that they are associated with. When a theme is pseudo-incorporated, it must appear after an adjectival adverb as in (37a); and when an agent is pseudo-incorporated, it must appear before an adjectival adverb as in (37b).

(37) a. Ali {*şarkı güzel / güzel şarkı} söyle-di.
Ali {*song beautiful / beautiful song} say-PST
'Ali did song-singing beautifully.'

b. Ali-yi {arı kötü / *kötü arı} sok-tu.
Ali-ACC {bee bad / *bad bee} sting-PST
'Ali got bee-stung badly.'

Under the complementation approach, a pseudo-incorporated nominal invariably occupies Compl,VP; therefore, it should always be the case that a pseudo-incorporated nominal is allowed to appear after an adjectival adverb and banned from appearing before an adjectival adverb. The contrast in (37a–b) clearly shows that this is not the case. Rather, it appears to indicate that the pseudo-incorporated theme *şarkı* 'song' and the pseudo-incorporated agent *arı* 'bee' do not occupy the same structural position. That is, *şarkı* cannot appear before *güzel* 'beautiful' in (37a) because the position corresponds to somewhere outside VP, not the complement of VP; and *arı* cannot appear after *kötü* 'bad' in (37b) because the position corresponds to somewhere inside VP, not the specifier of VoiceP. The empirical problem of the complementation approach as such further motivates the need for a new analysis of pseudo-incorporation which maintains the θ-structure correlations. Note in passing that an example like (37b), as well as the possibility of scrambling a pseudo-incorporated nominal that will be discussed in Section 4, shows that linear adjacency between a property-denoting bare nominal and the lexical verb is not required for pseudo-incorporation in Turkish.

3.2 Proposal

Many of the properties of pseudo-incorporation discussed in Section 2 arise because pseudo-incorporated nominals are interpreted to qualify the events denoted by the predicates rather than saturating them as individual arguments. Chung and Ladusaw (2004) attempt to capture this semantic characteristic in terms of *Restrict*, a mode of semantic composition that does not saturate the predicate. Adopting Chung and Ladusaw's proposal, we assume that a property-denoting bare nominal is "pseudo-incorporated" to a predicate if and only if the two elements are semantically composed through Restrict as illustrated in (6a–b), repeated below.

(38) a. [$_{VP}$ *kitap oku*]
book read

b. Restrict (λx[book(x)], λyλe[read(e,y)]) = λyλe[book(y) & read(e,y)]

When a bare nominal is composed with a predicate via Restrict, the nominal gets to be interpreted as a restrictive modifier, not as an individual participant, of the predicate as shown in (38b). Importantly, the predicate stays unsaturated when it is composed with a nominal via Restrict; the unsaturated variable is existentially closed only later in the derivation. This plays a crucial role for the possibility of multi-nominal pseudo-incorporation in Turkish as will be discussed later in this section.

So far, we have been using the term "bare nominal" rather loosely to refer to 'a nominal without a determiner or quantifier'. But the term needs to be used with care because, as an anonymous reviewer

points out, the definite article is phonetically null in Turkish, and accordingly the presence or absence of a definite article cannot be seen on the surface. This makes an entity-denoting definite nominal also a bare nominal in the literal sense as a property-denoting nominal is a bare nominal. The former cannot be composed with a predicate via Restrict, whereas the latter can. In this regard, the term "bare nominal" in this paper must be understood as a nominal which is not associated with a determiner or quantifier in the structure whether the determiner/quantifier has an overt phonetic representation or not (cf. Farkas and de Swart 2003; Dayal 2011; Espinal and McNally 2011). An issue related to this is case marking. As discussed in Section 2.2, a goal can be pseudo-incorporated in Turkish even when it is marked with dative case. In the literal sense of bare nominal, then, a pseudo-incorporated goal must not be considered a bare nominal, in that it is attached with a case particle. In the sense of bare nominal that we adopt in the paper, however, a goal can still be bare if it is assumed that case markers are simply morphological realizations of agreement relations and do not constitute part of the nominal structure (as the head of KP, for instance). In fact, the absence of a case marker does not appear to be a necessary condition for pseudo-incorporation: e.g., a language like Hungarian is reported to exhibit pseudo-incorporation where a pseudo-incorporated nominal maintains the case marker attached to it (Kiss 2002; Farkas and de Swart 2003). A complication that would arise regarding the current view is cases like weak definites in English, as they show the properties of a pseudo-incorporated nominal while associated with the definite article *the*. Recognizing that the cases like weak definites in English pose potential problems, we will assume that Restrict in principle applies between a predicate and a nominal that does not have a determiner/quantifier in the structure.

Before going into the specific discussion of how the basic form of pseudo-incorporation, i.e., theme pseudo-incorporation, is derived under the current view, two assumptions need to be stated clearly that we adopt for the analysis. First, Chung and Ladusaw (2004:10) note that the lambda prefix of a predicate has two functions: semantic and syntactic ones. The semantic function is to track the degree of saturation of the predicate; and the syntactic function is to determine the order in which arguments are composed with the predicate. In the canonical cases where a predicate is composed with its argument via Functional Application, both the semantic and syntactic functions of the relevant lambda prefix are discharged; accordingly, the predicate can no longer take another argument to saturate the same variable. On the other hand, Chung and Ladusaw assume, when a predicate is composed with a property-denoting nominal via Restrict, only the syntactic function of the lambda prefix is discharged while the semantic function of the prefix stays intact. What this in effect means is that the order of the responsible lambda prefix, say λx, whose syntactic function is discharged via Restrict can be arbitrary in the lambda expression, for all that is indicated by λx in this case is that the predicate to which it is prefixed has a variable that has not been saturated, without any information about the order in which the variable has to be saturated. For expository purposes, we will assume in this paper that once the syntactic function of a lambda prefix is discharged, the prefix is "demoted" and comes right before the event variable with which the demoted lambda prefix is associated (that is, it comes after the lambda prefixes that have not been saturated in the same event domain).[18] This is the first assumption that we adopt for the analysis. The second assumption

18. Chung and Ladusaw (2004) assume that the order of a lambda prefix whose syntactic function is discharged becomes "arbitrary" because there is a case where the variable associated with the prefix with discharged syntactic function has to be saturated before another unsaturated prefix: e.g., the extra-object construction in Chamorro like (i) (where UNM indicates unmarked morphological case).

(i) Si Carmen gäi-ga' i ga'lagu.
UNM Carmen AGR.have-pet the dog
'Carmen has the dog as pet.' (*Literal*: 'Carmen pet-has the dog.')
(Chung and Ladusaw 2004:109, (70))

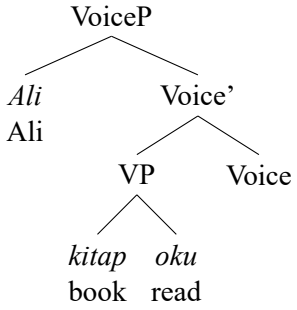
In the above example, the nominal expression *ga'* 'pet' is composed with *gäi* 'have' via Restrict, and the theme variable of *gäi*, then, is saturated by *i ga'lagu* 'the dog' before the external argument. If the lambda prefix which undergoes Restrict always had to come after the other unsaturated lambda prefix, an example like (i) would not be allowed, contrary to fact. For this reason, Chung and Ladusaw (2004:109) states that "[demotion of an argument's lambda prefix after Restrict has applied] is a possibility rather than a necessity". But if we adopt the severed external argument hypothesis of Kratzer (1996), and assume that the agent/initiator variable is introduced by Voice above VP while *i ga'lagu* is adjoined to VP, then the order of the demoted lambda prefix does not have to be arbitrary: even if it always comes right before the event variable in the lambda expression,

that we make with Chung and Ladusaw is that the unsaturated variable of a predicate resulted from Restrict is existentially closed right before the closure of the event argument, namely, at the point where the (extended) verbal projection (i.e., VoiceP) becomes the complement of an inflectional head, or at the "event level" (Chung and Ladusaw 2004:11–13; see also Diesing 1992). Existential Closure is forced so that the semantic completeness can be obtained before the event argument is closed.

Now moving on to the specific analysis of theme pseudo-incorporation, a transitive clause involving theme pseudo-incorporation in (1), repeated in (39), can be derived along the lines of (40a–b).

(39) Ali kitap oku-du.
Ali book read-PST
'Ali did book-reading.'

(40) a.



b. i. ⟦**kitap**⟧ = λx[book(x)]
ii. ⟦**oku**⟧ = λyλe[read(e,y)]
iii. ⟦**VP**⟧ = λyλe[book(y) & read(e,y)] (*by Restrict between* kitap *and* oku)
iv. ⟦**Voice**⟧ = λxλe'[agent(e',x)]
v. ⟦**Voice'**⟧ = λxλyλe[book(y) & read(e,y) & agent(e,x)] (*by Event Identification between* VP *and* Voice)
vi. ⟦**VoiceP**⟧ = λyλe[book(y) & read(e,y) & agent(e,Ali)] (*by Functional Application between* Ali *and* Voice')
vii. ⟦**VoiceP**⟧ = λe∃y[book(y) & read(e,y) & agent(e,Ali)] (*by Existential Closure*)

In (40b,v), Event Identification between VP and Voice yields a predicate Voice' which involves two lambda prefixes, one for an agent, λx, and the other for a theme, λy. Note that in Kratzer (1996), Event Identification is defined to apply between an element of type ⟨e,st⟩ and an element of type ⟨st⟩ (e.g., between Voice with an open variable for an agent and VP with no open variable) as in 'EI (λxλe[P(e,x)], λe'[Q(e')]) → λxλe[P(e,x) & Q(e)]'. Kratzer's specific rule does not allow a compositional step like (40b,v). However, we claim that identification of events has been considered to apply between elements of type ⟨e,st⟩ and type ⟨st⟩ because applying it to two elements of type ⟨e,st⟩ would cause semantic computation to crash due to the conflicting requirements of the combined predicates. In general, if the events of two predicates of type ⟨e,st⟩ are identified, the grammar cannot determine which of the two variables each predicate introduces to the resulting predicate must be saturated next; that is, the syntactic function of the lambda prefix of each of the combined predicates demands that it be saturated first, and the grammar does not have a means to settle this conflict. In this view, identification of events between two elements of type ⟨e,st⟩ may be possible if the lambda prefix of one of the predicates that are being combined has its syntactic function discharged. This is because in that case there will not arise any conflict in terms of the order in which arguments are composed with the resulting predicate: the lambda prefix of only one of the combined predicates still demands to take an argument next due to its intact syntactic function. We suggest this is the case in (40b,v). Identifying events between VP and Voice in

a sentence like (i) can still be correctly derived (because the head predicate of VP has only one lambda prefix). Since there seems to be no empirical difference between the two as far as we can tell, we will not attempt to determine if the lambda prefix with a discharged syntactic function has an arbitrary order or is demoted and comes after any lambda prefix (other than the one for an event variable) that is unsaturated.

(40b,v) has been made possible because the syntactic function of λy was discharged at the stage where VP is composed in (40b,iii), and accordingly, there would no longer be any order conflict between the lambda prefixes introduced by VP (i.e., λy) and Voice (i.e., λx) when a new predicate, Voice', is created by identifying events. In short, if the function of "Event Identification" is to simply identify events and nothing more as in (41), the compositional step in (40b,v) should be allowed since the grammatical constraint which would block such a step is not applicable due to the discharged syntactic function of λy.

(41) EI (P(e), Q(e')) → P(e) & Q(e)

Note that if Event Identification is understood as in (41), the seemingly distinct operations of Event Identification (Kratzer 1996:122) and Predicate Modification (Heim and Kratzer 1998:65) can be reduced to a single compositional procedure of *Identification* (cf. Higginbotham 1985). The only difference between the two is that the former identifies 'event arguments' whereas the latter 'individual arguments'. So, Event Identification applied in (40b,v) is nothing but a variant of the general procedure of Identification. For expository purposes, we will keep using the term Event Identification in the paper.

Now, turning back to the compositional steps in (40b), what the denotation of Voice' in (40b,v) means according to the current view is that semantically, it contains two open variables, one for an agent and the other for a theme, and syntactically, it must be composed next with an argument that saturates the agent variable. The agent variable is saturated by *Ali* in (40b,vi); and when the unsaturated theme variable in (40b,vi) is existentially closed at the event level, a semantically complete expression like (40b,vii) is produced, whose event variable is ready to be closed.

Note that no particular book is specified in (40b,vii). The variable of 'read' is not saturated by any entity-denoting element but instead is existentially closed at the level of VoiceP. What the nominal for 'book' does is to qualify the verbal event by restricting the kind of argument that the verb may be associated with.[19] This plays an important role in bringing about discourse opaqueness and number neutrality of the pseudo-incorporated nominals (although the latter is essentially because the associated event is atelic). Since the pseudo-incorporated bare nominal for 'book' does not saturate the predicate as an entity, the bare nominal cannot be referred back to by a pronominal element. Also, since the variable of the predicate is existentially closed rather than saturated by a nominal that has a referent, the number of the entity associated with the theme argument of the predicate is not specified.[20] The two properties can be observed in English passives too, where the agent argument is commonly taken to be existentially closed (e.g., *The door was knocked on. #Then he asked if anyone was there*; *The door was knocked on again and again* (by a single person or by multiple people)). The fact that Existential Closure takes place at the event level also captures obligatory narrow scope of the argument in question: the standard assumption is that negation is interpreted above the event level, which results in the existentially closed argument always falling in the scope of negation (Diesing 1992; Chung and Ladusaw 2004).

The key assumptions underlying the above account is that (i) the existential operator does not "saturate" a variable in the strict sense but instead merely "closes" or "quantifies over" a variable, and that (ii) an existentially closed variable is different in nature from a variable saturated by an argument, whether the variable-saturating argument is specific or, importantly, non-specific.[21] That is, pseudo-incorporated

19. In the sense that the pseudo-incorporated nominal is viewed to function as a modifier of the verbal event that creates a subtype of that event, the current analysis is similar in spirit with the analysis proposed by Dayal (2011). In Dayal's analysis, the existential operator is integrated into the denotation of an incorporating lexical verb which is also specified to take a property as its first argument thereby having the property-denoting bare nominal modify the verbal event. In the current analysis, the existential operator is instead introduced at the event level, and the property-denoting nominal is interpreted to modify the verbal event through the application of Restrict between the nominal and its sister predicate.

20. See Farkas and de Swart (2003:100–107) for the view that pseudo-incorporated nominals are number neutral and discourse opaque essentially because they are property-denoting NPs, not entity-denoting DPs, which as far as we can tell is consistent with the view presented in the text. See also footnote 10.

21. Chung and Ladusaw (2004:15) suggest that the semantic composition between an indefinite and a predicate proceeds by means of *Specify*, a compound mode of composition that applies a choice function followed by Functional Application.

(i) FA (λxλe[bark(e,x)], CF (λy[dog(y)])) = ∃f∃e[bark(e,f(dog))]
(from Chung and Ladusaw 2004:15, (30))

nominals are viewed to be distinct from non-specific arguments. In this sense, the current analysis cannot be subsumed under Diesing's (1992) analysis of non-specific indefinites (i.e., non-presuppositional indefinites that stay inside the verbal projection). In fact, pseudo-incorporated nominals show several properties which indicate that they should be treated independently of non-specific indefinites. First, as discussed earlier, a pseudo-incorporated nominal has weak referential force and accordingly cannot antecede a pronominal element, whereas a non-specific indefinite can antecede a pronominal element (Aydemir 2004). The contrast is illustrated in (42a–b). Note that in both examples, the theme in the preceding clause is not case-marked and thus is non-specific in the sense of Enç (1991), which in turn means according to Diesing's analysis that they both stay inside VP, or the "nuclear scope".

(42) a. # Dün film$_i$ seyret-ti-m, o$_i$-nu sen de seyret-meli-sin.
yesterday film$_i$ watch-PST-1SG that$_i$-ACC you too watch-MOD-2SG
'I did movie$_i$-watching yesterday, you should watch it$_i$ too.'

b. Dün bir film$_i$ seyret-ti-m, o$_i$-nu sen de seyret-meli-sin.
yesterday one film$_i$ watch-PST-1SG that$_i$-ACC you too watch-MOD-2SG
'I watched a movie$_i$ yesterday, you should watch it$_i$ too.'

(adapted from Aydemir 2004:468, (8a–b))

Second, pseudo-incorporation is subject to the name-worthiness condition; for example, *doktor* 'doctor' can, but *hemşire* 'nurse' cannot, be interpreted as a restrictive modifier of the event denoted by *yolla* 'send' in Turkish (see (19a–b)). Such a constraint, as far as we are aware, does not exist for the distinction between specific and non-specific indefinites. Third, Diesing shows that scrambling of an indefinite object out of VP causes the object to lose its non-specificity in German. On the contrary, it has been reported that scrambling of a pseudo-incorporated nominal does not affect its interpretation as a restrictive modifier in languages like Turkish (Kornfilt 2018; Öztürk 2009) or Hindi (Dayal 2011) (see Section 4 for relevant discussion). Fourth, pseudo-incorporation is structurally constrained in a way that specificity is not: for instance, agent pseudo-incorporation is allowed in the transitive (as shown in Section 2.1) but disallowed in the ditransitive (see (43) below). Such a restriction does not seem to exist for a non-specific indefinite, and an agent can be interpreted as non-specific regardless of the kind of construction in which it appears (e.g., *öğretmen* 'teacher' in (43) can still have the non-specific interpretation where it does not "refer to an individual that the speaker has in mind" (Kelepir 2001:61). The differences listed here suggest that pseudo-incorporation in Turkish needs an account independent of Diesing's account of non-specific arguments.[22]

Returning to the main discussion, if pseudo-incorporation is simply the application of Restrict between a bare nominal and a predicate, and nothing more, it might be entirely productive in any language that allows pseudo-incorporation, since the language must employ Restrict as a productive grammatical process.[23] However, this is not the case, and in many pseudo-incorporating languages, only a theme is

They take Specify to be a semantic process that saturates a predicate, since the choice function maps a property-denoting expression into an individual even though the choice function itself needs to be existentially closed at some point in the derivation. The example in (i), therefore, is viewed to "entail that a particular dog barked" without "giv[ing] any information about which dog barked". In this paper, we assume that an indefinite is NP with a determiner/quantifier which cannot be targeted by Restrict and thus always saturates the predicate as an argument, abstracting away from the application of a choice function.

22. See Aydemir (2004) for some other differences between pseudo-incorporated bare nominals and non-specific indefinites in Turkish.

23. An anonymous reviewer points out that the idea that different languages make use of different modes of semantic composition is often denied, for it is questionable if composition rules can be learned from primary linguistic data. Regarding this issue, we will assume that although Restrict is universal across languages, each language conventionalizes its use in an idiosyncratic way so that the environment in which it may apply should be memorized by the language learners. Different languages in fact seem to allow Restrict in idiosyncratic environments: for instance, only two verbs of possession (*găi* 'have' and *tăi* 'not have') can be a target predicate of Restrict in Chamorro (Chung and Ladusaw 2004); the DP structure can be a target nominal of Restrict in a language like English (if weak definites are analyzed as an instance of pseudo-incorporation; Schwarz 2014), while in some varieties of English spoken in and around London, Restrict may also apply between *go* or *come*, on the one hand, and a bare nominal associated with the goal θ-role, on the other (e.g., *I went chicken shop every day last week* 'I did chicken shop going every day last week'; Hall 2019); and in Hungarian, Restrict may apply only when a bare nominal is in a specific structural position usually occupied by particles (Farkas and de Swart 2003), etc.

allowed to undergo pseudo-incorporation while an agent or a goal is not. In Turkish as well, pseudo-incorporation is not unrestricted. Agent pseudo-incorporation is possible in the unergative or the transitive as illustrated above, but it is not possible in the ditransitive as shown in (43), where the goal argument is scrambled away to show that linear adjacency is not the issue.

(43) * Öğrenciler$_i$-e ödev-i öğretmen t_i ver-di.
students$_i$-DAT homework-ACC teacher t_i give-PST
Intended: 'The students got teacher-given a homework assignment.'

Clearly, Restrict is not freely available in any environment. We argue that this is because it is subject to the structural condition in (44), repeated from (7), at LF.

(44) Restrict may apply between a property-denoting nominal node N and a predicate-denoting node P only if there is no predicate-denoting node Q dominated by P such that P and Q are minimally dominated by the same VoiceP and Q is saturated by its sister.

According to Condition (44), theme pseudo-incorporation is predicted to be possible in any pseudo-incorporating language. This is because the theme is associated with the complement of a lexical verb, and therefore, the predicate with which a property-denoting nominal is composed via Restrict (namely, the lexical verb) could not have any history of saturation (within the same eventuality that it belongs to). As for non-theme pseudo-incorporation, on the other hand, it will be blocked in canonical cases since a non-theme argument is generally introduced after a theme argument. The predicate with which a non-theme bare nominal is composed will normally have a history of saturation; it will contain a predicate (i.e., the lexical verb) that is saturated by the theme argument introduced as its complement. We believe this is why non-theme pseudo-incorporation is not allowed in many pseudo-incorporating languages. Then the question is how non-theme pseudo-incorporation as well as multi-nominal pseudo-incorporation are possible in Turkish. In the following subsections, we suggest that non-theme and multi-nominal pseudo-incorporation is allowed in Turkish primarily because the language vacates VP before the structure is sent to LF for semantic composition by moving the theme argument to a position higher than where an agent is introduced.

We close this subsection by pointing out that the current view of pseudo-incorporation circumvents the problems that the complementation approach runs into. The current approach does not assume that pseudo-incorporation takes place only between a lexical verb and its syntactic complement; all it assumes is that pseudo-incorporation is the result of the semantic composition of Restrict. Restrict, in principle, may apply between any sister nodes of a property-denoting nominal and a predicate. Accordingly, the correlations between θ-roles and structural positions may be maintained. In the same vein, the problem involving adjectival adverbs in (37a–b) can easily be avoided. Under the current approach, the pseudo-incorporated theme indeed occupies Compl,VP while the pseudo-incorporated agent Spec,VoiceP, as illustrated in (45) and (46), respectively.

(45) a. Ali güzel şarkı söyle-di.
Ali beautiful song say-PST
'Ali did song-singing beautifully.'

b. [$_{\text{VoiceP}}$ *Ali* [$_{\text{VP}}$ *güzel* [$_{\text{VP}}$ ***şarkı*** *söyle*]] Voice]
Ali beautiful song say

(46) a. Ali-yi arı kötü sok-tu.
Ali-ACC bee bad sting-PST
'Ali got bee-stung badly.'

b. [$_{\text{VoiceP}}$ *Ali$_i$-yi* [$_{\text{VoiceP}}$ ***arı*** [$_{\text{VP}}$ *kötü* [$_{\text{VP}}$ t_i *sok*]] Voice]]
Ali$_i$-ACC bee bad t_i sting

The same is true for goal pseudo-incorporation, under which the property-denoting nominal is introduced at Spec,ApplP between the VoiceP and VP layers. A pseudo-incorporated goal must appear before an adjectival adverb. A relevant example and its derivation up to VoiceP is shown below.

(47) a. Toptancı ürünler-i {*hızlı pazar-a / pazar-a hızlı} yolla-dı.
wholesaler products-ACC {*fast market-DAT / market-DAT fast} send-PST
'The wholesaler did to-market-sending the products quickly.'

b. [$_{\text{VoiceP}}$ *ürünler*$_i$-*i* [$_{\text{VoiceP}}$ *toptancı* [$_{\text{ApplP}}$ ***pazar-a*** [$_{\text{VP}}$ *hızlı* [$_{\text{VP}}$ t_i *yolla*]] Appl]
products$_i$-ACC wholesaler market-DAT fast t_i send
Voice]]

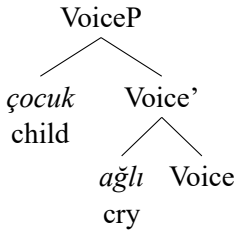
See the next subsection for the specific analysis of agent and goal pseudo-incorporation relevant to (46) and (47), including the treatment of the A-trace left behind inside VP. For now, it suffices to note that the proposed approach maintains the θ-structure correlations, thereby offering a straightforward account of the varying positions of pseudo-incorporated nominals relative to an adjectival adverb in (45)–(47). Note also that the adjectival adverbs *kötü* 'bad' and *hızlı* 'fast' in (46) and (47), respectively, are not arguments of, and thus do not saturate, the verbs. Hence, they do not prevent pseudo-incorporation that takes place above them in accordance with Condition (44).[24]

3.3 Deriving agent and goal pseudo-incorporation

Agent pseudo-incorporation can be analyzed basically in the same way as theme pseudo-incorporation discussed in the previous subsection, with the only difference being that the pseudo-incorporated nominal is introduced at Spec,VoiceP rather than at Compl,VP. Specifically, agent pseudo-incorporation in an unergative clause like (48) can be derived along the lines of (49a–b).

(48) Park-ta çocuk ağlı-yor. (= (11a))
playground-LOC child cry-PRS
'Child-crying takes place at the playground.'

(49) a.



b. i. ⟦**ağlı**⟧ = λe[cry(e)]
ii. ⟦**Voice**⟧ = λxλe'[agent(e',x)]
iii. ⟦**Voice'**⟧ = λxλe[cry(e) & agent(e,x)] (*by Event Identification between* ağlı *and* Voice)
iv. ⟦**çocuk**⟧ = λy[child(y)]
v. ⟦**VoiceP**⟧ = λxλe[cry(e) & agent(e,x) & child(x)] (*by Restrict between* çocuk *and* Voice')
vi. ⟦**VoiceP**⟧ = λe∃x[cry(e) & agent(e,x) & child(x)] (*by Existential Closure*)

24. An anonymous reviewer points out that the classic linear adjacency condition on pseudo-incorporation may be maintained if the adjectival adverbs in (46) and (47) are counted as pseudo-incorporated. That is, the structural condition that we propose in (44) may be replaced by a condition stated in terms of linear order; for instance, the condition may be stated (informally) as in "pseudo-incorporation is possible between a nominal and a verb only when there is no non-pseudo-incorporated element intervening between the two". In fact, (morphosyntactic) adverb incorporation is attested in languages like Chukchi (Spencer 1995) and Greek (Rivero 1992), which makes the possibility of adverb pseudo-incorporation not too far-fetched. However, the linear adjacency condition on pseudo-incorporation cannot be maintained in Turkish for reasons other than the relative positions of adjectival adverbs. For instance, as Kornfilt (2003) and Öztürk (2009) show, various kinds of particles can intervene between a pseudo-incorporated nominal and the verb, and a pseudo-incorporated nominal itself can scramble away from the position adjacent to the verb while maintaining its interpretation as a restrictive modifier (see Section 4 for relevant discussion, and footnote 34, in particular, for an alternative possibility that the "scrambled" pseudo-incorporated nominal is actually base-generated in a dislocated position). As shown in (43), scrambling of an intervening element to a non-intervening position does not affect the possibility of pseudo-incorporation, either. Given these facts, it seems more plausible that pseudo-incorporation is constrained by a structural condition like (44) rather than by a linear adjacency condition.

In (49b,v), Restrict applies between the property-denoting nominal *çocuk* 'child' at Spec,VoiceP and the predicate of type ⟨e,st⟩ that is its sister, namely, Voice'. When Existential Closure takes place at the event level as in (49b,vi), the semantically complete expression with the pseudo-incorporation interpretation is produced. Importantly, an example like (48) is possible because the [EPP] on T can be checked through V-to-T movement, rather than through XP-movement, in Turkish (Öztürk 2004, 2005; see also Alexiadou and Anagnostopoulou 1998).[25] In other words, Spec,TP need not necessarily be occupied by a nominal in Turkish, allowing the property-denoting nominal at Spec,VoiceP to stay in situ in the unergative. Consequently, the nominal can be pseudo-incorporated into the predicate (or be composed with it via Restrict) at LF.[26] Recall that Existential Closure of the unsaturated variable occurs at the level of VoiceP. What this means is that Restrict must take place within VoiceP; if it took place above VoiceP, e.g., at the TP layer between an A-moved nominal at Spec,TP and T', the semantic completeness could not be obtained when VoiceP is taken by an inflectional head, and the derivation would crash at LF.

The derivation of agent pseudo-incorporation in the transitive is a bit more complicated than that in the unergative. At first sight, agent pseudo-incorporation is expected to be banned in the transitive. This is because, unlike the unergative, the transitive involves a theme argument introduced at Compl,VP, which saturates the lexical verb before the property-denoting nominal at Spec,VoiceP can be pseudo-incorporated to Voice'. Then, the predicate Voice' with which the property-denoting nominal needs to be composed via Restrict would have the history of saturation within the VoiceP domain in the transitive, and it would block the application of Restrict between the nominal at Spec,VoiceP and Voice' in violation of Condition (44). This is actually one of the reasons why agent pseudo-incorporation is disallowed in many pseudo-incorporating languages. In the case of Turkish, however, an independently motivated operation in the syntax makes it possible to circumvent the violation of Condition (44).

Specifically, the theme argument of a transitive verb has been claimed to obligatorily move out of VP for case reasons in Turkish (Kennelly 1994; Zidani-Eroğlu 1997; Kelepir 2001; Arslan-Kechriotis 2006).[27] The motivation for the theme extraction comes from the relative position of an accusative-

25. Öztürk (2005:139–141) shows that the [EPP] on T in Turkish need not be checked off by projecting a specifier based on the contrast in scope possibilities exemplified below.

(i) a. Bütün çocuklar o test-e gir-me-di.
all children that test-DAT take-NEG-PST
'All children did not take that test.' (*∀ > ¬; ¬ > ∀)

b. Bütün çocuklar o test-e gir-me-di-ler.
all children that test-DAT take-NEG-PST-3PL
'All children did not take that test.' (∀ > ¬; *¬ > ∀)

(Öztürk 2005: 139, (70a–b))

According to Öztürk, *bütün çocuklar* 'all children' in (ia) takes narrow scope with respect to negation because it stays in its θ-position, i.e., Spec,VoiceP, in the syntax thereby falling in the scope of negation. On the other hand, *bütün çocuklar* in (ib) takes wide scope with respect to negation because it moves to Spec,TP, triggering the subject-verb agreement through the spec-head relation. The contrast in (ia–b) suggests that an NP does not have to move to Spec,TP for [EPP] reasons in Turkish. An anonymous reviewer points out that there is a possibility that the contrast in (ia–b) is simply stylistic rather than semantic. In this case, the [EPP] on T may be assumed to be satisfied by an expletive null pronoun in Turkish (We thank the anonymous reviewer for pointing this out). In the text, for the sake of discussion, we will assume that the [EPP] on T in an example like (ia) is checked off via V-to-T movement following Alexiadou and Anagnostopoulou (1998). What matters for the current purpose is that a property-denoting nominal is allowed to stay in situ in a thematic position in Turkish.

26. The analysis in the text owes a debt to Öztürk (2009:355–356). Note also that theme pseudo-incorporation in the unaccusative, exemplified in (i), is allowed in Turkish for the same reason.

(i) Köy-e doktor gel-di.
village-DAT doctor come-PST
'Doctor-arriving took place at the village.'
(Öztürk 2009:335, (2a))

That is, the sole argument *doktor* 'doctor' of the unaccusative verb *gel* 'come' in (i) can undergo pseudo-incorporation because it does not move to Spec,TP in the syntax and thus can be composed with the verb via Restrict in its base position at LF.

27. The theme extraction may be triggered purely for case reasons, and the "specificity" that an accusative-marked theme carries be the consequence of some other mechanism in the grammar, such as the Mapping Hypothesis of Diesing (1992). Or conversely, the theme extraction may be triggered for semantic reasons so that specific theme arguments can escape the

marked theme argument with respect to adverbial elements. Consider the following example:

(50) Ali {şarkı-yı güzel / *güzel şarkı-yı} söyle-di.
Ali {song-ACC beautiful / *beautiful song-ACC} say-PST
'Ali sang a song beautifully.'

It has been noted earlier that an adjectival adverb like *güzel* 'beautiful' in Turkish is generated at the edge of VP. The contrast illustrated in (50) then indicates that the accusative-marked theme argument, *şarkı-yı* 'song-ACC', must occur outside of VP and is banned from occupying its θ-position, Compl,VP, since it can only appear before the adjectival adverb, not after it. Kelepir (2001:102–108) notes that the same conclusion can be drawn with an ordinary manner adverb.[28] According to Kelepir, personal pronouns (among others such as proper names, NPs with demonstratives, possessive subjects; see also Enç 1991) are always specific and obligatorily marked with accusative case. The accusative-marked pronouns are not allowed to appear after a manner adverb as illustrated below.

(51) Hansan {sen-i deli gibi / *deli gibi sen-i} sev-iyor.
Hansan {you-ACC like crazy / *like crazy you-ACC} love-PRS
'Hansan loves you madly.'
(from Kelepir 2001:103, (162a–b))

Kelepir assumes that a manner adverb like *deli gibi* 'madly' appears at the edge of VoiceP. Then, the pattern in (51) again supports the view that the accusative-marked pronoun *sen* 'you' should be extracted out of VP to some higher position.[29] The specific landing site of the extracted theme argument is tangential to the analysis we are proposing (it is claimed to land in the outermost Spec,VoiceP position in Kelepir 2001, and at Spec,AgrOP in Kennelly 1994). We will assume that it moves to the (outermost) edge of VoiceP for convenience of exposition.

Crucial for our analysis is the idea that the obligatory extraction of the theme argument creates the environment where the property-denoting nominal at Spec,VoiceP and its sister predicate Voice' can be composed via Restrict. To elaborate, consider the example in (52), repeated from (2), which is derived along the lines of (53) in the syntax. Recall from above that *arı* 'bee' in (53) does not have to move to Spec,TP because the position need not be filled by a nominal in Turkish.

(52) Ali-yi arı sok-tu.
Ali-ACC bee sting-PST
'Ali got bee-stung.'

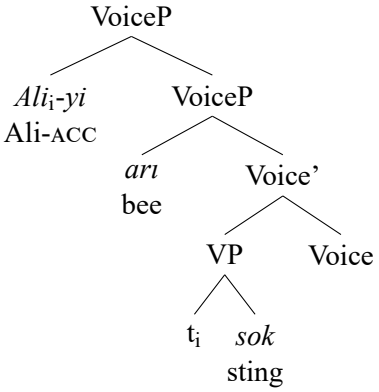
nuclear scope; and accusative case may be assigned to the escaped theme on a configurational basis along the lines of Baker and Vinokurova (2010). We will assume the former for the purpose of discussion. What is important for our purposes is that a theme argument undergoes movement out of its base position.

28. She attributes the observation to Kennelly (1994), Zidani-Eroğlu (1997), and G. Aygen (1999).

29. An accusative-marked theme can of course appear after a higher adverb like *dün* 'yesterday'.

(i) Ali dün kitab-ı oku-du.
Ali yesterday book-ACC read-PST
'Ali read a book yesterday.'

(53)



In (53), the theme argument *Ali* moves to the edge of VoiceP and it leaves behind a trace in the complement position of the verb. Now, suppose the structure has been transferred to LF for semantic composition. Importantly, the A-trace in (53) occupies a structural position but it does not saturate the verb on its own. This is because as a mere member of the A-chain (Ali_i, t_i), the trace alone does not constitute a syntactic entity which can be assigned a θ-role. It is the whole A-chain that is assigned a θ-role.[30] Put differently, the A-trace by itself lacks the ability to saturate the variable of the verb; therefore, the saturation of the verb *sok* 'sting' does not occur at the VP level. What this in turn means is that the predicate Voice', which the property-denoting nominal *arı* needs to be composed with through Restrict, does not dominate any predicate saturated by its sister. Accordingly, the bare nominal *arı* can be pseudo-incorporated to Voice' in the structure in (53) without violating Condition (44). The semantic composition for the structure in (53) is presented below.

(54) i. ⟦**VP**⟧ = λxλe[sting(e,x)]
ii. ⟦**Voice**⟧ = λyλe'[agent(e',y)]
iii. ⟦**Voice'**⟧ = λyλxλe[sting(e,x) & agent(e,y)] (*by Event Identification between* VP *and* Voice)
iv. ⟦**arı**⟧ = λz[bee(z)]
v. ⟦**(lower) VoiceP**⟧ = λxλyλe[sting(e,x) & agent(e,y) & bee(y)] (*by Restrict between* arı *and* Voice')
vi. ⟦**(higher) VoiceP**⟧ = λyλe[sting(e,Ali) & agent(e,y) & bee(y)] (*by Functional Application*)
vii. ⟦**(higher) VoiceP**⟧ = λe∃y[sting(e,Ali) & agent(e,y) & bee(y)] (*by Existential Closure*)

Note that in (54i), the syntactic function of λx is assumed to be discharged by the trace. Although it does not have the ability to saturate a predicate, the trace is still occupying the complement position of the verb in the structure and thus must check off the order requirement imposed by the lambda prefix of the verb.[31] It is the semantic function of the verb's lambda prefix that an A-trace cannot discharge, having the verb stay unsaturated. This assumption is crucial for the composition in (54iii), where Event Identification applies between VP and Voice. Applying Event Identification as in (54iii) is possible because the syntactic function of λx has been discharged by the A-trace in (54i), and thus when Event Identification applies, no order conflict arises between λx introduced by VP and λy introduced by Voice: the demoted prefix λx simply comes after the non-demoted prefix λy. In (54v), Restrict applies between the property-denoting nominal *arı* and Voice'. At this point, the syntactic function of λy is discharged; as a result, λy of Voice' is demoted and is placed after λx. Then in (54vi), *Ali* saturates the theme variable of

30. See Jacobson (1990) for a similar view presented under the framework of Categorial Grammar, and Chomsky (2008) for the view that A-traces are invisible. Also, Fox (1999:193) notes the possibilities that A-movement might not be capable of leaving a copy at all (or it might leave a copy optionally); if so, semantic composition has to occur at the head of an A-chain as well (since there is no copy to process at the tail), giving us the desired result (see also footnote 33).

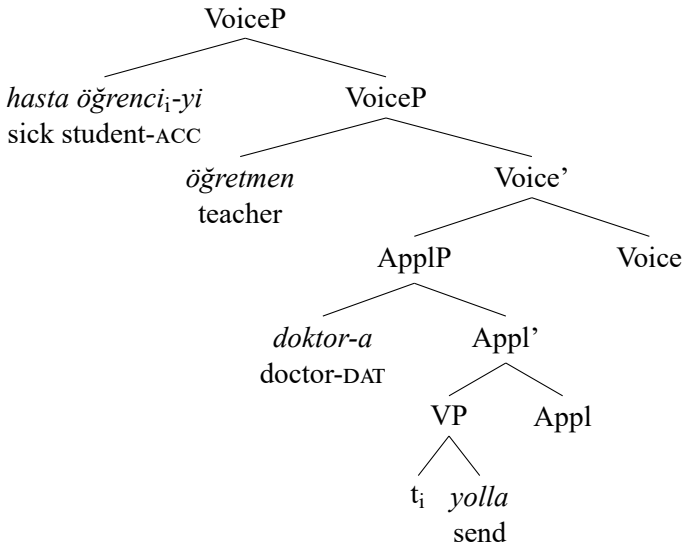
31. If we adopt Fox's (1999) hypothesis presented in footnote 30, then it can be said instead that the syntactic function of λx in (54i) is discharged when the theme argument is initially merged with the verb *sok*.

sok via Functional Application.[32] When Existential Closure takes place in (54vii), the expected semantics of the example in (52) is produced.

The analysis of agent pseudo-incorporation as such can easily extend to goal pseudo-incorporation. An example like (3), repeated below, for instance, can be derived as illustrated in (56a–b). Note that the surface order in (55) is derived after the agent argument *öğretmen* 'teacher' at Spec,VoiceP in (56a) moves to some higher position in the structure.

(55) Öğretmen hasta öğrenci-yi doktor-a yolla-dı.
teacher sick student-ACC doctor-DAT send-PST
'The teacher did to-doctor-sending the sick student.'

(56) a.



b. i. ⟦**VP**⟧ = λxλe[send(e,x)]
ii. ⟦**Appl**⟧ = λyλe'[goal(e',y)]
iii. ⟦**Appl'**⟧ = λyλxλe[send(e,x) & goal(e,y)] (*by Event Identification between* VP *and* Appl)
iv. ⟦**doktor**⟧ = λz[doctor(z)]
v. ⟦**ApplP**⟧ = λxλyλe[send(e,x) & goal(e,y) & doctor(y)] (*by Restrict between* doktor *and* Appl')
vi. ⟦**Voice**⟧ = λzλe"[agent(e",z)]
vii. ⟦**Voice'**⟧ = λzλxλyλe[send(e,x) & goal(e,y) & doctor(y) & agent(e,z)] (*by Event Identification between* ApplP *and* Voice)
viii. ⟦**(lower) VoiceP**⟧ = λxλyλe[send(e,x) & goal(e,y) & doctor(y) & agent(e,teacher)] (*by Functional Application*)
ix. ⟦**(higher) VoiceP**⟧ = λyλe[send(e,sick student) & goal(e,y) & doctor(y) & agent(e,teacher)] (*by Functional Application*)
x. ⟦**(higher) VoiceP**⟧ = λe∃y[send(e,sick student) & goal(e,y) & doctor(y) & agent(e,teacher)] (*by Existential Closure*)

As in the derivation of agent pseudo-incorporation, the A-trace at Compl,VP discharges the syntactic function of λx in (56b,i), and it makes Event Identification possible between VP and Appl in (56b,iii). Also, the trace itself does not saturate the theme variable of *yolla* 'send'. Accordingly, Restrict is possible between the property-denoting nominal *doktor* 'doctor' and the predicate Appl' in (56b,v). At this point, as before, the syntactic functions of λx and λy have been discharged. This makes Event Identification

32. Note that even if the relative order between λx (whose syntactic function is discharged by an A-trace) and λy (whose syntactic function is discharged by Restrict) were entirely arbitrary (see footnote 18), *Ali* would still be able to saturate the variable of *sok* as in (54vi) through the mediation of the trace in (53).

between ApplP and Voice possible in (56b,vii). A series of Functional Application applies in (56b,viii) and (56b,ix); and when Existential Closure takes place at the event level, the expected semantics of the example is derived in (56b,x).

To summarize the discussion so far, we have shown that agent and goal pseudo-incorporation is possible in Turkish because of the extraction of the theme argument out of VP to move to a position higher than where an agent is introduced, which has been independently argued for in the literature. We have claimed that the movement operation in the syntax makes the application of Restrict possible between an agent and Voice' or between a goal and Appl': the movement operation leaves behind an A-trace inside VP, and the trace discharges the syntactic function but does not discharge the semantic function of the lambda prefix of a lexical verb. The peculiar status of an A-trace as such has been suggested to provide a way to circumvent the violation of Condition (44).

Under the present account, it is predicted that agent pseudo-incorporation is not possible in the di-transitive, even though it is normally allowed in Turkish. This is because the presence of a goal argument below VoiceP saturates Appl', bleeding the application of Restrict between an agent and Voice' above the ApplP layer. This prediction is borne out as shown in the ungrammaticality of (57).

(57) * Ödev-i öğretmen öğrenciler-e ver-di.
homework-ACC teacher students-DAT give-PST
Intended: 'The students got teacher-given homework.'

An example like (57) is ungrammatical with the intended interpretation. This is because unlike the theme argument, the goal argument does not undergo A-movement in Turkish. Therefore, it always saturates a variable before a property-denoting nominal at Spec,VoiceP gets to be composed with its sister predicate Voice', making the application of Restrict impossible due to Condition (44).

Note that scrambling of the goal argument out of ApplP does not help circumvent the violation of Condition (44) as noted in (43), repeated below.

(58) * Öğrenciler$_i$-e ödev-i öğretmen t_i ver-di.
students$_i$-DAT homework-ACC teacher t_i give-PST
Intended: 'The students got teacher-given homework.'

This is because of the obligatory reconstruction of A'-moved elements at LF for the purpose of semantic composition. See Section 4 for relevant discussion.

3.4 Successive application of Restrict

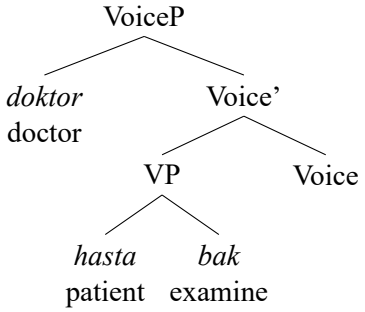
We have shown in Section 2.3 that Turkish allows more than one nominal to undergo pseudo-incorporation within a single clause. This is actually expected under Condition (44), which limits Restrict to apply only when the predicate has not been saturated in the previous steps of semantic composition within the event domain. Since Restrict itself is a mode of composition which never saturates a predicate, it may apply successively; Condition (44) is silent about successive application of Restrict.

The first case of successive application of Restrict that we will discuss is agent-theme pseudo-incorporation in the transitive exemplified in (59).

(59) Dün bizim hastane-miz-de doktor hasta bak-ma-dı.
yesterday our hospital-POSS-LOC doctor patient examine-NEG-PST
'Yesterday, doctor-patient-examining did not take place in our hospital.'

An example like (59) can be derived, again, basically in the same way as the other forms of pseudo-incorporation, except that Restrict now applies more than once in the event domain. This is shown in (60a–b). Note that in (60a), the complement of the verb, i.e., the pseudo-incorporated theme, does not undergo A-movement to the edge of VoiceP as a pseudo-incorporated theme is not marked with accusative case.

(60) a.



b. i. ⟦**hasta**⟧ = λx[patient(x)]

ii. ⟦**bak**⟧ = λyλe[examine(e,y)]

iii. ⟦**VP**⟧ = λyλe[examine(e,y) & patient(y)] (*by Restrict between* hasta *and* bak)

iv. ⟦**Voice**⟧ = λxλe'[agent(e',x)]

v. ⟦**Voice'**⟧ = λxλyλe[examine(e,y) & patient(y) & agent(e,x)] (*by Event Identification between* VP *and* Voice)

vi. ⟦**doktor**⟧ = λz[doctor(z)]

vii. ⟦**VoiceP**⟧ = λyλxλe[examine(e,y) & patient(y) & agent(e,x) & doctor(x)] (*by Restrict between* doktor *and* Voice')

viii. ⟦**VoiceP**⟧ = λe∃y∃x[examine(e,y) & patient(y) & agent(e,x) & doctor(x)] (*by Existential Closure*)

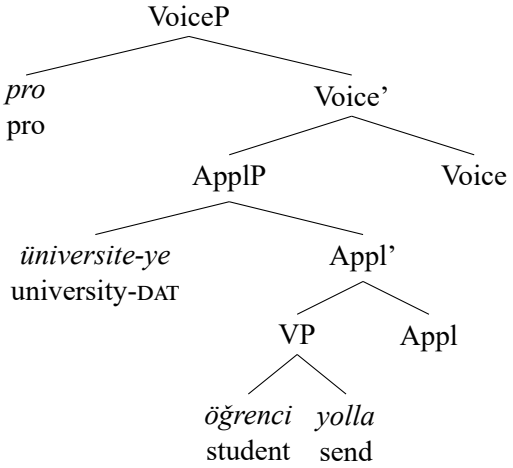
In (60b,iii), Restrict applies between *hasta* 'patient' and *bak* 'examine'. As a result, the syntactic function of λy is discharged, while its semantic function stays intact as Restrict does not saturate the verb. The discharge of the syntactic function of λy makes possible Event Identification between VP and Voice in (60b,v) as before: no order conflict arises between λy introduced by *bak* and λx introduced by Voice. Since the resulting predicate Voice' does not have any history of saturation, it can be composed with *doktor* 'doctor' via Restrict in (60b,vii). When Existential Closure takes place at the event level as in (60b,viii), the expected semantics is derived.

Importantly, the second application of Restrict (agent pseudo-incorporation) is possible above, because the first application of Restrict (theme pseudo-incorporation) does not saturate the predicate (namely, *bak*), having the target predicate of the second application of Restrict (namely, Voice') have no history of saturation in accordance with Condition (44). The same line of analysis can be given for goal-theme pseudo-incorporation in the ditransitive exemplified in (61).

(61) Üniversite-ye öğrenci yolla-ya-ma-dık.
university-DAT student send-ABIL-NEG-PST
'We couldn't do student-to-university sending.'

The derivation of (61) proceeds along the lines of (62a–b).

(62) a.



b. i. ⟦**öğrenci**⟧ = λx[student(x)]

ii. ⟦**yolla**⟧ = λyλe[send(e,y)]

iii. ⟦**VP**⟧ = λyλe[send(e,y) & student(y)] (*by Restrict between* öğrenci *and* yolla)

iv. ⟦**Appl**⟧ = λxλe'[goal(e',x)]

v. ⟦**Appl'**⟧ = λxλyλe[send(e,y) & student(y) & goal(e,x)] (*by Event Identification between* VP *and* Appl)

vi. ⟦**üniversite**⟧ = λz[university(z)]

vii. ⟦**ApplP**⟧ = λyλxλe[send(e,y) & student(y) & goal(e,x) & university(x)] (*by Restrict between* üniversite *and* Appl')

viii. ⟦**Voice**⟧ = λzλe"[agent(e",z)]

ix. ⟦**Voice'**⟧ = λzλyλxλe[send(e,y) & student(y) & goal(e,x) & university(x) & agent(e,z)] (*by Event Identification between* ApplP *and* Voice)

x. ⟦**VoiceP**⟧ = λyλxλe[send(e,y) & student(y) & goal(e,x) & university(x) & agent(e,pro)] (*by Functional Application*)

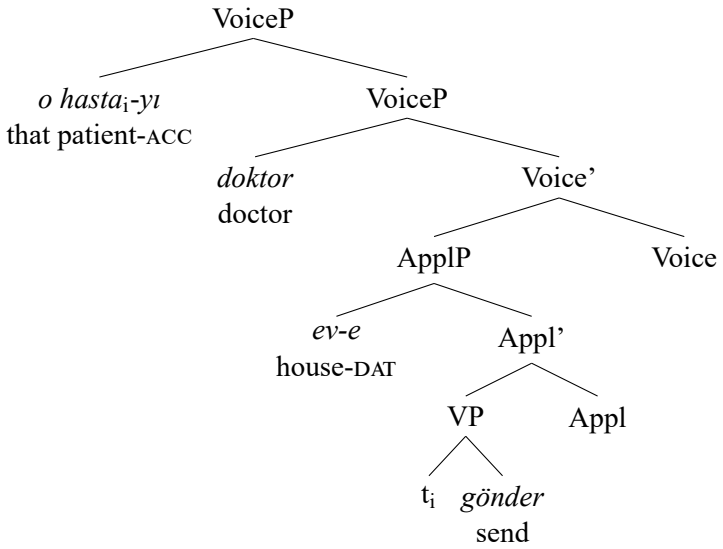
xi. ⟦**VoiceP**⟧ = λe∃y∃x[send(e,y) & student(y) & goal(e,x) & university(x) & agent(e,pro)] (*by Existential Closure*)

In the derivation of goal-theme pseudo-incorporation as well, the second application of Restrict (goal pseudo-incorporation) in (62b,vii) does not violate Condition (44), because the first application of Restrict (theme pseudo-incorporation) in (62b,iii) does not saturate the verb, making Appl', the target predicate of the second application of Restrict, have no history of saturation in the previous steps of semantic composition.

Recall from Section 3.3 that agent pseudo-incorporation is not allowed in the ditransitive (exemplified in (43)/(57)). It has been argued that this is because the ditransitive involves a goal argument introduced at Spec,ApplP, and it saturates Appl'. The saturation of Appl' causes Voice', the target predicate of agent pseudo-incorporation, to have a history of saturation, and it prevents an agent at Spec,VoiceP from being composed with Voice' through Restrict. The discussion in this section makes a prediction that if a goal undergoes pseudo-incorporation before an agent does, agent pseudo-incorporation becomes possible in the ditransitive. That is, it is expected that an agent and a goal may be pseudo-incorporated to the exclusion of a theme, which undergoes A-movement when it is case-marked. The prediction is borne out as illustrated below.

(63) a. O hasta-yı doktor ev-e gönder-mi-yor.
that patient-ACC doctor house-DAT send-NEG-PRS
'For that patient, doctor's to-house-sending is not taking place.'

b.



We will not spell out the steps of semantic composition for (63b) here. It will suffice to simply note that in (63b), the A-trace at Compl,VP does not saturate the verb *gönder* 'send' since the trace alone is not a complete syntactic entity which has the ability to saturate a predicate, and this makes it possible for *ev* 'house' at Spec,ApplP to undergo Restrict with Appl'. And *ev* does not saturate Appl' because the two elements are composed via Restrict; this makes *doktor* 'doctor' at Spec,VoiceP be able to undergo Restrict with Voice'.

Finally, the current analysis also predicts that agent-theme pseudo-incorporation is blocked in the ditransitive because the goal argument saturates Appl' before an agent can be pseudo-incorporated. The predication is also borne out as noted in (36), repeated below.

(64) * Öğrenciler-e öğretmen ödev ver-di.
students-DAT teacher homework give-PST
Intended: 'Teacher-homework-giving took place to the students.'

An example like (64) is disallowed crucially because the saturation of Appl' by the goal argument *öğrenciler* 'students' blocks the application of Restrict between the agent *öğretmen* 'teacher' and Voice', although the theme *ödev* 'homework' can be pseudo-incorporated to *ver* 'give' without a problem. Notice in (64) that the goal argument is not positioned between the agent and the theme on the surface, and yet agent-theme pseudo-incorporation is still disallowed in the ditransitive. This again shows that scrambling of an intervening predicate-saturating argument does not help avoid the violation of Condition (44). We will discuss this in Section 4.

3.5 Interim summary

We have shown that pseudo-incorporation in Turkish is allowed not only for a theme but also for an agent or a goal, or even for more than one nominal in a single clause. To account for the pseudo-incorporation facts in Turkish, we have proposed, building on Chung and Ladusaw (2004), that the non-saturating mode of semantic composition, Restrict, is subject to a structural condition at LF in Turkish. This condition requires that the target predicate not have a history of saturation in the previous stages of semantic composition. The proposed condition, along with two independently motivated factors in Turkish syntax, i.e., the possibility of the [EPP] on T being checked via V-to-T movement and the obligatory extraction of an accusative-marked theme argument out of VP, has been shown to account for all the possible cases of pseudo-incorporation in Turkish. It has also been shown that the proposed approach properly rules out the impossible cases of pseudo-incorporation such as agent or agent-theme pseudo-incorporation in the ditransitive. The pseudo-incorporation facts in Turkish are summarized in Table 1 along with a relevant example number for each case ("O" indicates 'possible', "X" 'impossible', and "–" 'not applicable').

Table 1: Pseudo-incorporation facts in Turkish

	Ag	Gl	Thm	Ag-gl	Ag-thm	Gl-thm	Ag-gl-thm
Unacc	–	–	O (i), fn. 26	–	–	–	–
Unerg	O (11a)	–	–	–	–	–	–
Tr	O (2)	–	O (1)	–	O (4a)	–	–
Ditr	X (43)	O (3)	O (i), fn. 15	O (63a)	X (36)	O (4b)	O (5a)

The specific analyses that have been provided for the facts in Table 1 can be summarized as follows. First, the sole argument NP in the unaccusative and the unergative can undergo pseudo-incorporation because the [EPP] on T in Turkish can be checked without an NP moving to Spec,TP, making it possible for the sole NP to stay within the domain (i.e., VoiceP) where Restrict can apply. Second, agent pseudo-incorporation in the transitive as well as goal pseudo-incorporation and agent-goal pseudo-incorporation in the ditransitive are possible in Turkish because the accusative-marked theme argument of a transitive and ditransitive verb is obligatorily extracted out of VP in the syntax, having the target predicate(s) of Restrict not have a history of saturation at LF. Third, agent pseudo-incorporation and agent-theme pseudo-incorporation are *not* allowed in the ditransitive because the intervening goal argument, unlike a theme argument, does not move out of its θ-position. Finally, the possible cases of multi-nominal pseudo-incorporation are attributed to the fact that Restrict is a non-saturating mode of semantic composition, and thus its successive application is not banned by the proposed LF condition. The patterns of Turkish pseudo-incorporation summarized in Table 1, therefore, can all be accounted for by adding to Turkish grammar the single LF constraint we have proposed in the paper.

4 Interaction with the reconstruction effect

It was noted in (64) that agent-theme pseudo-incorporation is not possible in the ditransitive because scrambling of an intervening argument does not help to avoid the violation of Condition (44). This is not limited to multi-nominal pseudo-incorporation. Simple agent pseudo-incorporation is not possible in the ditransitive, either, as in (65), repeated from (43)/(57), even when the predicate-saturating goal argument scrambles away and does not intervene between the agent and the verb at the surface level.

(65) * Öğrenciler$_i$-e ödev-i öğretmen t_i ver-di.
students$_i$-DAT homework-ACC teacher t_i give-PST
Intended: 'The students got teacher-given homework.'

This contrasts with what has been claimed in Section 3.3 that extracting a theme argument out of VP helps avoid the violation of Condition (44), making agent pseudo-incorporation possible in the transitive. We suggest that such a contrast is attributed to the different effects of A- and A'-movement at LF. When it comes to semantic composition, A-moved elements do not obligatorily reconstruct at LF, whereas A'-moved elements do.[33] The nature of the reconstruction effects has been extensively discussed in the literature but is not yet conclusively identified. Since it is well beyond the scope of this paper, we will

33. One way to implement this might be by assuming that reconstruction is a syntactic phenomenon and that A'-movement leaves but A-movement does not leave a copy at the tail of the chain (Fox 1999). Under this assumption, A'-moved elements must be semantically composed in the tail position (although they might be interpreted in the head position in terms of scope), whereas A-moved elements cannot since there is no copy left behind in the first place (the scope reconstruction of A-moved elements then should be attributed to an independent operation, *quantifier lowering*; see Fox 1999 for discussion).

not attempt to give an account of why such a difference exists. Instead, we will take it for granted that the reconstruction effects of A- and A'-moved elements differ from each other with respect to semantic composition. That is, we will assume that A-moved elements are composed in their surface position, whereas A'-moved elements are composed in their base position.

As for the extraction of a theme argument, we have claimed that since it is A-movement and the A-trace cannot saturate a predicate on its own, it does not bleed Restrict that occurs above in the structure. If an A-moved element does not reconstruct to the tail position of the A-chain as we are assuming here, then there is no possibility for the theme argument to saturate the predicate in its initially merged position. This renders agent pseudo-incorporation in the transitive possible. As for the scrambling of a goal argument in (65), on the other hand, it must be A'-movement and accordingly leaves behind an A'-trace since the movement does not have any motivation that is involved in A-movement such as case assignment, [EPP] checking, etc. Assuming that A'-moved elements must be semantically composed at the tail of their A'-chain (namely, it must be reconstructed to the lowest possible structural position where the argument is initially merged) at LF, the scrambled goal argument in (65) saturates Appl' in its base position, and this makes the target predicate of agent pseudo-incorporation, i.e., Voice', have a history of saturation. Consequently, agent pseudo-incorporation is disallowed in the ditransitive in violation of Condition (44).

Crucial for the current analysis is that extraction of a theme argument and scrambling of a goal argument are two different types of movement: the former is an instance of A-movement, while the latter an instance of A'-movement. In addition to the theory-internal considerations which motivate such a view, the Condition C effect demonstrates that it is in fact the case. Consider the following examples (where lowercase alphabets indicate co-indexation, and Arabic numerals indicate movement; for convenience of exposition, we abstract away from the movement of the agent argument):

(66) a. Ali [Pelin$_i$-in dün tanış-tığ-ı çocuğ]$_1$-u on$_i$-a t_1 yolla-dı.
Ali [Pelin$_i$-GEN yesterday meet-REL-POSS child]$_1$-ACC her$_i$-DAT t_1 send-PST
'Ali sent the child that Pelin$_i$ met yesterday to her$_i$.'

b. * Ali [Pelin$_i$-in dün tanış-tığ-ı çocuğ-a]$_2$ [on$_i$]$_1$-u t_2 t_1 yolla-dı.
Ali [Pelin$_i$-GEN yesterday meet-REL-POSS child-DAT]$_2$ [her$_i$]$_1$-ACC t_2 t_1 send-PST
Intended: 'Ali sent her$_i$ to the child that Pelin$_i$ met yesterday.'

In (66a), theme extraction takes place as usual, and the complex NP for 'the child that Pelin met yesterday' moves from the complement position of *yolla* 'send' to the edge of VoiceP. Since this movement takes place for case reasons, it must be an instance of A-movement. The grammaticality of (66a) is in line with this view, in that A-movement is known to bleed Condition C (Fox 1999), and in (66a), co-indexation between *Pelin* and the pronoun does not give rise to a Condition C effect. Now turning to (66b), the example involves theme extraction from the complement position of *yolla* to the edge of VoiceP as usual. In this example, however, in addition to the theme extraction, the dative-marked complex NP is scrambled to the left of the accusative-marked theme. Importantly, unlike the theme extraction discussed in (66a), scrambling of the goal argument does not bleed Condition C, and accordingly, co-indexation between *Pelin* and the pronoun is not allowed as shown in the ungrammaticality of (66b). The different effects of the movement of the complex NP in (66a) and (66b) supports the view that theme extraction and goal scrambling are two different types of movement.

Above, we have claimed that scrambling of an intervening argument does not help avoid the violation of Condition (44), because the scrambled argument obligatorily reconstructs to the base position for the purpose of semantic composition. The same line of account can be given for the scrambling possibility of a pseudo-incorporated nominal. It has been reported that the pseudo-incorporation interpretation can be maintained when a pseudo-incorporated theme is scrambled away in Turkish as in (67a) (Sezer 1996, N. G. Aygen 2002, Uygun 2006, Öztürk 2009, among others; see also Dayal 2011 for the case of Hindi).[34] It appears that scrambling of a pseudo-incorporated theme can be long-distance as well as shown in (67b).

34. Kornfilt (2003:152, endnote 4) speculates based on a heavy pause between the left-dislocated bare nominal and the rest of the clause that the nominal is base-generated in the dislocated position rather than fronted from its θ-position. Kornfilt (2018), then, formalizes the speculation into a proposal according to which the dislocated bare nominal is a contrastive topic or focus that is associated with a null pronoun in the θ-position. It has also been noted that the bare nominal may appear in

(67) a. Kitap$_i$ Ali t$_i$ oku-du.
book$_i$ Ali t$_i$ read-PST
'Ali did book-reading.'

b. Kitap$_i$ ben [Ali-nin t$_i$ oku-duğ-un]-u düşün-mü-yor-um.
book$_i$ I [Ali-GEN t$_i$ read-NMLZ-POSS]-ACC think-NEG-PRS-1SG
'I don't think that Ali does book-reading.'

The same is true for a pseudo-incorporated goal as illustrated in (68a–b).

(68) a. Doktor$_i$-a öğretmen hasta öğrenci-yi t$_i$ yolla-dı.
doctor-DAT teacher sick student-ACC t$_i$ send-PST
'The teacher did to-doctor-sending the sick student.'

b. Doktor$_i$-a ben [öğretmen-in hasta öğrenci-yi t$_i$ yolla-dığ-ın]-ı düşün-mü-yor-um.
doctor-DAT I [teacher-GEN sick student-ACC t$_i$ send-NMLZ-POSS]-ACC think-NEG-PRS-1SG
'I don't think that the teacher did to-doctor-sending the sick student.'

According to the view that A'-moved elements obligatorily reconstruct with respect to semantic composition, the possibility of scrambling of a pseudo-incorporated nominal can be given a straightforward account: the pseudo-incorporated nominals can be composed with their target predicates via Restrict because they reconstruct to their initially merged positions at LF.

5 Conclusion

In this paper, we have shown that Turkish allows non-canonical forms of pseudo-incorporation including agent, goal, and multi-nominal pseudo-incorporation. We then have claimed that the pseudo-incorporation facts in Turkish can be better analyzed when the common assumption that pseudo-incorporation takes place only between a lexical verb and its structural complement is dispensed with. As an alternative account, we have proposed that pseudo-incorporation is the result of the application of Restrict between a property-denoting bare nominal and a predicate with an open variable. We have also suggested that Restrict is subject to an LF condition which requires that the target predicate of Restrict not contain any other predicate within the same VoiceP that is saturated by an argument.

Based on the proposal, it was noted that two factors in Turkish syntax, justified on independent grounds, are responsible for the possibility of the non-canonical forms of pseudo-incorporation: (i) the [EPP] on T does not have to be checked via XP-movement; and (ii) the accusative-marked theme argument of a verb must be extracted out of VP via A-movement. Because of (i), a bare nominal may undergo Restrict in the position where it is initially merged even when no NP remains to check the [EPP] on T, allowing agent pseudo-incorporation in the unergative and theme pseudo-incorporation in the unaccusative. And because of (ii), bare nominals associated with non-theme θ-roles may be composed with their sister predicates via Restrict above the VP layer in the structure.

The analysis presented in this paper consequently makes some concrete predictions about the typology of pseudo-incorporation. First, if a language allows pseudo-incorporation as a productive grammatical process (that is, if pseudo-incorporation is not restricted in an idiosyncratic way in the language; see footnote 23), it must always allow theme pseudo-incorporation in the transitive. The transitive provides such an environment where Restrict can always apply between a lexical verb and its complement,

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the right-dislocated position as shown below (Sezer 1996; Işsever 2003), which may be analyzed as either involving rightward movement (e.g., Kural 1997) or involving a biclausal structure (e.g., Tanaka 2001).

(i) Ali oku-du, kitap.
Ali read-PST book
'Ali did book-reading.'

The scrambling facts, therefore, may be more complicated than they are depicted in the text. We will leave these matters for future research.

because an agent argument can check the [EPP] on T and no other predicate is dominated by the lexical verb in the same eventuality. Second, the possibility of pseudo-incorporation in the intransitive is determined according to the way in which the [EPP] on T is checked. Even if a language allows theme pseudo-incorporation in the transitive, it will be blocked in the unaccusative if the [EPP] on T in the language must be checked via XP-movement in the syntax. Recall that movement to Spec,TP is generally taken to be an A-movement; hence, no reconstruction to the base position can take place to allow theme pseudo-incorporation in the unaccusative. Agent pseudo-incorporation must also be disallowed in that language for the same reason: if an agent is pseudo-incorporated, no argument will be left to check the [EPP] on T. On the contrary, if the [EPP] on T does not need to be checked via XP-movement in a language, the language must allow theme pseudo-incorporation in the unaccusative and agent pseudo-incorporation in the unergative in addition to theme pseudo-incorporation in the transitive. This means that there might be pseudo-incorporating languages where theme pseudo-incorporation is allowed in any structural configuration, whereas agent pseudo-incorporation is allowed in the unergative but not in the transitive. Third, if the theme argument of a transitive verb is extracted out of VP in a canonical transitive clause in a language, then the language must allow agent pseudo-incorporation in the transitive and goal pseudo-incorporation in the ditransitive. Whether or not the language allows agent pseudo-incorporation in the unergative depends on the property of the [EPP] on T. What this means is that if a language requires the [EPP] to be checked via XP-movement and a theme argument to be extracted out of VP, the language must allow pseudo-incorporation in the transitive and the ditransitive, regardless of whether it is theme, agent, or goal pseudo-incorporation, but not in the intransitive. Lastly, if a language has T whose [EPP] need not be checked via XP-movement, and the language employs A-movement to assign accusative case to a theme argument, then the language must show the same patterns with Turkish, including multinominal pseudo-incorporation. In short, the cross-linguistic variation of pseudo-incorporation may arise according to the way in which the syntax feeds LF in each language. We leave the task of testing these predictions to future research.[35]

In this paper, we have argued against the complementation approach to pseudo-incorporation, pointing out that it is problematic on both theoretical and empirical grounds. But the intuition behind the complementation approach might be on the right track, in a broad sense. We have proposed that Restrict is possible only when there is no history of saturation in the previous steps of semantic composition. The question that naturally arises regarding such a claim is: why would Restrict care about a previous application of saturation? We speculate that the answer might be found in the concept of 'complement'.

A syntactic unit is generally identified as a complement if it is the sister of a head. Within the tradition of generative syntax, being the sister of a head has two senses: (i) syntactically, it means that the syntactic unit in question is the first constituent that merges with a given minimal projection; and (ii) semantically, it means that the syntactic unit is the first argument that saturates a given predicate. The previous approaches to pseudo-incorporation assume that the syntactic sense of complement as the licensing condition of pseudo-incorporation. What the discussion in this paper suggests, on the other hand, is that it must be the semantic sense of complement that is relevant to the licensing of pseudo-

35. An anonymous reviewer points out that (i) Sakha has differential object marking, which indicates that the language employs theme extraction as Turkish does, and that (ii) Sakha allows theme pseudo-incorporation in the unaccusative, which indicates that the [EPP] on T in the language need not be checked via XP-movement. But importantly, the reviewer notes, agent pseudo-incorporation is reported not to be possible in Sakha (Baker and Vinokurova 2010:631; Baker 2014:23), and this is not predicted by the analysis proposed in this paper. The reviewer raises the possibility that the conditional clause of the LF constraint in (44) may also be parameterized in ways that some languages have a more, and others have a less, restricted conditional clause for the constraint in (44). In the case of Sakha, then, the constraint may be stated as in "Restrict may apply between a property-denoting nominal and a predicate *only if the predicate is an atomic lexical item*", which is essentially equivalent to the complementation approach. Alternatively, it may be the case that Sakha has the same LF constraint with Turkish, but some additional condition, other than [EPP] checking or theme extraction, affects the application of Restrict and restricts it to theme. Either way, the predictions presented in the text should be considered only as part of the complete picture that brings about the crosslinguistic variation of pseudo-incorporation. For now, we will hypothesize that the proposed LF constraint is universal across languages, and that languages show different patterns due to the way in which the syntax feeds LF (if the variation is systematic) or convention (if the variation is not systematic; see footnote 23), while at the same time the variation falls within the scope of the LF constraint. We thank the reviewer for helpful discussion of this issue.

incorporation. That is, Restrict cares about a previous application of saturation because it is restricted to apply when the bare nominal is the 'semantic complement' of a predicate. In this sense, the current approach can also be said to resort to the concept of complement, making it have a tread of connection with the complementation approach. We should emphasize that the distinction between syntactic and semantic complementation presented above is a speculation that awaits further confirmation or repudiation. The question of whether it is a legitimate theoretical distinction is left for future research.

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