Incorporating a nominal into a phrasal predicate: The case of agent, goal, and multi-nominal pseudo-incorporation in Turkish*

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Jo, Jinwoo and Bilge Palaz. 2022. Incorporating a nominal into a phrasal predicate: The case of agent, goal, and multi-nominal pseudo-incorporation in Turkish. *Linguistic Research* 39(3): 431-465. This paper discusses pseudo-incorporation in Turkish. We show that Turkish allows not only a theme but also an agent, a goal, or more than one nominal to be pseudo-incorporated in a single clause. The possibilities of non-theme and multi-nominal pseudo-incorporation in Turkish pose non-trivial problems for the previous analyses of pseudo-incorporation which presuppose that pseudo-incorporation occurs only between a lexical verb and its complement. We propose the correct generalization instead is that pseudo-incorporation may take place between a 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, *predicate restriction*, to apply in a certain structural environment. The LF condition not only accounts for 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. The proposed analysis is also shown to properly capture the patterns of scrambling facts in the pseudo-incorporation constructions in Turkish. **(Chosun University · University of Delaware)**

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

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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. 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 a theme participant of the event denoted by a transitive verb, is instead interpreted to qualify the event denoted by the verb. In fact, it is reported that in many languages, pseudo-incorporation is allowed only between a verb and its theme argument in the transitive. The limited application of pseudo-incorporation as such has motivated a series of analyses which presuppose that pseudo-incorporation applies only when the target nominal is the complement of a lexical verb in the syntax (Massam 2001; Öztürk 2009; Dayal 2011, 2015; Baker 2014; Johnson 2015).

Turkish is one of the languages that exhibit pseudo-incorporation as a productive grammatical process (see Kornfilt 1997 and Öztürk 2004, among many others). What is particularly interesting about Turkish is that in this language, pseudo-incorporation can take place in a much wider range of environments than the one suggested by the previous analyses. As will be shown below, Turkish allows not only a theme but also an agent or a goal to undergo pseudo-incorporation. In addition to a theme, an agent, or a goal, the language even allows more than one nominal to be pseudo-incorporated in a single clause. The possibilities of non-theme and multi-nominal pseudo-incorporation in Turkish pose a problem for the assumption that pseudo-incorporation applies only between a lexical verb and its structural complement. Adopting the common views that different θ-roles are associated with different structural positions provided by different lexical items (Perlmutter and Postal 1984; Baker 1988) and that 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 nominal of pseudo-incorporation is allowed to occupy a structural position other than the complement of a lexical verb. In this paper, we suggest one such analysis building on the non-saturating mode of semantic composition proposed by Chung

and Ladusaw (2004).

Chung and Ladusaw (2004) suggest that a bare nominal and a predicate can be composed via a mode of semantic composition called *predicate restriction*, or *Restrict*.[1] What predicate restriction does is to compose a predicate with a bare nominal, yielding a new complex predicate which has the denotation that the nominal is a restrictive modifier of the predicate. The essential characteristic of predicate restriction is that the nominal does not saturate the predicate that it is composed with; the unsaturated variable is only existentially closed at a later stage of the derivation. We assume that the interpretation of pseudo-incorporation is attained because a predicate is composed with a bare nominal through predicate restriction.

Based on this view of pseudo-incorporation, we propose that predicate restriction is applicable between a bare nominal and a predicate, whether it is an atomic lexical item or a structurally complex syntactic object such as Voice', only if the predicate does not have an argument variable saturated 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 in the environment where the predicate has "no history of saturation" within a single event domain. As will be clearer in later sections, this allows pseudo-incorporation to occur in a less restricted environment than the previous analyses do, thereby permitting not only theme but also non-theme and multi-nominal pseudo-incorporation in Turkish. We will also show that the proposed analysis 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 is processed at LF, and the application of predicate restriction at LF is allowed only in a certain structural environment. In this view, whether or not predicate restriction is applicable may be determined by the way in which the syntax feeds LF. We claim that non-theme pseudo-incorporation is possible in Turkish essentially because a theme argument, when it is specific/accusative-marked, is extracted out of VP (to move to a

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1   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 analysis in the current paper is compatible with Farkas and de Swart's approach, as far as we can tell, if it is assumed that Farkas and de Swart's *Unification* applies in Turkish in the particular environment proposed in the paper.

position higher than the position where an agent is initially introduced) in the syntax (Diesing 1992; Kennelly 1994; Zidani-Eroğlu 1997; Kelepir 2001; Arslan-Kechriotis 2006), having VP remain unsaturated at LF. As for the possibility of multi-nominal pseudo-incorporation, we attribute it to the nature of predicate restriction itself: since predicate restriction is a mode of semantic composition that does not saturate a predicate, the successive application of predicate restriction will still be in compliance with the proposed condition.[2] Detailed discussion of the proposal and analysis is presented in Section 3. Then, in Section 4, we present the interactions of pseudo-incorporation with some other grammatical operations such as A-movement, A'-scrambling, and the reconstruction effect, and discuss how they can be accounted for under the proposed analysis.

The proposal in this paper makes some concrete predictions about the typology of pseudo-incorporation: a pseudo-incorporating language may or may not allow non-theme or multi-nominal pseudo-incorporation depending on the syntactic processes that the language employs. In Section 5, we briefly present the predictions, along with concluding remarks, that may be tested against other languages that exhibit pseudo-incorporation.

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. If the proposal put forth in this paper is tenable, the paper will show that a nominal is allowed to undergo semantic incorporation when the target predicate (as well as the nominal, for that matter) is a phrase, that is, that pseudo-incorporation can apply between a bare nominal and a phrasal predicate.[3] As the focus of this paper is the syntax of pseudo-incorporation, we will not attempt to establish the exact semantic properties of pseudo-incorporation in the paper.

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2   The possibility of successive application of predicate restriction has also been noted by Chung and Ladusaw (2004): "we might expect a restricted argument to remain available for semantic composition – for further restriction or even for saturation by an additional noun phrase (p. 75)."

3   In this respect, Chung and Ladusaw's (2004) notion of predicate restriction provides an ideal theoretical tool for the analysis of pseudo-incorporation as it allows the essential characteristic of pseudo-incorporation to be attained via a grammatical operation rather than via distinctive, incorporating lexical items as in, e.g., van Geenhoven (1998), Dayal (2011), Gehrke and Lekakou (2013), Driemel (2019), and Sağ (2019).

2. Agent, goal, and multi-nominal pseudo-incorporation in Turkish

Turkish not only allows a theme to be pseudo-incorporated as other pseudo-incorporating languages do, but it also allows an agent or a goal to be pseudo-incorporated, which is not possible in many pseudo-incorporating languages.

To begin with, Turkish has been reported to allow an agent to undergo pseudo-incorporation (Kornfilt 1984; Öztürk 2004; among others). One of the essential characteristics of pseudo-incorporated nominals is that they obligatorily take narrow scope with respect to logical operators (Massam 2001; Farkas and de Swart 2003; Chung and Ladusaw 2004; Dayal 2011, 2015). The fact that agent pseudo-incorporation is allowed in Turkish thus may be supported by an example like (1), where the agent *arı* necessarily takes narrow scope with respect to negation.[4]

(1) Ali-yi   arı sok-ma-dı.
    Ali-ACC bee sting-NEG-PST
    'It was not the case that Ali got bee-stung.'

The obligatory narrow scope of *arı* in (1) shows that the nominal must not be a simple indefinite, which can take either wide or narrow scope with respect to negation as illustrated in (2).

(2) 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.'

The example in (1), then, must be given an independent account, which we argue, with Kornfilt and Öztürk, to be an instance of pseudo-incorporation.

In addition to agent pseudo-incorporation, pseudo-incorporation of a goal is also allowed in Turkish. Just as the case of pseudo-incorporated agent, this can be shown by the fact that the nominal has obligatory narrow scope with respect to negation as in (3).

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4   The examples in this paper whose source is not indicated are constructed by the co-author of the paper in consultation with six native speakers of Turkish.

(3) Öğretmen hasta öğrenci-yi   doktor-a   yolla-ma-dı.
    teacher   sick student-ACC doctor-DAT send-NEG-PST
    'It was not the case that the teacher did sending-to-doctor the sick student.'

Considering that an indefinite is allowed to have wide scope in addition to narrow scope, the goal in (3) must not be an indefinite but something else. We claim that it is a pseudo-incorporated nominal.

As noted earlier, Turkish allows more than one nominal to be pseudo-incorporated in a single clause, as well. An instance of multi-nominal pseudo-incorporation where an agent and a theme are pseudo-incorporated is presented below.

(4) Bizim bahçe-de   kedi fare   yakala-ya-ma-mış.
    our   garden-LOC cat   mouse catch-ABIL-NEG-EV
    'It was not the case that cat's-mouse-catching could take place in our
    garden.'

As it was for agent and goal pseudo-incorporation, the scope fact in (4) suggests that both an agent and a theme can be pseudo-incorporated in a single transitive clause: both the agent and the theme necessarily have narrow scope with respect to negation. In addition to agent-theme pseudo-incorporation in the transitive, Turkish also allows agent-goal and goal-theme pseudo-incorporation in the ditransitive as in (5) and (6), respectively. In these examples, too, the pseudo-incorporated nominals cannot take wide scope with respect to negation.

(5) O   hasta-yı   doktor ev-e   gönder-mi-yor.
    that patient-ACC doctor house-DAT send-NEG-PRS
    'For that patient, it is not the case that doctor's-sending-to-house is taking
    place.'
(6) Üniversite-ye   öğrenci yolla-ya-ma-dık.
    university-DAT student send-ABIL-NEG-PST
    'It was not the case that we could do student-sending-to-university.'

Finally, Turkish even allows more than two nominals to undergo pseudo-incorporation

in a single clause as exemplified below.

    (7) Sistem hata-sı-ndan   dolayı bugün doktor ev-e   hasta
          system error-POSS-ABL due.to today   doctor house-DAT patient
          yolla-ya-ma-dı.
          send-ABIL-NEG-PST
          'It was not the case that doctor's-patient-sending-to-house could take place today.'

In (7), the agent, the goal, as well as the theme can be said to be pseudo-incorporated in that, again, they cannot take wide scope with respect to negation.

    The examples above indicate that Turkish allows the types of pseudo-incorporation that are not allowed in many pseudo-incorporating languages. For space reasons, we have only shown the scope facts to support the claim that non-theme and multi-nominal pseudo-incorporation can occur in Turkish. But the nominals that we argue are pseudo-incorporated also show other properties such as weak referential force, weak interpretation under ellipsis, name-worthiness, number neutrality, etc., which are reported to be the characteristic properties of pseudo-incorporated nominals.[5]

    The discussion so far might give the impression that pseudo-incorporation in Turkish is unrestricted such that any (combination of) nominal(s) can be pseudo-incorporated in any environment. But that is not correct. Although agent pseudo-incorporation is possible in the transitive, it is prohibited in the ditransitive (unless the goal also undergoes pseudo-incorporation; see below) as illustrated in (8).

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

Furthermore, even though an agent and a theme may undergo multi-nominal pseudo-incorporation in the transitive, agent-theme pseudo-incorporation is not permitted in the ditransitive (again, unless the goal undergoes pseudo-incorporation). This is illustrated below.

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5   See the Jo and Palaz (2020) for discussion of these properties.

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

So, pseudo-incorporation in Turkish is not freely allowed. It is restricted in a certain way that allows agent or agent-theme pseudo-incorporation in the transitive but disallows it in the ditransitive.

The previous analyses of pseudo-incorporation with the assumption that it applies only between a lexical verb and its complement cannot easily account for the Turkish facts presented so far. For instance, Baker (2014) suggests that a nominal and a verb may be interpreted as a complex predicate only if the head of the nominal forms a complex head with the verb through head movement. Such a view could well account for theme pseudo-incorporation, in that a theme argument is typically introduced in the complement position of a verb, and movement of a head out of its projection to the head which takes the projection as the complement is a commonplace operation. However, the head movement analysis would fail to account for agent (and presumably, goal) pseudo-incorporation unless the widely accepted restriction on head movement were abandoned, which states that head movement cannot take place from the head of a specifier to the head which projects that specifier.[6]

A lexicalist analysis of pseudo-incorporation such as the one put forth by Dayal (2011) is also problematic when the examples in Turkish are taken into account. Dayal argues that a bare nominal is pseudo-incorporated into a verb if the verb has a denotation which dictates that the verb combine with a property rather than an individual. Such an analysis would only allow the complement of a verb, and nothing else, to be pseudo-incorporated to the verb just as the head movement analysis, if non-theme arguments are introduced not by lexical verbs but by some independent functional elements such as Voice or an applicative head. But suppose for argument's sake that agent and goal arguments are introduced by lexical verbs themselves. In this case, the lexicalist analysis may account for agent, goal, and multi-nominal pseudo-incorporation in Turkish, since all that needs to be said now is that the incorporating verbs have idiosyncratic denotations which force them to take properties for their certain argument(s). However, even in such a case, the lexicalist analysis runs into a problem in that it fails

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6   See also Chung and Ladusaw (2004: 87, 142) for the case of coordinated NP pseudo-incorporation in
    Chamorro, which might also be problematic for the head-movement analysis.

to account for the impossibility of pseudo-incorporation in certain contexts exemplified in (8) and (9) above. If pseudo-incorporation were due to idiosyncratic properties of lexical items, there would be no principled reason why agent and agent-theme pseudo-incorporation is allowed in the transitive but it is disallowed in the ditransitive.

   All in all, the previous analyses of pseudo-incorporation are not readily compatible with the widely acknowledged view of argument structure, in which different θ-roles are assigned in different structural positions (Perlmutter and Postal 1984; Baker 1988), in particular, with the view that different types of arguments are introduced by different lexical or functional elements. Since Chomsky (1995) and Kratzer (1996), the standard assumption has been that an agent is introduced by an independent functional head, v or Voice, rather than by a lexical verb.[7] The previous analyses need 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 in Turkish makes those analyses even more problematic if, on top of the view of argument structure just mentioned, a verb is assumed to have one complement at most (Kayne 1984).

   Even if one does not acknowledge (at least the strongest version of) the correlations between θ-roles and structural positions or adopts a system where a non-theme θ-role can be assigned to the complement of a verb in certain contexts (e.g., Öztürk 2004, 2005, 2009), the previous analyses may still suffer from an empirical problem. In Turkish, certain adjectives can be used adverbially at the edge of VP. Crucially, pseudo-incorporated nominals should appear in different positions relative to the

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7   The hypothesis of severed external arguments has not been unchallenged. 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 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 a potential empirical problem for such a view.

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 (10a); and when an agent is pseudo-incorporated, it must appear before an adjectival adverb as in (10b).

(10) 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.'

According to the previous analyses, 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 (10a-b) clearly shows that this is not the case. Rather, it indicates that the pseudo-incorporated theme *şarkı* and the pseudo-incorporated agent *arı* do not occupy the same structural position. That is, *şarkı* cannot appear before *güzel* in (10a) because the position corresponds to somewhere outside VP, not the complement of VP; and *arı* cannot appear after *kötü* in (10b) because the position corresponds to somewhere inside VP, not the specifier of VoiceP.[8] The empirical problem of the previous approach as such further motivates the need for a new analysis of pseudo-incorporation which maintains the θ-structure correlations.

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8   It has been pointed out to us that not all adjectival adverbs should follow a pseudo-incorporated agent as exemplified below.

    (i) Dün   gece biz-i   {fena/feci/çok/iyi}   sivrisinek sok-tu.
         yesterday night we-ACC {bad/horrible/abundant/good} mosquito bite-PST
         'Last night, we got mosquito-bitten badly/horribly/abundantly/well.'

    An example like (i) may be said to support an analysis which restricts pseudo-incorporation to occurring between a verb and its complement; but it may also be the case that the adjectival adverbs in (i) occupy a position higher than those in (10b). In fact, the synonymous adjectival adverbs *kötü* in (10b) and *fena* in (i) consistently show the ordering patterns in which the former occurs after, and the latter occurs before, a pseudo-incorporated agent. For now, we do not have an account of the difference between the two classes of adjectival adverbs. We note here that an example like in (i) can be problematic for our analysis of agent pseudo-incorporation, leaving a full exploration of this issue to future work.

3. The syntax of pseudo-incorporation in Turkish

3.1 Proposal

It has been noted in Section 2 that pseudo-incorporated nominals necessarily take narrow scope with respect to a logical operator. Chung and Ladusaw (2004) attempt to capture this property of pseudo-incorporated nominals via *predicate restriction*, or *Restrict*, a mode of semantic composition that does not saturate the predicate. Adopting Chung and Ladusaw's proposal, we assume that a bare nominal is "pseudo-incorporated" to a predicate iff the two elements are composed through Restrict as in (11a-b).

(11) a. [$_{VP}$ kitap oku]
              book read
      b. Restrict ($\lambda x[book(x)]$, $\lambda y \lambda e[read(e,y)]$) = $\lambda y \lambda e[book(y)$ & $read(e,y)]$

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 (11b). 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. The obligatory narrow scope of pseudo-incorporated nominals then follows from the assumption that a logical operator like negation is interpreted higher than the position where the unsaturated variable is existentially closed (more specifically, if a logical operator is interpreted higher than VoiceP as standardly assumed).

Before going into detailed discussion of how the usual 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 (FA), 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, because 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).[9] This is the first assumption that we adopt for the analysis. The second assumption that we make with Chung and Ladusaw (2004: 11-13) 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 becomes the complement of an inflectional head, or at the "event level" (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 (12) can be derived along the lines of

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9   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 which is 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)

In the above example, the nominal expression ga' is composed with gäi via Restrict, and the theme variable of gäi, then, is saturated by i ga'lagu 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 "this 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, 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 the data discussed in this paper are concerned, 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.

(13a-b).

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

(13) a. [$_{VoiceP}$ *Ali* [$_{Voice'}$ [$_{VP}$ *kitap oku*] Voice]]

b. i. ⟦ **kitap** ⟧ = $\lambda x[book(x)]$

ii. ⟦ **oku** ⟧ = $\lambda y \lambda e[read(e,y)]$

iii. ⟦ **VP** ⟧ = $\lambda y \lambda e[book(y)\ \&\ read(e,y)]$ (by Restrict)

iv. ⟦ **Voice** ⟧ = $\lambda x \lambda e'[agent(e',x)]$

v. ⟦ **Voice'** ⟧ = $\lambda x \lambda y \lambda e[book(y)\ \&\ read(e,y)\ \&\ agent(e,x)]$ (by EI)

vi. ⟦ **VoiceP** ⟧ = $\lambda y \lambda e[book(y)\ \&\ read(e,y)\ \&\ agent(e,Ali)]$ (by FA)

vii. ⟦ **VoiceP** ⟧ = $\lambda e \exists y[book(y)\ \&\ read(e,y)\ \&\ agent(e,Ali)]$ (by EC)

In (13b,v), Event Identification (EI) between VP and Voice yields Voice' which involves two lambda prefixes, one for an agent, λx, and the other for a theme, λy. Note that in Kratzer (1996: 122), EI is defined to apply between an element of type <e,st> and an element of type <st> as in 'EI ($\lambda x \lambda e[P(e,x)]$, $\lambda e'[Q(e')]$) → $\lambda x \lambda e[P(e,x)\ \&\ Q(e)]$', which would not permit a compositional step like (13b,v). However, we suggest 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 claim this is the case in (13b,v). Identifying events between VP and Voice in (13b,v) has been made possible because the syntactic function of λy was discharged at the stage where VP is

composed in (13b,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, the compositional step in (13b,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. Now, turning back to the compositional steps in (13b), what the denotation of Voice' in (13b,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 (13b,vi); and when the unsaturated theme variable in (13b,vi) undergoes Existential Closure (EC) at the event level, a semantically complete expression like (13b,vii) is produced, whose event variable is ready to be closed.

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. However, this is not the case, and in many pseudo-incorporating languages, only a theme is allowed to undergo pseudo-incorporation while an agent or a goal is not. In Turkish as well, pseudo-incorporation is not unrestricted. As will be shown below, agent pseudo-incorporation is possible in the unergative or the transitive, but it is not possible in the ditransitive. Clearly, Restrict is not freely available in any environment. We argue that this is because it is subject to the LF condition in (14).

(14)   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 entity-denoting sister.

According to Condition (14), 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 bare nominal is composed via Restrict 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 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 that it assumes is that pseudo-incorporation is the result of applying 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 (10a-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 (15) and (16), respectively.

(15) a. Ali güzel   şarkı söyle-di.
     Ali beautiful song say-PST
     'Ali did song-singing beautifully.'
   b. [$_{VoiceP}$ *Ali* [$_{VP}$ *güzel* [$_{VP}$ *şarkı söyle*]] Voice]

(16) a. Ali-yi   arı   kötü sok-tu.
     Ali-ACC bee   bad   sting-PST
     'Ali got bee-stung badly.'
   b. [$_{VoiceP2}$ *Ali*$_i$-*yi* [$_{VoiceP1}$ *arı* [$_{VP}$ *kötü* [$_{VP}$ t$_i$ *sok*]] Voice]]

The same is true for goal pseudo-incorporation, under which (we assume) 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.

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

   b. [$_{VoiceP2}$ *ürünler*$_i$-i [$_{VoiceP1}$ *toptancı* [$_{ApplP}$ *pazar-a* [$_{VP}$ *hızlı* [$_{VP}$ t$_i$ *yolla*]]
        Appl] Voice]]

See the next subsection for the specific analysis of agent and goal pseudo-incorporation
relevant to (16) and (17), 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 (15)-(17).

3.2 Deriving agent and goal pseudo-incorporation

    Agent pseudo-incorporation can be analyzed in the same way as theme
pseudo-incorporation, except for having to consider the fact that it is introduced at
Spec,VoiceP rather than at Compl,VP. Specifically, agent pseudo-incorporation in an
unergative like (18) can be derived along the lines of (19a-b).

(18) Park-ta   çocuk ağlı-yor.
      playground-LOC child cry-PRS
      'Child-crying takes place at the playground.'
(19) a. [$_{VoiceP}$ *çocuk* [$_{Voice'}$ *ağlı* Voice]]
    b. i. ⟦ **ağlı** ⟧ = λe[cry(e)]
       ii. ⟦ **Voice** ⟧ = λxλe'[agent(e',x)]
       iii. ⟦ **Voice'** ⟧ = λxλe[cry(e) & agent(e,x)] (by EI)
       iv. ⟦ **çocuk** ⟧ = λy[child(y)]
       v. ⟦ **VoiceP** ⟧ = λxλe[cry(e) & agent(e,x) & child(x)] (by Restrict)
       vi. ⟦ **VoiceP** ⟧ = λe∃x[cry(e) & agent(e,x) & child(x)] (by EC)

In (19b,v), Restrict applies between the bare nominal *çocuk* at Spec,VoiceP and the

predicate of type <e,st> that is its sister, namely, Voice'. When EC takes place at the event level as in (19b,vi), the semantically complete expression with the pseudo-incorporation interpretation is produced. Importantly, an example like (18) 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).[10] 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 (i.e., be composed with it via Restrict) at LF.[11]

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 might saturate the lexical verb before the bare nominal at Spec,VoiceP can be pseudo-incorporated to

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10 Öztürk (2005: 139-141) argues 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.' (*$\forall > \neg$; $\neg > \forall$)
     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.' ($\forall > \neg$; *$\neg > \forall$)
     (Öztürk 2005: 139)

According to Öztürk, *bütün çocuklar* 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.

11 The analysis in the text owes a debt to Öztürk (2009: 355-356). Note 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)

That is, the sole argument *doktor* of the unaccusative verb *gel* 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.

Voice'. Then, the predicate Voice' with which the bare nominal needs to be composed via Restrict would have a 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 (14). 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 (14).

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).[12] The motivation for the theme extraction comes from the relative position of an accusative-marked theme argument with respect to adverbial elements. Consider the following example:

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

An adjectival adverb like *güzel* in Turkish is generally viewed to be introduced at the edge of VP. The contrast illustrated in (20) then indicates that the accusative-marked theme argument, *şarkı-yı*, must occur outside of VP and is banned from occupying its θ-position, i.e., Compl,VP, since it can only appear before the adjectival adverb. Kelepir (2001: 102-108) notes that the same conclusion can be drawn with an ordinary manner adverb.[13] 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 Kelepir's (2001: 103) example below shows.

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12 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 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 matters for the current purpose is just the fact that a theme argument undergoes movement out of its base position.

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

(21) 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.'

Kelepir assumes that a manner adverb like *deli gibi* appears at the edge of VoiceP. Then, the pattern in (21) again supports the view that the accusative-marked pronoun *sen* should be extracted out of VP to some higher position. 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, or 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 (22) which is derived along the lines of (23) in the syntax. Recall from above that *arı* in (23) does not have to move to Spec,TP because the position need not be filled by a nominal in Turkish.

(22) Ali-yi   arı   sok-tu.
      Ali-ACC bee   sting-PST
      'Ali got bee-stung.'
(23) [$_{VoiceP2}$ *Ali*$_i$-*yi* [$_{VoiceP1}$ *arı* [$_{Voice'}$ [$_{VP}$ t$_i$ *sok*] Voice]]]

In (23), 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 (23) occupies a structural position but it can never 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 (or presumably, the head of the A-chain) that is assigned a θ-role.[14] Put differently, the A-trace by itself lacks the ability

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14 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

to saturate the variable of the verb; therefore, saturation of the verb *sok* does not occur at the VP level. What this in turn means is that the predicate Voice', which the bare nominal *arı* needs to be composed with through Restrict, does not dominate any predicate saturated by its sister. Accordingly, *arı* can be pseudo-incorporated to Voice' in the structure in (23) without violating Condition (14). The semantic composition for the structure in (23) is presented below.

(24) a. ⟦ **VP** ⟧ = λxλe[sting(e,x)]

b. ⟦ **Voice** ⟧ = λyλe'[agent(e',y)]

c. ⟦ **Voice'** ⟧ = λyλxλe[sting(e,x) & agent(e,y)] (by EI)

d. ⟦ **arı** ⟧ = λz[bee(z)]

e. ⟦ **VoiceP1** ⟧ = λxλyλe[sting(e,x) & agent(e,y) & bee(y)] (by Restrict)

f. ⟦ **VoiceP2** ⟧ = λyλe[sting(e,Ali) & agent(e,y) & bee(y)] (by FA)

g. ⟦ **VoiceP2** ⟧ = λe ∃y[sting(e,Ali) & agent(e,y) & bee(y)] (by EC)

Note that in (24a), 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 a syntactic object which occupies 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.[15] 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 (24c), where EI applies between VP and Voice. Applying EI as in (24c) is possible because the syntactic function of λx has been discharged by the A-trace in (24a), and thus when EI 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 (24e), Restrict applies between the bare 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 (24f), *Ali* saturates the theme variable of *sok* via FA. When EC takes place in (24g), the expected interpretation of the example in (22) is produced.

The analysis of agent pseudo-incorporation as such can easily extend to goal pseudo-incorporation. An example like (25), for instance, can be derived as illustrated in

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the desired result.

15 If we adopt Fox's (1999) hypothesis presented in footnote 14, then it can be said instead that the syntactic function of λx in (24a) is discharged when the theme argument is initially merged with the verb *sok*.

(26a-b). Note that the surface order in (25) is derived after the agent argument *öğretmen* at Spec,VoiceP in (26a) moves to some higher position in the structure.

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

(26) a. [$_{VoiceP2}$ *hasta öğrenci$_i$-yi* [$_{VoiceP1}$ *öğretmen* [$_{Voice'}$ [$_{ApplP}$ *doktor-a*
        [$_{Appl'}$ [$_{VP}$ t$_i$ *yolla*] Appl]] Voice]]]

   b. i. ⟦ **VP** ⟧ = λxλe[send(e,x)]

      ii. ⟦ **Appl** ⟧ = λyλe'[goal(e',y)]

      iii. ⟦ **Appl'** ⟧ = λyλxλe[send(e,x) & goal(e,y)] (by EI)

      iv. ⟦ **doktor** ⟧ = λz[doctor(z)]

      v. ⟦ **ApplP** ⟧ = λxλyλe[send(e,x) & goal(e,y) & doctor(y)] (by Restrict)

      vi. ⟦ **Voice** ⟧ = λzλe''[agent(e'',z)]

      vii. ⟦ **Voice'** ⟧ = λzλxλyλe[send(e,x) & goal(e,y) & doctor(y) &
           agent(e,z)] (by EI)

      viii. ⟦ **VoiceP1** ⟧ = λxλyλe[send(e,x) & goal(e,y) & doctor(y) &
           agent(e,teacher)] (by FA)

      ix. ⟦ **VoiceP2** ⟧ = λyλe[send(e,sick student) & goal(e,y) &
           doctor(y) & agent(e,teacher)] (by FA)

      x. ⟦ **VoiceP2** ⟧ = λe∃y[send(e,sick student) & goal(e,y) &
           doctor(y) & agent(e,teacher)] (by EC)

As in the derivation of agent pseudo-incorporation, the A-trace at Compl,VP discharges the syntactic function of λx in (26b,i), and it makes EI possible between VP and Appl in (26b,iii). Also, the trace itself does not saturate the theme variable of *yolla*. Accordingly, Restrict is possible between the bare nominal *doktor* and the predicate Appl' in (26b,v). At this point, as before, the syntactic functions of λx and λy have been discharged. This makes EI between ApplP and Voice possible in (26b,vii). A series of FA applies in (26b,viii) and (26b,ix); and when EC takes place at the event level, the expected interpretation of the example is derived in (26b,x).

To summarize the discussion so far, we have shown 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 Turkish 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 (14).

Under the present account, it is predicted that agent pseudo-incorporation is not possible in the ditransitive, 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 (27).

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

An example like (27) 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 (14).

Note that scrambling of the goal argument out of ApplP does not help circumvent the violation of Condition (14) as illustrated below.

(28) *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.

3.3 Successive application of Restrict

As noted in Section 2, Turkish even allows more than one nominal to undergo pseudo-incorporation within a single clause. This is actually expected under Condition (14), 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 (14) 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 (29).

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

An example like (29) 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 (30a-b). Note that in (30a), 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.

(30) a. [$_{VoiceP}$ *doktor* [$_{Voice'}$ [$_{VP}$ *hasta bak*] Voice]]

   b. i. ⟦ **hasta** ⟧ = $\lambda x[patient(x)]$

   ii. ⟦ **bak** ⟧ = $\lambda y \lambda e[examine(e,y)]$

   iii. ⟦ **VP** ⟧ = $\lambda y \lambda e[examine(e,y)$ & $patient(y)]$ (by Restrict)

   iv. ⟦ **Voice** ⟧ = $\lambda x \lambda e'[agent(e',x)]$

   v. ⟦ **Voice'** ⟧ = $\lambda x \lambda y \lambda e[examine(e,y)$ & $patient(y)$ & $agent(e,x)]$ (by EI)

   vi. ⟦ **doktor** ⟧ = $\lambda z[doctor(z)]$

   vii. ⟦ **VoiceP** ⟧ = $\lambda y \lambda x \lambda e[examine(e,y)$ & $patient(y)$ & $agent(e,x)$ & $doctor(x)]$ (by Restrict)

   viii. ⟦ **VoiceP** ⟧ = $\lambda e \exists y \exists x[examine(e,y)$ & $patient(y)$ & $agent(e,x)$ & $doctor(x)]$ (by EC)

In (30b,iii), Restrict applies between *hasta* and *bak*. 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 EI between VP and Voice in (30b,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* via Restrict in (30b,vii). When EC takes place at the event level as in (30b,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 (14). The same line of analysis can be given for goal-theme pseudo-incorporation in the ditransitive exemplified in (31).

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

The derivation of (31) proceeds along the lines of (32a-b).

(32) a. [$_{\text{VoiceP}}$ *pro* [$_{\text{Voice'}}$ [$_{\text{ApplP}}$ *üniversite-ye* [$_{\text{Appl'}}$ [$_{\text{VP}}$ *öğrenci yolla*] Appl]] Voice]]

   b. i. ⟦ **öğrenci** ⟧ = λx[student(x)]
      ii. ⟦ **yolla** ⟧ = λyλe[send(e,y)]
      iii. ⟦ **VP** ⟧ = λyλe[send(e,y) & student(y)] (by Restrict)
      iv. ⟦ **Appl** ⟧ = λxλe'[goal(e',x)]
      v. ⟦ **Appl'** ⟧ = λxλyλe[send(e,y) & student(y) & goal(e,x)] (by EI)
      vi. ⟦ **üniversite** ⟧ = λz[university(z)]
      vii. ⟦ **ApplP** ⟧ = λyλxλe[send(e,y) & student(y) & goal(e,x) & university(x)] (by Restrict)
      viii. ⟦ **Voice** ⟧ = λzλe"[agent(e",z)]
      ix. ⟦ **Voice'** ⟧ = λzλyλxλe[send(e,y) & student(y) & goal(e,x) & university(x) & agent(e,z)] (by EI)
      x. ⟦ **VoiceP** ⟧ = λyλxλe[send(e,y) & student(y) & goal(e,x) &

university(x) & agent(e,pro)] (by FA)

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

In the derivation of goal-theme pseudo-incorporation as well, the second application of Restrict (goal pseudo-incorporation) in (32b,vii) does not violate Condition (14), because the first application of Restrict (theme pseudo-incorporation) in (32b,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 3.2 that agent pseudo-incorporation is not allowed in the ditransitive. 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.

(33) a. O   hasta-yı   doktor ev-e   gönder-mi-yor.
        that patient-ACC doctor house-DAT   send-NEG-PRS
        'For that patient, doctor's-sending-to-house is not taking place.'
    b. [VoiceP *o hasta*ᵢ*-yı* [VoiceP *doktor* [Voice' [ApplP *ev-e* [Appl' [VP tᵢ *gönder*]
        Appl]] Voice]]]

We will not spell out the steps of semantic composition for (33b) here. It will suffice to simply note that in (33b), the A-trace at Compl,VP does not saturate the verb *gönder* 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* 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* 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 in (34).

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

An example like (34) with the intended reading is disallowed crucially because the saturation of Appl' by the goal argument *öğrenciler* blocks the application of Restrict between the agent *öğretmen* and Voice', although the theme *ödev* can be pseudo-incorporated to *ver* without a problem. Notice in (34) 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 (14). We will discuss this in Section 4.

4. Interaction with the reconstruction effect

It was noted in (34) 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 (14). This is not limited to multi-nominal pseudo-incorporation. Simple agent pseudo-incorporation is not possible in the ditransitive, either, as in (35), repeated from (27), even when the predicate-saturating goal argument scrambles away and does not intervene between the agent and the verb at the surface level.

(35) *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 seemingly contrasts with what has been claimed in Section 3.2 that extracting a theme argument out of VP helps avoid the violation of Condition (14), making agent pseudo-incorporation possible in the transitive. We suggest that such a contrast is due 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.[16] 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 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 (35), 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. 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), the scrambled goal argument in (35) 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 as it violates Condition (14).

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 movement; for convenience of exposition, we abstract away from the movement of the agent argument):

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16 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 called *quantifier lowering*; see Fox 1999 for discussion).

(36) a. Ali [Pelin$_i$-in   dün   tanış-tığ-ı   çocuğ]$_1$-u   on$_i$-a
        Ali [Pelin$_i$-GEN yesterday meet-REL-POSS child]$_1$-ACC her$_i$-DAT
        t$_1$ yolla-dı.
        t$_1$ end-PST
        'Ali sent the child that Pelin$_i$ met yesterday to her$_i$.'
     b. *Ali [Pelin$_i$-in   dün   tanış-tığ-ı   çocuğ-a]$_2$
         Ali [Pelin$_i$-GEN yesterday meet-REL-POSS child-DAT]$_2$
         [on$_i$]$_1$-u   t$_2$ t$_1$ yolla-dı.
         [her$_i$]$_1$-ACC t$_2$ t$_1$ send-PST
         Intended: 'Ali sent her$_i$ to the child that Pelin$_i$ met yesterday.'

In (36a), theme extraction takes place as usual, and the complex NP for 'the child that Pelin met yesterday' moves from the complement position of *yolla* to the edge of VoiceP. Since this movement takes place for case reasons, it must be an instance of A-movement. The grammaticality of (36a) is in line with this view, in that A-movement is known to bleed Condition C (Fox 1999), and in (36a), co-indexation between *Pelin* and the pronoun does not give rise to a Condition C effect. Now turning to (36b), 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 (36a), 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 (36b). The different effects of the movement of the complex NP in (36a) and (36b) 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 (14), 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 (37a) (Sezer 1996; Aygen 2002; Uygun 2006; Öztürk 2009; see also Dayal 2011 for the case of Hindi).[17]

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[17] Kornfilt (2003: 152, note 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

It appears that scrambling of a pseudo-incorporated theme can be long-distance, too, as shown in (37b).

(37) 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 (38a-b).

(38) a. Doktor$_i$-a   öğretmen hasta öğrenci-yi   t$_i$ yolla-dı.
       doctor$_i$-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$_i$
       doctor$_i$-DAT I   [teacher-GEN   sick   student-ACC t$_i$
       yolla-dığ-ın]-ı   düşün-mü-yor-um.
       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 for 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

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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 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.

at LF.

5. Conclusion

In this paper, we have argued that Turkish allows agent, goal, and multi-nominal pseudo-incorporation as well as theme 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, we have proposed that pseudo-incorporation is the result of the application of Restrict between a bare nominal and its sister predicate with an open variable, and 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 atypical 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 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, 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, 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 in the unergative must also be disallowed in that language for the same reason. 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 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 multi-nominal 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 work.

   This paper argues 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 may be the semantic sense of complement that is relevant to the licensing of pseudo-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. We should emphasize that the distinction between syntactic and semantic complementation presented here is only a speculation that awaits further confirmation or repudiation, and the contribution of the current paper is mostly limited to the descriptive generalization of pseudo-incorporation in Turkish, formalized as Condition (14). The question of whether syntactic vs. semantic complementation is a legitimate theoretical distinction, as well as the task of deriving the descriptive generalization from more fundamental principles of grammar, are left for future research.

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