Complex Predicate Formation via Adjunction to a Head Category: Evidence from Light Verb Constructions in Turkish[1]

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Qualifying Paper

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1. Introduction

The literature on complex predicates which are formed via predicate modification in the sense of Dayal (2011) (further defined as operations of Restrict and Modify in Chung and Ladusaw (2006)) has so far focused primarily on the phenomenon Pseudo Noun Incorporation (PNI). PNI is special in that the object of the verb is interpreted as a predicate, instead of an argument, restricting the event denoted by the verb on the semantic side (Dayal, 2011, cf. Massam, 2001, Van Geenhoven, 1998 among others). In this study, PNI is considered to be a sub-type of complex predication formed via predicate modification, and the main aim here is to explore the syntax of complex predicates by focusing on a new construction in Turkish- Light Verb Constructions (LVCs)- extending what has been proposed about PNI to that domain, in pursuit of a more general theory. I argue that complex predicates of this type should have a syntactic structure in which one element of the predicate (a head or phrase) adjoins to the other (a head only). The resulting X^0 is interpreted as a complex head on the semantic component, yielding to complex predicate formation, in which the adjoined element restricts/modifies the content of the element that it adjoins to.

In LVCs in Turkish, a lexical verb (V1) is followed by a light verb (V2) which either loses its lexical meaning to some extent or becomes fully idiomatic. Light verbs add various aspectual interpretations to the whole complex formed by their combination with the lexical verb. These verbs are as 'light' in the sense of Grimshaw and Mester (1988)[2] because they are *incomplete*, requiring a lexical verb to form a complex predicate. When they occur somewhere else other than light verb constructions, they keep their lexical meaning as any other verb does.

Three types of LVCs are in the scope of this paper. The first one is such that the suffix *-Ip* is added on V1 and the inflectional markers (Tense/Aspect/Modality (TAM) and person agreement (PA) markers) appear on V2. I will call this construction '-*Ip* Type'. The second one is different from the first one in that V1 gets the suffix *-A/-I*. I will call this construction '-*A* Type'. The third one is 'Inflected Type', where the two verbs receive the same TAM and PA markers (the name is adopted from Csato, 2003)[3].

Abbreviations used in the glosses include: abs: absolutive, abil: ability acc: accusative, aor: aorist, caus: causative, cop: copula, dat: dative, evid: evidential, fut: future, imperf: imperfect, ind: indicative, loc: locative, nec: necessity, neg: negation, past: past, perf: perfective, pl: plural, poss: possessive, possib: possibility, QP: Question Particle, sg: singular, +tr: transitive, 1: 1st person, 2: 2nd person.

[2] In Grimshaw and Mester (1988), the verb *suru* in Japanese is defined as thematically incomplete or 'light' in the sense of Jespersen (1954) and Cattell (1984). In this study, the verbs at issue are called 'light' due to their being incomplete in losing their full lexical meaning to some extent and requiring lexical verb to form a complex predicate with it.

[3] See Appendix 1 for the examples of each LVC with all the light verbs at issue.

On the semantic side, I assume that V1 and V2 of LVCs combine via predicate modification, where the content of V1 restricts/modifies the content of V2 (in the sense of Dayal, 2011, Chung & Ladusaw, 2006). The corresponding syntax of these predicates is adjunction of (some projection of) V1 to the head of V2. There are two logical possibilities for adjoining an element to a head. One is movement, which allows a head to adjoin to another head. The other is base-generation, which can allow a phrase to directly adjoin to a head. What we see in LVCs is that both possibilities are attested, and no others.
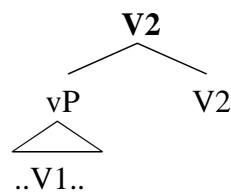
The first possibility is known as *head incorporation* due to Baker (1988) and I argue that it underlies the Inflected Type of LVCs. The extended projection of V1 (proposed to be CP) is a complement to V2, and V1 undergoes head movement adjoining to the head of V2, which, in other words, is head adjunction. The other principal strategy is *pseudo incorporation* which, in this study, is defined as the adjunction of the extended projection of the first element of the complex predicate to the head of the second element without any movement (*not* the complementation relation proposed in Massam, 2001, Öztürk, 2005, Dayal, 2011, 2015, and Baker, 2014[4] among others), and it is phrase adjunction. The *-Ip* and *-A* Types are shown to be the result of pseudo incorporation, where a phrasal projection of V1 (argued to be VP in the *-A* Type and vP in the *-Ip* Type) is adjoined to the head of V2. The tree structures of LVCs are briefly represented in (1) and (2).

(1) Head Incorporation: Inflected Type
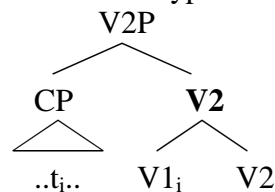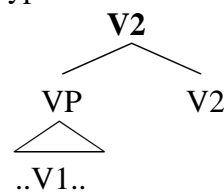

(2) Psuedo Incorporation:
   a. *-Ip* Type   b. *-A* Type

Because the Inflected Type involves head movement (head incorporation), V1 and V2 are inseparable both syntactically and morphologically. In contrast, the *-Ip* and *-A* Types are phrase adjunction, so they are inseparable syntactically but not morphologically. I further propose that although the stricter unity between the two verbs in the Inflected Type is the result of head incorporation, the motivation for which is stated as the affixal relation between the incorporating element and the incorporation host in Baker (1988), in the Inflected Type

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[4] NPs analyzed as pseudo-incorporation receive case and cause agreement on the verb in some languages like Hindi (Dayal, 2011, 2015) and Hungarian (Kiss, 2002 cited in Baker, 2014). These nouns are analyzed to be in a complement relation to the verb and Baker (2014) claims that there is a head movement going on in these structures. I do not have a detailed analysis for these cases, but still my pseudo incorporation analysis involves adjunction, not complementation. Although it is not inconceivable to propose that these NPs are adjuncts but still can receive case and cause agreement on the verb, I leave this for further study.

head incorporation occurs without fusion (morphological unity without affixation) (see also Roberts, 1991, 2010, Guasti, 1991).

I also compare LVCs to superficially similar copular constructions where V2 (copula) is strictly meaningless (see especially Kelepir, 2007), hence does not undergo predicate modification. Syntactic tests like intervention of QP *mI* between the two verbs, coordination, and NPI subject licensing show that copular constructions do not induce adjunction to the head, as predicted by my hypothesis.

The arguments and the analysis of LVCs in Turkish are also extended to PNI constructions[5] and the predicates formed with the combination of a non-derived adverb[6] and a verb in Turkish (and possibly other languages where similar phenomena are observed (e.g. Niuean (Massam, 2001), Hindi (Dayal, 2011, 2015) Sakha and Tamil (Baker, 2014), for PNI). These constructions show striking similarities to LVCs with pseudo incorporation in that they have a syntactic unity but lack a morphological one. I argue that in PNI constructions, NP, and in non-derived adverb + verb, AdvP is adjoined to the head of the verb, which results in complex predicate interpretation, and the existence of a syntactic but morphological unity is due to phrase adjunction; namely, pseudo incorporation as in the *-Ip* and *-A* Types of LVCs.

The outline of the paper is as follows: In Section 2, some background on complex predicates is presented. In Section 3, arguments for the proposal that adjunction to the head is the mode of complex predicate formation based on the analysis of LVCs are discussed. As a follow up, Section 4 is devoted to what layers of verbal projection can participate in this adjunction relation. In Section 5, LVCs are compared with the copular structures by the facts of negation and NPI subject licensing in Turkish which has supporting evidence for the analysis of LVCs proposed in this paper. The aim of Section 6 is to show that main arguments and the analysis of LVCs can be extended to PNI and non-derived adverb + verb combination in Turkish in an attempt to shed light on a wider range of linguistic data. Finally, Section 7 is devoted to the summary and the conclusion.

2. Background on Complex Predicates

The canonical Noun Incorporation (NI) refers to phenomena where the object of the verb that cannot receive case or any other functional structure is morphologically adjacent to the verb with which it forms a predicate (Sadock, 1980, Baker, 1988 and Mithun, 1984). An example of the canonical NI from the West Greenlandic Inuit is given in (3).

(3) Arnajaraq   eqalut-tur-p-u-q.
    Armajaraq.abs salmon-eat-ind-[tr]-3sg
    'Arnajaraq ate salmon.'   (Van Geenhoven, 1998: 15)

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[5] Bare NP+ verb combinations (PNI) in Turkish are analyzed as pseudo incorporation in Öztürk (2005). Although a complement relation between the NP and the verb is assumed in this study, I argue that NP is adjoined to the V head. Following Chung and Ladusaw (2006), the bare NP is restricting the event denoted by the verb not in functional application, but in an operation called Restrict which is defined as similar to predicate modification. This issue will be discussed in Section 6.

[6] Non-derived adverbs are bare adverbs without derivational morphology such as *yavaş* 'slow', *güzel* 'nice', etc. and they are observed as occupying the immediate verbal position in Taylan (1984).

Recently, the possibility of an NP to form a complex predicate with a verb without any sign of morphological fusion has received wide attention (Massam, 2001, Öztürk, 2005, Dayal, 2011, 2015, among others), and such kind of predicates are referred as pseudo noun incorporation (PNI) in the literature (term due to Massam, 2001), an example of which is given from Hindi in (4).

(4) Anu baccaa sambhaaltii hai.
    Anu child   manages
    'Anu looks after children.'   (Dayal, 2015: 2)

The structural difference between the canonical NI and PNI has been analyzed as such that in the former the incorporated element is of a head category (N^0) and it ends up inside the verb complex via head movement (see especially Baker, 1988, cf. Mithun, 1984, Van Geenhoven, 1998). In contrast, the latter does not instantiate movement, and the incorporated element is of a phrasal category (NP), having a complementation relation with the verb (see especially Massam, 2001).

The semantic side of predicates with NI (either canonical or pseudo incorporation) has also been the focus of a number of accounts (e.g. Bittner, 1994, Van Geenhoven, 1998, Dayal, 2011, 2015, among others), all of which agree in that the incorporated nominal is property denoting. At the heart of accounts on NI are number neutrality and obligatory narrow scope, which are also shared by cases other than NI such as compounding and non property denoting bare plurals. Among the semantic accounts, Dayal (2011, 2015) departs from the others in limiting the rule of semantic incorporation only to property denoting bare nominals occupying direct object position, showing that incorporated nominals should be kept apart from the interpretation of bare nominals in general[7]. In Dayal's analysis, incorporated nominals are interpreted as a predicate, simply modifying the verb, and it combines with the verb via predicate modification denoting predicate of events- subtypes of the events that the verb itself is a predicate of.

Predicate modification is further defined as operations of Restrict and Modify in Chung and Ladusaw (2006) for the analysis of complex predicates formed by the combination of a bare NP and a verb. Restrict composes a predicate with the property content of an indefinite or a bare NP. Modify is proposed for the adjective+noun and noun+noun combinations and it is claimed that it does the same work as predicate intersection and it is a subpart of restrictive modification. It is defined as "… the operation that composes the property content of an NP with the property content of a modifier." (pg. 337).

I think these operations can also be extended to the LVCs in Turkish, where the content of V1 restricts or modifies the content of V2 by predicate modification, resulting in complex predicate interpretation just as it is in the canonical NI and PNI.

Now, the quintessential part of this assumption is to posit an explanation for how this is achieved and to determine what kind of syntactic structure corresponds to complex predicate interpretation of the combination of V1 and V2 on the semantic component.

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[7] See Bittner (1994), Van Geenhoven (1998) and Dayal (2011, 2015) for further detail about the semantics of noun incorporation, which cannot be discussed much here because the main focus of this study is LVCs.

Baker (2014:20) assumes a principle like (5) for complex predicate formation in an attempt to explain the phenomenon of NI in Sakha and Tamil.

(5) Interpret X and Y as complex predicate at LF if [and only if] X and Y form a complex head (an X^0).

Following Baker in this principle and partially extending what is proposed about the syntax of NI in general to LVCs in Turkish, I argue that adjunction is the heart of the special syntax of complex predicates. One element of the predicate, which can be a head or phrase, is adjoined to the other element, which can only be a head. The resulting X^0 category (carrying the same label as the element which is the host of the adjunction) is interpreted as a complex head on the semantic component and this complex head is interpreted as a complex predicate.

In the following section, the analysis on LVCs in Turkish is presented, which posits the baseline for the main argument in this study about the syntactic structure of complex predicates formed via predicate modification.

3. Adjunction to a Head as a Mode of Complex Predicate Formation

The light verbs which occur in the *-Ip* Type are *dur* 'stay/stand', *kal* 'stay/remain', and *git* 'go'. The verbs *dur* and *kal* can appear in all the construction types. The verb *git* occurs in the *-Ip* Type and the Inflected Type. There is no meaning difference between these two types.

The light verbs which only occur in the *-A* Type are *ver* 'give', *yaz* 'write', *gel* 'come' (restricted usage) and in some dialects *koy* 'put'[8]. As stated above, *dur* 'stay/stand' and *kal* 'stay/remain' are also used with this type[9].

Due to the fact that light verbs add various aspectual interpretations to the whole complex predicate, they are not analyzed as copular verbs which lack semantic content (Kelepir, 2003, 2007, 2012, Sağ, 2013a&b) and do not have any restriction on the aspectual interpretation of the predicate that they occur in.

The verbs used in each construction type with their meanings are shown in Table 1.

Table 1: *Verbs used in LVCs*

1. *-Ip* Type of LVCs	
V1	**V2**
lexical verb + ***-Ip***	light verb+ **TAM**
	kal 'stay/remain' (punctual change)
	dur 'stay/stand' (duration/iteration)
	git 'go' (incremental change)
2. *-A* Type of LVCs	
V1	**V2**
a.lexical verb + ***-A/-I***	light verb+ **TAM**
	kal 'stay/remain' (punctual change)
	dur 'stay/stand' (duration)
	ver 'give' (complete action, quickly done/in favor of someone)
	yaz 'write' (being close to do something)

[8] The verbs in this group lose their lexical meaning becoming fully idiomatic. Only in the constructions with the V2 *ver* 'give' V1 gets the suffix *-I*. With the other V2s, V1 receives the suffix *-A*.
[9] See Appendix 3 for the reasons why LVCs are not analyzed as coordination. See Appendix 5 for the discussion about the distribution of V2s in each type of LVCs.

gel 'come'	(perfectivity/ imperfectivity)	
koy 'put'	(duration)	

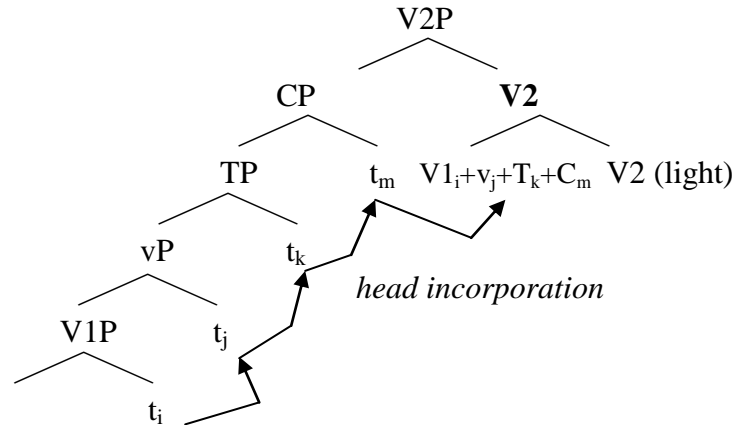| **3. Inflected Type of LVCs**	
V1	**V2**
lexical verb + **TAM**	light verb + **TAM** (*the same verbs in -Ip Type*)
	kal 'stay/remain' (punctual change)
	dur 'stay/stand' (duration/iteration)
	git 'go' (incremental change)

As stated in the previous section, LVCs are considered to be a sub-type of complex predication formed via predicate modification and the syntactic structures of such predicates are argued to be adjunction to a head category. There are two logical possibilities for that, one of which is movement and the other being base-generation. By movement, a head can adjoin to another one, and this is known in the literature as *head incorporation* (Baker, 1988). Base-generation, on the other hand, can allow a phrase to adjoin to a head without movement. This is defined as *pseudo incorporation* in this study (contra complementation relation proposed in Massam, 2001, Öztürk, 2005, Dayal, 2011, 2015[10], Baker, 2014 among others). We see that both possibilities are attested in LVCs, and no others. I argue that head incorporation is the strategy used in the Inflected Type. In contrast, the *-Ip* and *-A* Types are cases of pseudo incorporation.

Since the Inflected Type is an instance of head incorporation, V1 and V2 are inseparable both syntactically and morphologically. However, the *-Ip* and *-A* Types are phrase adjunction, in other words pseudo incorporation, so they are inseparable syntactically but not morphologically. Neither a DP in an argument position nor an adverb can separate V1 and V2 in any type of LVC, which is an indication of a syntactic unity between the two verbs. Morphological unity is tested by the inability of the QP *mI* to intervene between V1 and V2, following Taylan (1986) (*mI* cannot intervene between the categories in morphologically complex structures), by the impossibility of eliding V2 under identity, and by the impossibility of coordinating two V1s under the scope of V2. In the Inflected Type, *mI* cannot intervene between V1 and V2, and coordination and ellipsis are both impossible. In contrast, in the LVCs with pseudo incorporation, *mI* can separate the two verbs cliticizing on V1, and coordination and ellipsis structures are both possible.

In light of the proposal made for the syntactic mode of the complex predicate formation in this section, the tree structures of each LVC are simply represented below. The new head resulted by the adjunction relation is shown in bold.

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[10] Dayal (2015) assumes that the property denoting nominal (the incorporated NP) is in a position intermediate between VP and V, which is consistent with the complementation relation proposed in Massam (2001). However, she further states that the position of the NP with respect to the verb should be kept distinct from regular complementation. I think that Dayal is on the right track and I argue that this distinction comes from the adjunction relation between the NP and the verb as argued in this paper. NI in general will be discussed in more detail in Section 6.

(6) Head Incorporation: Inflected Type

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                                    V2P
                        CP                      V2
                  TP          t_m      V1_i+v_j+T_k+C_m   V2 (light)
             vP        t_k
         V1P    t_j         head incorporation
            t_i
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(7) Pseudo Incorporation
    a. *-Ip* Type   b. *-A* Type

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        V2P                                        V2P
         |                                          |
        V2                                         V2
     vP     V2 (light)                         VP      V2 (light)
    ...V1...                                  ...V1...
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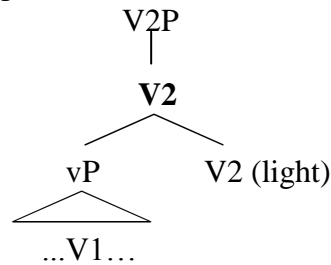
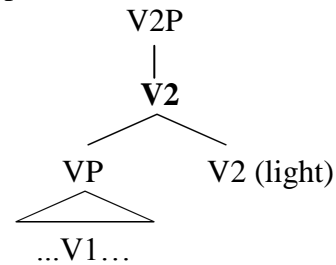The outline of this section is as the following. First, the degree of inseparability in each LVC will be presented in Section 3.1, and in light of this the syntactic relations between V1 and V2 will follow in Section 3.2. Sections 3.3 and 3.4 are devoted to the discussion of complex predicate formation via head incorporation and pseudo incorporation. In Section 3.5, the main arguments of this section will be summarized.

3.1 The degree of Inseparability

In the *-Ip* Type of LVCs, nothing can intervene between the two verbs, neither a DP in argument position nor an adverb as shown in (8), proving that V1 and V2 cannot be separated by these.

(8) a. Bulut kitab-ı   oku-**yup** (*kitab-ı)   **dur**-du.
       Bulut book-acc read-Ip   (book-acc) stand-past.3sg
       'Bulut kept reading the book.'
    b. Bulut kitab-ı   <u>dün</u>   oku-**yup** (*dün)   **dur**-du.   -
       Bulut book-acc yesterday read-Ip   (yesterday) stand-past.3sg
       'Bulut kept reading the book yesterday.'

The two verbs cannot be also separated in the following ways (See Appendix 4 for the examples):

<ol type="i" start="1">
  The focused element in the sentence which occupies the immediate preverbal position in Turkish needs to precede the combination of the two verbs and it cannot intervene between them[11].
  V1 cannot be scrambled away (both leftward and rightward) leaving V2 in its base position or vice versa.
  Non-derived adverbs which always occupy the immediate preverbal position in Turkish (Taylan, 1984), cannot intervene between the two verbs, but need to precede the combination of them.

The inseparability of the two verbs by a potential intervening category or by means of scrambling shows that V1 and V2 form a complex syntactic unit in the *-Ip* Type.

However, the Q(uestion) P(article) *mI* which is also a focus element can intervene between V1 and V2. QP is an enclitic which follows its host (Göksel and Kerslake, 2005). So, when it intervenes between the two verbs, it is ciliticized onto V1, focusing and questioning it as shown in (9).

(9) Bulut biz-i   beklerken   çay iç-**ip**   **mi**   dur-du[12]?
    Bulut we-acc while.waiting   tea drink-Ip   QP   stand-past.3sg
    Intended meaning: 'Did Bulut keep drinking tea, while waiting for us?'
    (durative/iterative)

I claim that the ability of the QP to intervene between the verbs shows that they do not form a morphological unit following Taylan (1986). I support this claim by looking at the morphologically complex words, where QP cannot separate the root and a suffix or two suffixes as exemplified in (10), a causative structure where the causative morpheme is suffixed to the verbal root.

(10) Bulut çocuğ-u   koş(*-mu)-tur-(*-mu)-du   mu?
     Bulut child-acc run (-QP)-caus(-QP)-past.3sg QP
     'Did Bulut make the child run?'

The generalizations for the *-A* Type are the same as the ones in the *-Ip* Type constructions. Namely, the QP *mI* can intervene between V1 and V2 as shown in (11), but they cannot be separated in any other way mentioned above. Therefore, we can also maintain the same conclusion made for the *-Ip* Type here. In the *-A* Type, the two verbs form a syntactic but not a morphological unit.

(11) Bulut biz-i   beklerken   uyu-ya **mı**   kal-dı?
     Bulut we-acc while.waiting   sleep-A QP   remain-past.3sg
     Intended meaning: 'Did Bulut fell asleep, while waiting for us?'

                                                        (Expressing punctual change)

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[11] Kural (1992) assumes that the immediate preverbal position is the focus position in Turkish. However, in Göksel and Özsoy (2000), it is argued that there is not only one position for focus, and immediately preverbal position is one of the positions designated for focused constituents.

[12] This sentence also has another interpretation where V2 is interpreted in its lexical meaning. It is 'Did Bulut stop after drinking tea while waiting for us?' However, the interpretation given in (9) matters for the analysis.

As for the Inflected Type, the unity between the two verbs is stricter than the *-Ip* and *-A* Types. V1 and V2 cannot be separated by scrambling or any other category, similar to them, so the two verbs form a syntactic unit. However, differently from them, the QP *mI* cannot intervene between the two verbs as shown in (12).

(12) *Bulut biz-i   beklerken   çay   iç-**ti**   mi **dur**-du?
       Bulut we-acc while.waiting tea   drink-past.3sg QP stand-past.3sg
       'Did he keep drinking tea, while waiting for us?'

In conclusion, V1 and V2 form a syntactic but a morphological unit in the *-Ip* and *-A* Types. In contrast, in the Inflected Type, besides a syntactic unity, there is also a morphological adjacency between the two verbs based on the inability of the QP to intervene between them. Note that the morphological unity does not show itself as in the form of vowel harmony in the Inflected Type in contrast to the causative structures. This issue is addressed in Section 5.

3.1.1 Ellipsis and Coordination

Tests like eliding V2 under identity and coordination of two V1s under the scope of V2 support the conclusion reached above (tests adopted from Öztürk (2005)- used for PNI in Turkish). In the *-Ip* Type, both are possible as shown in (13), which validates the claim that there is a lack of morphological unity between the two verbs.

(13) a. Bulut uyu-yup dur-du,   süt   iç-ip   değil.   *ellipsis*
        Bulut sleep-Ip stand-past.3sg, milk drink-Ip not
        'Bulut kept sleeping, not drinking milk.'
     b. Bulut uyu-yup ve süt   iç-ip   dur-du.   *coordination*
        Bulut sleep-Ip and milk drink-Ip stand-past.3sg
        'Bulut kept sleeping and drinking milk.'

On the other hand, in the Inflected Type, the ellipsis and coordination tests result in ungrammaticality, the examples of which are given in (14). Note that the example in (14b) is grammatical with the interpretation where an LVC is coordinated with a V1, not with the interpretation where V1s are coordinated under the scope of V2[13].

(14) a. *Bulut süt   iç-ti   dur-du,   kitap oku-du   değil.   *ellipsis*
        Bulut milk drink-past.3sg stand-past.3sg, book read-past.3sg not
        Intended meaning:'Bulut kept drinking milk, not reading a book.'

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[13] The same generalization holds when the marker on the two verbs is one of the fake verbal forms of Kornfilt (1996), which form a participle when attached to a verbal root. These are exemplified in (i).
   (i) a. *Bulut süt iç-miş   dur-muş,   kitap oku-muş değil.   *ellipsis*
         Bulut milk drink-evid.3sg stand-evid.3sg, book read-evid.3sg not
         Intended meaning: 'Apparently, Bulut kept drinking milk, not reading a book.'
      b. Bulut kitab-ı   oku-muş   ve süt iç-miş   dur-muş.   *coordination*
         Bulut book-acc read-evid.3sg and milk drink-evid.3sg stand-evid.3sg
         * 'Apparently, Bulut kept reading the book and drinking milk.'
         OK: 'Apparently, Bulut read the book and kept drinking milk.'

    b. Bulut kitab-ı   oku-du   ve   süt-ü   iç-ti   dur-du.   *coordination*

       Bulut book-acc read-past.3sg and   milk-acc drink-past.3sg stand-past.3sg

       *'Bulut kept reading the book and drinking the milk.'

       OK 'Bulut read the book and kept drinking the milk.'

The inability of V1 to pass the coordination and ellipsis tests in the Inflected Type verifies the morphological unity between V1 and V2, which prevents the two verbs from being separated by coordination phrase and the ellipsis of V2. In the *-Ip* Type, because the two verbs do not form a morphological unit, nothing prevents them from occurring in structures with coordination and ellipsis. The syntactic unity is not broken because the coordination phrase which is composed of two verbal projections and therefore has a nature of a verbal phrase is still structurally adjacent to V2. In the ellipsis case that phrase can still be thought as syntactically adjacent to the elided verb, although it depends on the analysis adopted for ellipsis. If we consider the elided verb as a non-pronounced copy of V2, we can still consider V1 stranded under ellipsis adjacent to the elided V2.

    As for the *-A* Type, V2 cannot be elided and the coordination of two V1s under the scope of V2 is impossible as shown in (15a) and (15b).

(15) a.*Ödevim-i   yap-ı ver-di,   bulaşıklar-ı yıka-yı değil.   *ellipsis*

       my.homework-acc do-I give-past.3sg, dishes-acc wash-I not

       Intended meaning: 'He did my homework, but he did not wash my dishes.'

    b.*Düş-e   ve bacağı-nı kır-a   yaz-dı.   *coordination*

       fall.down-A and his.leg-acc break-A write-past.3sg

       Intended meaning: 'He was about to fall down and break his leg.'

This poses a problem for the claim that in the *-A* Type, V1 and V2 lack a relation of morphological adjacency just as it is in the *-Ip* Type. I propose that this is due to independent reasons, rather than being a sign of the existence of a morphological unity as opposed to what is concluded above. I think the impossibility of ellipsis and coordination structures in the *-A* Type might be related to phases. I will discuss the sizes of the extended projection of V1s in each LVC in Section 4. However, it is sufficient to mention here that in the *-A* Type the size of the extended projection of V1 is VP, whereas in the *-Ip* Type it is vP, and in the Inflected Type it is CP. According to Chomsky (2000, 2001, 2005), vP and CP are phases, but not VP and TP. Although the details of such an assumption would require an extensive study, I want to suggest that the difference between the *-Ip* and *-A* Types comes from the sizes of V1. The one of the *-Ip* Type is a phase as opposed to the one in the *-A* Type. The possibility that only phases can undergo coordination or be stranded under ellipsis is worth to consider. Therefore, I do not take the impossibility of ellipsis and coordination in the *-A* Type as a challenge for the lack of morphological unity between V1 and V2[14].

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[14] Note that the verbs *ver* 'give', *yaz* 'write', *gel* 'come' and in some dialects *koy* 'put', which only occur in the *-A* Type become fully idiomatic when used in LVCs. One can argue that the inability of V1 to occur in structures with coordination and ellipsis is due to the idiomatic interpretation of V2s formed by their combination with V1. However, complex predicates which are idiomatic and argued to be an instance of pseudo incorporation in Öztürk (2005) (Bare NP+ verb, discussed in Section 6 below) can occur in coordination and ellipsis as shown in (i). The idioms formed by a bare NP+verb are underlined.

Having decided on the existence of a syntactic and morphological unity between V1 and V2 in the Inflected Type, and the existence of a syntactic unity but the lack of a morphological one between the two verbs in the *-Ip* and *-A* Types, the next job is to discuss what this implies. The following section is devoted to the discussion of this.

3.2 Syntactic relations between V1 and V2

In this section, I will discuss the syntactic relations between V1 and V2 in each LVC in an attempt to explain the existence of both a syntactic and morphological unity in the Inflected Type, but differently from it the lack of the morphological unity in the *-Ip* and *-A* Types.

Remember that the main argument of this study is that the complex predicates formed via predicate modification should have a syntactic structure where there is an 'adjunction to a head' relation between the two elements of the predicate. The resulting X^0 category of this adjunction is interpreted as a complex head, hence complex predicate, on the semantic component. As also mentioned above, there are two logical possibilities for adjunction to a head. One is movement allowing a head to adjoin to another head, and the other is base-generation, allowing a phrase to adjoin to a head without movement.

I argue that in the Inflected Type, the first possibility is attested and it is better known as head incorporation in the literature due to Baker (1988). The extended projection of V1 (CP) is a complement to the V2 head, and V1 (together with v, T and C heads above it) undergoes (successive and cyclic) head movement adjoining to V2. In the *-Ip* and *-A* Types the other possibility is observed, which is defined as pseudo incorporation in this study adapting Massam (2001). The extended projection of V1 (vP in the *-Ip* Type and VP in the *-A* Type) is base-generated as an adjunct to the V2 head in these types.

Note that we also need to define the label of the new head resulted by the adjunction relation proposed to exist in LVCs. If we assume a principle like the following shown in (16), we can conclude that it is V2 in all types.

(16) If Y adjoins to Z, Z projects.

In order to explain why two different strategies are observed in LVCs, we need to explore more on the syntactic relations between the extended projection of V1 and the V2 head in each type. In light of the discussion so far, let us summarize the proposals made for LVCs in Turkish.

-Ip Type and *-A* Types
  (i)   There is a syntactic but no morphological unity between the two verbs.
  (ii) What enters into a relation with V2 is a phrasal category (VP in the *-A* Type and vP in the *-Ip* Type).

(i) a. Ali bu problem-e   <u>kafa patlattı</u>, senin gibi <u>çene</u> değil.   *ellipsis*
      Ali this problem-dat head burst,   you like jaw   not
      'Ali spent mental energy on this problem, he did not just talk a lot about it like you did.'

(Öztürk, 2005: 54)

    b. Ali hem <u>çile</u>   hem <u>acı</u> çekti.   *coordination*
      Ali both privation and sorrow pull
      'Ali suffered both privation and sorrow.'

(Öztürk, 2005: 54)

Inflected Type
   (i)   There is both a syntactic and morphological unity between the two verbs.
   (ii)   What enters into a relation with V2 is a phrasal category (CP).

If in both cases, what enters into a relation with V2 is a phrasal category, why do we see a morphological unity between the two verbs in the Inflected Type, as opposed to the others?

   The stricter unity between V1 and V2 can be accounted for in light of the proposal that the strategy used for the complex predicate formation in the Inflected Type is head incorporation, the motivation for which is the morphological unity between the incorporating element and the incorporation host according to Baker (1988).[15] Baker claims that for head incorporation to occur, the incorporating element needs to be in a complement relation with the incorporation host. In light of this, the syntactic relation between the extended projection of V1 and the head of V2 in the Inflected Type must be complementation. What about the others?

   If we also say that there is a complement relation in the -*Ip* and -*A* Types, then we cannot explain why head incorporation does not occur in them, which would result in same kind of morphological unity as found in the Inflected Type. Therefore, I posit a base-generated adjunction relation (pseudo incorporation) for the -*Ip* and -*A* Types. This also fits with the adjunct status of the V+-*Ip* and V+-*A* when used in constructions other than LVCs, where they are modifiers.

   Let us look at these structures. The lexical verb+-*Ip* can also be followed by another lexical verb as exemplified in (17).[16]

   (17) Bulut arabası-nı park ed-ip sessizce ev-e   gir-di[17].
       Bulut his.car-acc park do-Ip quietly home-dat enter-past.3sg
       'Bulut entered the house after parking his car.'

The lexical verb+-*A* combination can also occur in structures other than LVCs. One of them is reduplication of two verbs which has a modifier role in the structure as shown in (18).

   (18) Koş-a koş-a içeri   gir-di.
       run-A run-A inside enter-past.3sg
       'He entered inside running.'

The other case where the suffix -*A* is used is the lexical verb+-*A*+-*rAk*, which again gains a modifier role in the structure.

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[15] Baker (1988) takes the affixal relation between the incorporated element and the host of it as the motivation for head incorporation. Above, it is generalized as 'morphological unity'. Due to lack of vowel harmony in the Inflected Type, the type of morphological unity between V1 and V2 is not considered as an affixal relation. Therefore, I argue that head incorporation occurs without fusion (morphological unity without affixation) in the Inflected Type (cf. Roberts, 1991, Guasti, 1991), the details of which will be discussed in Section 5.3.

[16] See Göksel and Kerslake (2005) and Kornfilt (1997) for the nature of these constructions.

[17] The lexical verb+-*Ip* in the lexical verb+-*Ip* lexical verb combination is also named under converbs in the descriptive works of Johanson (1995) and Haspelmath (1995). Converbs are defined as non-finite units which may be both modifying and non-modifying. Although in Haspelmath their main function is stated as to mark adverbial subordination, the distinction between converbs and coordination structures are pointed out not to be clear-cut. LVCs at issue are also considered as a type of converb structures in these works.

(19) Koş-a-rak içeri   gir-di.
     run-A-by inside enter-past.3sg
     'He entered inside running.'

Note that the suffix *-ArAk* is not analyzed as *-A+rAk* in the literature as far as I know (e.g. Gölsel and Kerslake, 2005). However, I think that the *-ArAk* is composed of these two suffixes because the meaning it conveys is the almost the same as in the reduplication case mentioned above.

     To wrap up the discussion, when movement of V1 adjoining to the head of V2 (as in the Inflected Type) is impossible due to the lack of complementation relation (as in the *-Ip/-A* Types), pseudo incorporation is attested. Head incorporation results in morphological unity as well as a syntactic one in the Inflected Type, whereas base-generated adjunction only results in a syntactic unity in the *-Ip* and *-A* Types. In the following sections, we will discuss more on the nature of the Inflected Type, on the one hand, and the *-Ip* and *-A* Types, on the other hand.

3.3 Complex Predicate Formation via Head Incorporation

As stated before, head incorporation is the case where a head from a complement position moves and adjoins to another head (Baker, 1988), resulting in a complex head interpretation on the semantic component, hence complex predication[18]. Among LVCs in Turkish, the Inflected Type is an instance of head incorporation, in which the extended projection of V1 (CP) is complement to V2, and V1 undergoes successive and cyclic head movement together with v, T and C heads adjoining to the V2 head[19]. The tree diagram of the Inflected Type

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[18] Chomsky's Extension Condition (1995) requires that the syntactic operations need to extend the tree, adding on the root of the structure. Because head movement unlike phrasal movement does not target the root of the existing structure, Chomsky proposes that it is not extending the tree; hence, considers it to be an instance of a movement which happens at PF, based on the argument for a lack of any semantic or syntactic effect of it. However, I argue that the motivation for head movement has a semantic side, which is complex predicate interpretation. Therefore, we cannot consider head movement as a PF phenomenon. Instead, because the resulting head category of adjunction via movement is interpreted as a complex head, we can still consider that the head movement operation as extending the tree affecting the complexity of the root.

I think there is also no need to complicate things by going for a Remnant Movement or m-merger analysis. Remnant Movement is argued to be an operation where a constituent moves out of another constituent, which also moves (Thiersch, 1985, Kayne, 1998, among others). In m-merger analysis it is argued that a head category moves to a specifier position as a phrase does, but after the movement happens there is an operation of the morphological component called m-merger (Matushansky, 2006). What m-merger does is to take the moved head in the specifier position and adjoin it to the head below it. The aim of these accounts are to make the head movement obey the Extension Condition. However, as I state above there is no reason not to consider head incorporation as extending the tree affecting the root of the structure.

[19] In Li (1990), such kind of movement is considered as "improper movement"; therefore, it should be ungrammatical. The reason suggested is that the moving verb and the matrix verb are A-positions while I and C heads are A'-positions. The most embedded V trace (in our case V1) is a variable locally A'-bound by I, but A-bound by the higher verb (in our case V2), leading to a violation of Condition C. However, to propose this reason, Li modifies the definition of A-position of Chomsky (1986) as 'T position' as the following (pg. 407):

    (i) A T position is a D-structural position to or from which a ϴ-role can in principle be assigned.

By modifying it, Li considers the V heads as T-positions and I and C heads as T'-positions. In this case, two elements of the same kind (two Vs) are interrupted by the two elements of another kind (I and C) which results in ungrammaticality. However, I do not adopt the reasoning of Li here because there is no reason not to consider V1, V2, TAM, and C as of different kinds, given their being head categories. Hence, I leave this controversial issue for further consideration.

presented in (6) is repeated here as (20). (Note that the reasons why a CP structure is proposed for the extended projection of V1 in the Inflected Type will be discussed in Section 4.2).

(20) Head Incorporation: Inflected Type
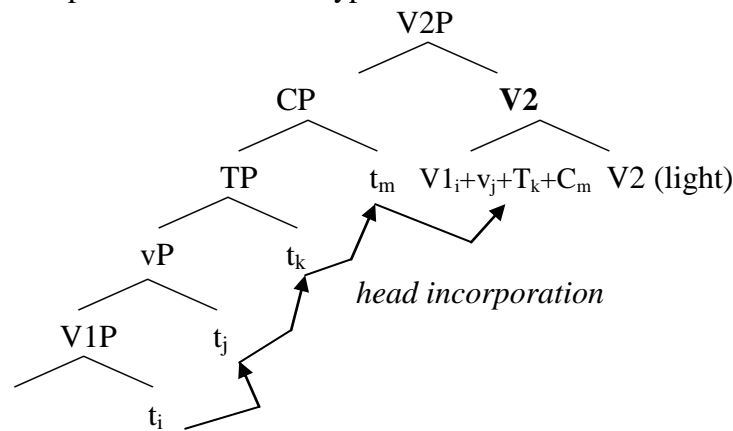
Due to successive and cyclic head movement of V1 adjoining to V2, nothing can intervene between them, yielding to a syntactic and morphological unity. Therefore, the intervention of the QP *mI* between V1 and V2, the ellipsis of V2 under identity, and coordination of the two V1s under the scope of V2 are impossible in contrast to the *-Ip* and *-A* Types.

Remember that the motivation for head incorporation is argued to be the affixation relation that needs to hold between the incorporating element (root) and the incorporation host (affix) in Baker (1988). In addition to Baker (1988), I argue that head incorporation can also be achieved in another way, which I call head incorporation without fusion and it does not lead to affixation but the result of incorporation is still a morphological unit (see also Roberts, 1991, 2010, Guasti, 1991)[20].

An example for the head incorporation with fusion can be thought as causative structures in Turkish (following Baker, 1988), where the causative morpheme is suffixed to the verbal root. It is shown in (10), repeated here as (21). The QP *mI* cannot intervene between the verbal root and the causative suffix.

(21) Bulut çocuğ-u koş(*-mu)-tur-du   mu?
     Bulut child-acc run (-QP)-caus-past.3sg QP
     'Did Bulut make the child run?'

However, in the Inflected Type, the new morphological unit caused by head incorporation is not in an affixed form. Namely, V2 is not suffixed to V1. It is not so because V2 itself is not a suffix; thus, it does not undergo vowel harmony as suffixes do in Turkish. Nevertheless, the inability of focus elements to intervene between the two verbs is similar to the case in causative structures where an affixation relation holds.

In line of this, I claim that head movement is without fusion in the Inflected Type differently from the one in causative structures, so V2 is not affixed to V1. However, there is still a morphological unity between them for which their inseparability by intervening focus elements, ellipsis and coordination is evidence.

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[20] See Section 5.3 for more detail.

The head movement of V1 without fusion is further supported by the NPI licensing facts which have further implications about where the subjects end up and the mode of complex predicate formation in LVCs. The details of this will be discussed in Section 5.

In Section 3.4, I will discuss the complex predication via pseudo incorporation in more detail. However, before going on, I want to discuss the double realization of TAM and PA markers in the Inflected Type, which I argue to be the result of head incorporation.

3.3.1 Dummy Tense Agreement

We see the same TAM and person agreement markers of V1 on V2 in the Inflected Type due to the following reason. Miyagawa (2010) claims that phi features exist on the C head originally, and then they are inherited by the functional heads (T head) below it. Following Miyagawa, I further suggest that the inheritance of phi features leads to the percolation of the tense features up to C (the projections below V2). So, when the agreement relation is achieved both the tense and person features are kept on the C head as package. They are visible to T head above V2 as a result of head incorporation.

As a result of successive and cyclic head movement of V1, v, TAM categories, and C adjoining to the V2 head, the features packaged on the C head are passed onto the new head resulted by the incorporation relation, which is a further projection of V2. Therefore, these features are now visible to and copied onto the head of higher T leading to *Dummy Tense agreement* (Tense representing both TAM and PA categories) which does not serve any semantic role. The argument for this semantically vacuous relation comes from the past of past interpretation achieved in copular constructions as shown in (22) as opposed to the Inflected Type as shown in (23).

(22) Televizyon karşısında uyu-**du**-y-**du**-m.   *copular construction*
     TV   across   sleep-past-cop-past-1sg
     'I had fallen asleep while watching TV.'
(23) Televizyon karşısında uyu-**du**-m   kal-**dı**-m.   *Inflected Type*
     TV   across   sleep-past-1sg remain-past-1sg
     'I fell asleep while watching TV.' (punctual change)

Dummy Tense Agreement in the Inflected Type is shown in the tree diagram given in (24). The existence of the same features on the lower and the higher verbs are represented by T_k.

(24)

$$TP$$

V2P T_k $\longrightarrow$ *Dummy Tense Agreement*

CP   **V2**

..t_i..t_j..t_k..t_m..   V1+v+T_k+C   V2
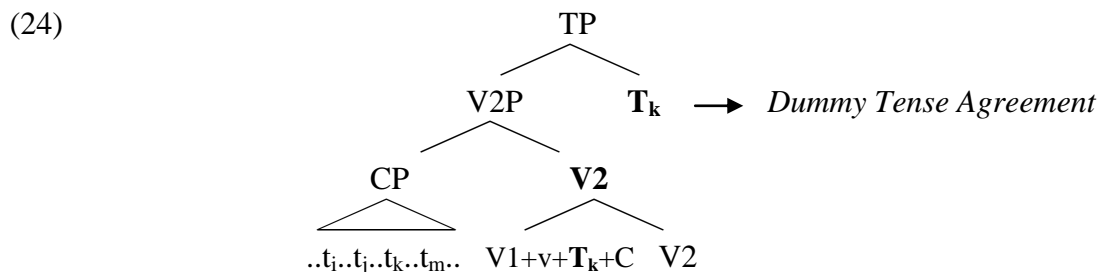
This dummy agreement relation holds because a verb in Turkish cannot stand alone as opposed to the other categories. It needs to receive tense and agreement markers on it for its wellformedness conditions. Because this requirement is only syntactic or morphological, it does not have any semantic effect.

Since such an agreement relation does not hold in any structure other than LVCs in Turkish, I argue that the condition for Dummy Tense Agreement is head incorporation. The head adjunction relation between V1 and V2 is reflected by this agreement.

3.3 Complex Predicate Formation via pseudo Incorporation

As noted above, I define pseudo incorporation as the base-generated adjunction of the phrasal projection of V1 to the V2 head (cf. Massam, 2001, Öztürk, 2005, Dayal, 2011, 2015, Baker, 2014 among others), and the *-Ip* and *-A* Types are instances of it. V1 and V2 in these types form a syntactic unit and this is a result of pseudo incorporation. When adjunction via movement cannot be attested due to the lack of a complementation relation, the strategy of base-generated adjunction (phrase adjunction) is used. Remember that as Baker (1988) claims, for head incorporation to occur, the incorporated head should move from the complement position of the incorporation host.

One can question why I do not adopt a definition where the phrase projected by V1 is adjoined to the phrase projected by V2 instead of its head. It is basically for two reasons. One is the theoretical assumption behind the main argument of this study, which is the following (adopted from Baker, 2014: 20).
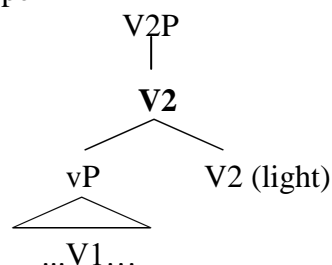
(25) Interpret X and Y as complex predicate at LF if [and only if] X and Y form a complex head (an X^0).

Forming a complex head on the semantic component is only possible by adjunction to a head. In other words, by adjoining a phrase to another phrase, this cannot be achieved. The other reason is that such kind of adjunction can be separated by means of scrambling. An example is adverbial clauses which we can assume to be adjoined to the extended projection of the main verb (which might be TP, CP or even VP). However, in the *-Ip* and *-A* Types, V1 and V2 are syntactically adjacent. Assuming a phrase to phrase adjunction would leave us devoid of an explanation for the strict syntactic unity between the two verbs.

The tree structure of the *-Ip* and *-A* Types represented in (7) are repeated here as (26). (Note that the reasons why the extended projection of V1 is vP in the *-Ip* Type and VP in the *-A* Type will be discussed in Section 4.1.)

(26) Pseudo Incorporation
b. *-Ip* Type   b. *-A* Type
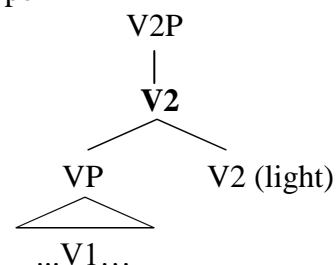
Because in principle, adjunction to a head category does not prevent an intervening adjunction to the same head category, I further propose that the complex head interpretation on the semantic component as a result of pseudo incorporation prevents this. For example, in a PNI construction in Turkish (formed by the combination of a bare NP and a verb; observed by

Öztürk (2005)), an intervening element breaks the complex head formed by the nominal and the verb as shown in (27). Therefore, the nominal element cannot be interpreted in a predicate status anymore, but needs to gain an argument role.

(27) Bulut (yavaşça) yemek (*yavaşça) ye-di.
     Bulut (slowly) food   slowly   eat-past.3sg
     'Bulut ate food slowly.'

In LVCs, when a different kind of phrase intervenes, it breaks the complex predication between the two elements in consideration. This is supported by the fact that when a phrase which is of a different category intervenes between V1 and V2, V2 gains its lexical meaning back, not serving as a light verb anymore. See the example below, where an adverb intervenes between V1 and V2.

(28) Bulut süt iç-ip   sessizce dur-du.
     Bulut milk drink-Ip quietly   stand-past.3sg
     'Bulut stayed/stood silently by/after drinking milk.'
     '*Bulut kept drinking milk silently.'

Interestingly, a bare NP which enters into pseudo incorporation relation with a verb as shown in (27) can also do this with an LVC, which is exemplified in (29a). In such a more complex predicate, first V1 adjoins to V2 and the resulting head category is interpreted as a complex head on the semantic component. Then, the bare NP adjoins to the complex V2 head resulting in a more complex predication. Note that the opposite situation where the NP combines with V2 before V1 is ungrammatical as in (29b).

(29) a. Bulut kitap oku-yup dur-du.
       Bulut book read-Ip stand-past.3sg
       'Bulut kept reading the book slowly.'
    b. *Bulut oku-yup (*kitap) dur-du.
       Bulut read-Ip   book stand-past.3sg

Although the bare NP is a potential element to occur in pseudo incorporation relation with a verb, why is it impossible when the verb is a light verb? A light verb requires to be saturated by a lexical verb before modified/restricted by a property denoting nominal because it is a semantically incomplete element. The example in (29) shows us that there is a precedence condition on what can combine with V2 first. Its immediate requirement (the need for saturation) prevents any other kind of element to intervene between the two.

    In NI and LVCs (and any kind of complex predicates formed via predicate modification), adjunction to a head in syntax corresponds to complex head, in other words, complex predicate interpretation. In LVCs, differently from NI, it also serves the role of saturating a semantically incomplete element, namely the light verb. This is the case in the LVCs with pseudo incorporation as mentioned above and in the one with head incorporation as well. The 'saturation of a semantically incomplete element' is also proposed in Chung and Ladusaw (2004).

In Chung and Ladusaw (2004), it is argued that the object incorporation in Chamorro is an instance of complex head formation via head movement of the internal argument adjoining to the verbal head. The internal argument is semantically incomplete, so it does not surface as an independent DP, but instead is incorporated. The new head created by incorporation is a complex verbal head. However, in these structures there is also an extra object which is semantically complete in that it can refer to a specific individual as opposed to the incorporated object. Their claim is that the extra object is adjoined to the NP projection of the incorporated object which is semantically incomplete. The reason why the semantically complete object is adjoined to the incorporated object is that the former saturates the latter.

Although in Chung and Ladusaw (2004), the saturation is proposed to be achieved by adjunction to a phrase level differently from what I propose here, the intuition behind the two proposals is similar: saturating an incomplete element by adjunction. In their case, the semantically incomplete element is the internal argument of the verb, and in our case it is a light verb.

3.5 Interim Summary

In summary, the main aim of Section 3 is to present an analysis on LVCs in Turkish in an attempt to explore more on complex predicates formed via predicate modification in general. The central argument is that the complex predicate interpretation of LVCs on the semantic component is possible by a corresponding syntactic structure where V1 (either as a phrase or head) adjoins to the V2 head. There are two possible ways to achieve that. One is head incorporation (following Baker, 1988) which is attested in the Inflected Type. The extended projection of V1 (CP) is a complement to V2, and V1 undergoes successive and cyclic head movement together with v, TAM categories and C head, adjoining to the V2 head. The other possibility is pseudo incorporation; namely, base-generated phrasal adjunction of V1 to the V2 head (cf. Massam, 2001, Öztürk, 2005, Dayal, 2011, 2015, and Baker, 2014), and the *-Ip* and *-A* Types are instantiated by it.

As a result of head incorporation, V1 and V2 form both a syntactic and morphological unit in the Inflected Type. On the other hand, because the *-Ip* and *-A* Types are phrase adjunction, the two verbs are only syntactically adjacent.

In the following section, I will discuss which projections of V1 category can enter into adjunction relation proposed in this study by means of analyzing the sizes of the extended projection of V1 in each LVC.

4. What possible verbal projections can adjoin to the V2 head?

The fortunate side of exploring LVCs in Turkish has been to realize that three possible verbal projections enter into complex predicate relation with a light verb. As already discussed above, the V1 head can adjoin to the V2 head via head incorporation in the Inflected Type, implying that a head can enter into the relation of adjunction to another head. One other possible verbal projection which can enter into that relation is VP. In this section, we will see that in the *-A* Type, V1 projects up to VP and adjoins to the V2 head.

There is another verbal projection that we can expect to enter into adjunction relation with V2, and it is vP. Building on the VP-shell proposal of Larson (1988), and the works

following it (e.g. Hale and Keyser, 1993 and Kratzer, 1996), VP is understood as made up of at least two projections, one of which is the lexical projection VP, introducing the internal argument, and the other is the functional (and semi-lexical) projection vP, introducing the external argument. In line of the same thought, we will see in this section that vP (taken as an external argument introducer) can also enter into complex predicate relation with a light verb. This occurs in the *-Ip* Type.

I will show how three verbal projections (V head, VP and vP) are capable of adjoining to the V2 head by presenting an analysis on the size of the extended projections of V1s in each type of LVC. In the *-Ip* Type, the extended projection of V1 is argued to be vP. In the *-A* Type, it is smaller than the *-Ip* Type in that V1 projects up to VP. In the Inflected Type, although it is similar to the on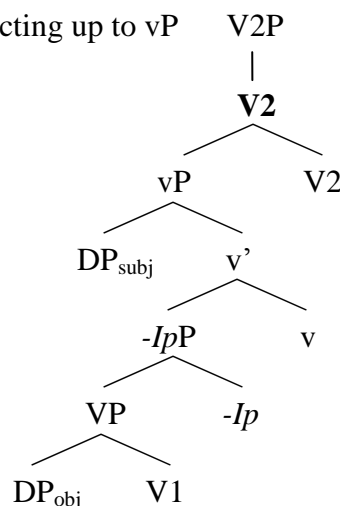e in the *-Ip* Type in having the vP projection, it is bigger because it also has a CP projection. The tree structures which represent the size of the extended projection of V1 and the original position of the subject in three types are given below.

(30) *-A* Type: V1 projecting up to VP

```
                      vP
                    /    \
                DP_subj   v'
                         /   \
                      V2P      v
                       |
                       V2
                      /    \
                 -AP^{21}    V2
                  /    \
                VP      -A
               /   \
           DP_obj   V1
```

(31) *-Ip* Type: V1 projecting up to vP

```
                   V2P
                    |
                    V2
                   /    \
                 vP      V2
                /   \
            DP_subj   v'
                     /   \
                 -IpP     v
                 /   \
               VP    -Ip
              /   \
          DP_obj   V1
```

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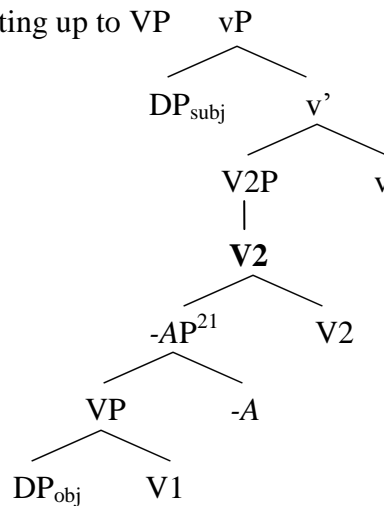
[21] Although I assume here that the suffix *-A* is added above VP creating the phrase represented as *-A*P, it is still considered as VP. This is also the case in the *-Ip* Type; the phrase represented as *-Ip*P is also considered as VP. Namely, the suffixes added on the verbs do not change their verbal category.

(32) Inflected Type: V1 projecting up to CP

```
                                        V2P
                                       /    \
                                 CP            V2
                               /    \         /    \
                          TP          t_m  V1+v+T_k+C   V2
                        /    \
                 (DP_subj)_i    T'
                              /    \
                          vP          t_k
                        /    \
                    t_i        v'
                              /    \
                          VP          t_j
                        /    \
                   DP_obj      t_i
```
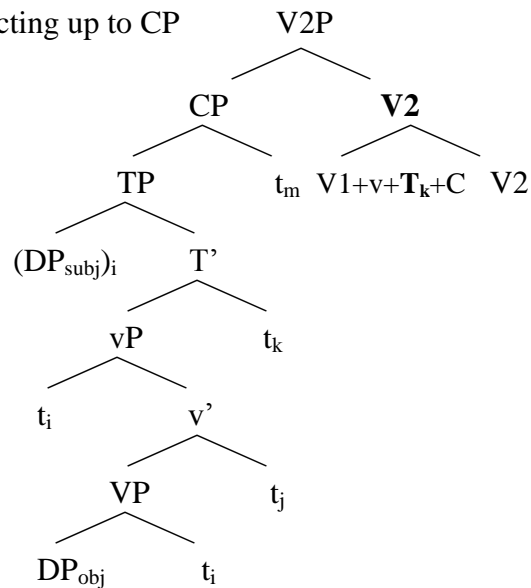
The arguments supporting the proposal made in this paper about the extended projection of V1 are presented in the following sub-sections. In Section 4.1 the argument structure of the whole complex predicate and in Section 4.2 evidence for a CP structure in Inflected Type are discussed. Section 4.3 is devoted to the implications of this.

4.1 Argument Structure of LVCs

The original positions of the subjects of each LVC differ depending on in which construction they occur. The theta role of the subjects in the *-Ip* Type and the Inflected Type are argued to be assigned by V1, so they originate in the vP projection of V1. However, the theta role of the subject in the *-A* Type is determined by the whole complex predicate; hence, they are argued to originate in the vP projection which is introduced after V2[22].

As for the objects, by looking at the NPI object licensing facts, we can say that they are introduced by V1 and stay in situ in each LVC.

4.1.1 Subjects

Let us start with the discussion of the subjects. Consider the examples from the *-A* Type in (33) and (34).

(33) a. Bulut resm-e   bak-**a**   **kal**-dı[23].   *non-volitional*
        Bulut picture-dat look-A remain-past.3sg
       'Bulut stared/looked at the picture suddenly (out of his control).'
    b.*Bulut resm-e   <u>dikkatlice</u>   bak-**a** **kal**-dı.
        Bulut picture-dat carefully   look-A remain-past.3sg
        Intended meaning: 'Bulut stared/looked at the picture carefully.'

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[22] In Section 5.1.1, it is argued that subjects do not stay in situ but move to the Spec, TP position.

[23] Adding a non-volitional adverb such as *istemsizce* 'out of his control/involuntary' or *yanlışlıkla* 'by mistake' makes the sentence weird, because 'V1+-*A* V2' combination already gives that meaning. Adding the adverb there feels like adding the same meaning again, which makes it redundant.

(34) a. Bulut <u>dikkatlice</u> su   iç-**e**   **dur**-du.   *volitional/agentive*
        Bulut carefully   water drink-A stand-past.3sg
        Intended meaning: 'Bulut kept drinking water carefully.'
    b.*Bulut <u>yanlışlıkla</u> su   iç-**e**   **dur**-du.
         Bulut by mistake water drink-A stand-past.3sg
         Intended meaning: 'Bulut kept drinking water by mistake/out of his control (but
         he intended to drink something else like raki).'

The complex predicate formed by the verb *bak* 'look at' and the light verb *kal* 'remain/stay' in (33a) denotes a non-volitional event; therefore, adding a volitional/agentive adverb as in (33b) makes the sentence ungrammatical. So, when V2 *kal* is used in the *-A* Type constructions, the theta role of the subject is forced to be compatible with the non-volitional denotation of the predicate.

However, the complex predicate formed by the verb *iç* 'drink' and the light verb *dur* 'stand/stay' in (34a) requires its subject to be volitional/agentive. For that reason, it is incompatible with a non-volitional adverb as in (34b).

These examples show that in the *-A* Type, there is a restriction on the role of the subject which is determined by the whole complex predicate. In the former case, the subject cannot be volitional/agentive, but in the latter case, it needs to be so.

However, note the following examples of the *-Ip* Type constructions, where the restriction on the agentive role of the subject disappears.

(35) Bulut resm-e   <u>dikkatlice</u> bak-**ıp**   **kal**-dı[24].
        Bulut picture-dat carefully   look-Ip   remain-past.3sg
        'Bulut stared/looked at the picture carefully (in a sudden way).'

(36) Bulut <u>yanlışlıkla</u> su   iç-**ip**   **dur**-du.
        Bulut by mistake water drink-Ip   stand-past.3sg
        'Bulut kept drinking water by mistake (repeatedly/many times) (but he intended to
        drink something else like raki.'

In (35) and (36), the same V1 and V2 in (33) and (34) are used. In (35), the volitional/agentive adverb is compatible with the V1 *bak* 'look at' and the V2 *kal* 'remain/stay', which is not the case in the *-A* Type. Similarly, in (36), the non-volitional adverb is possible with the V1 *iç* 'drink' and the V2 *dur* 'stand/stay'.

These examples show that not only the combination of V1 and V2 is important in the theta roles of the subjects, but the structures in which they appear also matters. Because there is a restriction on the theta role of the subject in the *-A* Type construction, as opposed to the *-Ip* Type, I suggest that the subject in the former is introduced by the whole complex predicate; therefore, the little v projects above V2. In the latter, because the role of the subject is not determined by the whole complex predicate, I suggest that the subject is introduced

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[24] This may sound weird to some people, because punctual change and doing something carefully are not compatible that much. In that case, the verb *dur* is more reliable to test whether the complex predicate has any effect on the meaning of the subject.

within the extended projection of V1. That is why the little v projects above V1 before V2 is merged in the structure.

In the Inflected Type, the situation is the same as in the -*Ip* Type constructions. Namely, there is no restriction on the role of the subject as seen in the examples below. Note that the meanings of the sentences with the Inflected and the -*Ip* Types are the same.

(37) Bulut resm-e   <u>dikkatlice</u> bak-tı   **kal**-dı.
    Bulut picture-dat carefully   look-past.3sg remain-past.3sg
    'Bulut stared/looked at the picture carefully (in a sudden way).'

(38) Bulut <u>yanlışlıkla</u> su   iç-ti   **dur**-du.
    Bulut by mistake water drink-past.3sg   stand-past.3sg
    'Bulut kept drinking water by mistake (repeatedly/many times) (but he intended to drink something else like raki.'

In light of the similarity of it with the -*Ip* Type, I also suggest that vP projects before V2 merges in the structure in the Inflected Type. It is also claimed that there is a CP projection below V2 in this type. I will present the reasons for this claim in Section 4.2.

4.1.2 Objects

Now, let us look at the objects of LVCs. It is argued that objects are introduced by V1 in each type. What V2 does is to choose a V1 depending on what kind of aspectual interpretation V1 denotes. V2 cares about the *aksionsart* denoted by V1+ its object if there is any; namely, it does not directly determine what kind of objects can be used with it[25].

We can test the position of the objects in LVCs. One good test for this is NPI object licensing. Let us look at how NPI objects are licensed in each type of LVCs. The objects that I use for this test are dative case marked because the sentences can be more easily interpreted than the ones with accusative marked NPIs[26].

Negation can either appear on V1 or V2 in the -*Ip* Type and -*A* Type constructions. When it appears on V1 it only negates V1 but when it appears on V2, it takes both V1 and V2 in its scope. In the Inflected Type, negation can only appear on V1 and it only negates V1 not V2. (See Section 4.2 for the reason of this.)

Let us start with the examples from the -*Ip* Type which are shown in (39) and (40).

(39) Bulut bu sefer kimse-ye   kız-ıp   dur-**ma**-dı.
    Bulut this time anybody-dat get.angry-Ip stand-**neg**-past.3sg
    'Bulut didn't keep getting angry at anybody this time.'

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[25] See Eren (2013) for what kind of *aksionsart* the light verb dur 'stand/stay' is compatible with.
[26] In my opinion, the weirdness of accusative case marked NPI objects in LVCs are due to independent semantic reasons, which will not be discussed in more detail here because it is out of the scope of this paper.

(40) ?Bulut resimleri-ni kimse-ye   göster-**me**-yip dur-du.
     Bulut pictures-acc anybody-dat show-**neg**-Ip stand-past.3sg
     'Bulut kept not showing his pictures to anybody (in the context of complaining).'

The sentence in (39) shows that the NPI object can be licensed by the negation on V2 and the sentence in (40) shows that it can also be licensed by the negation on V1. This suggests that in -*Ip* Type constructions objects are in the domain of V1. If it were not, we would not expect it to be licensed by the negation on V1 because it can only negate the domain of V1 as made clear in the translations of the sentences.

The examples of the -*A* Type shown in (41) and (42) also support the same conclusion about the positions of the object.[27]

(41) Bulut hiç bir şeyim-e   bak-ı ver-**me**-di.
     Bulut any one my.thing-dat look-I give-**neg**-past.3sg
     'Bulut didn't look at any of my things (quickly).'

(42) ?Bulut birden   hiç bir şeyim-e bak-**ma**-yı ver-di.
     Bulut suddenly my.thing-dat   look-**neg**-I give-past.3sg
     'Bulut didn't look at my any of my things, with a sudden decision.'
     (Bulut was going to do me a favor looking at my stuff to decide which ones are useful and which ones are for trash, but suddenly he changed his mind and he ended up not doing so.)

The NPI object test in the Inflected Type also shows that the position of the object is in the domain of V1. Because negation on V2 is impossible in the Inflected Type, only the one on V1 is exemplified in (43). Note that it has the same meaning as the sentence in (40). The only difference is that (40) is in the -*Ip* Type, but the latter one is in the Inflected Type.

(43) ? Bulut resimleri-ni kimse-ye   göster-**me**-di   dur-du.
     Bulut pictures-acc anybody-dat show-**neg**-past.3sg stand-past.3sg
     'The kid kept not showing his pictures to anybody (in a context of complaining).'

In light of the NPI object licensing test applied in this section, I argue that objects in LVCs are introduced by V1 in each type and they stay in situ.

4.2 Evidence for a CP projection in the Inflected Type

In the previous section, it is argued that in the Inflected Type, the extended projection of V1 includes vP depending on the observation that the theta role of the subjects are not determined by the whole complex, but only by V1. In this section, it is further argued that the extended projection of V1 goes up to CP. The reasons for this argument are discussed below.

V1 receives TAM and PA markers on it[28], which are in the same shape as the ones on V2 as shown in (44).

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[27] We should note something here. The V2 *ver* which is shown in the examples (41) and (42) has two meanings. One is *the complete action quickly done* and the other is *doing something in favor of somebody/something*. When the negation is on V1, we only get the latter meaning.

(44) Televizyon karşısında uyu-**du**-**m**   kal-**dı**-**m**.
      TV   across   sleep-past-1sg remain-past-1sg
      'I fell asleep while watching TV.' (punctual change)

Miyagawa (2010) claims that phi features which exist on the C head originally are inherited by the functional heads (T head) below it. This suggests that in order for the PA to be realized, CP projection is necessary.

Following Miyagawa (2010), I argue that the existence of PA markers on V1 is evidence for CP projection above V1.

Another reason why I argue that V1 projects up to CP is about the behavior of negation in the Inflected Type. V2 cannot receive negation in any way, but it can only be realized on V1. I suggest that this is again due to the existence of CP projection above V1. Whether the event is affirmative or not is asserted on the CP projection below V2. Following the split CP hypothesis of Rizzi (1997), where the ForceP is proposed to be one of the projections of CP layer, I suggest that the assertion force of the complex predicate is assigned in the CP part of the extended projection of V1. Trying to add negation on V2 contradicts with the assertion of V1 which is in affirmative form.

Note that two instances of negation which would hypothetically be realized on both V1 and V2 are impossible. This might be because of the fact that double negation in Turkish always cancels negation, showing that negation in Turkish cannot be in concord/agreement relation.

The final reason for the CP projection of V1 is the behavior of the evidential marker *-mIş* in the Inflected Type. *-mIş* can denote either perfective aspect or evidential modality. It denotes perfective aspect only if it is below a copular verb[29] (*ol-* or *i-*) as in (45a). If there is

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[28] When the inflection is past *-DI* or conditional *-sA* (genuine verbal forms of Kornfilt, 1996), the person agreement is obligatorily realized on both verbs as shown in (44) above. When the inflection is one of the morphemes which form a participle form with the verb (fake verbal forms of Kornfilt, 1996: the necessity marker *-mAlI*, imperfective marker *-Iyor*, perfective marker *-mIş*, aorist marker *-Ir/-Ar*), the subject agreement can is optional on V1 as shown in (i).

    (i) Parti-de içki   iç-miş-((**s)in**)   dur-muş-(**s)un**.
      party-loc alcohol drink-evid-2sg stand-evid-2sg
      'As I heard you kept drink alcohol in the party.'

This is due to the following reason. In the participle forms the PA marker attaching to them is in clitic form and it can take scope over the first participle conjunct in a coordination structure as in (ii).

    (ii) [Gel-miş ve git-miş] ol-acak-**sın**.
       come-perf and go-perf cop-fut-2sg
       'You will have come and gone.'

This is not the case in the genuine verbal forms, because the PA marker they get is from a different paradigm which is referred in the literature as *k* paradigm and they are affixal in nature.

    (iii) Gel-di   ve git-ti -y-di-**k**.
       come-past and go-past-cop-past-1pl
       '*We had come and gone.'
       'He came and we had gone.'

So, what I suggest is that the optional absence of the PA marker on V1 in a participle form is due to the clitic nature of the PA paradigm attaching to it, which is referred in the literature as *z* paradigm. Even if they appear only on V2, they still take V1 in their scope, which is not possible with the *k* paradigm. See Sağ (2013a and in press) for the nature of the PA paradigms.

[29] There are two different copulas in Turkish. In Sağ (2012, 2013a & b) the copula *ol-* is called the *low copula* because it precedes the lower categories (Enç's (2004) Zone 1 and Zone 2 categories), whereas the copula *i-* is

no copula in the structure as in (45c), or if -*mIş* appears above the copula as in (45b) it denotes evidential modality. Because in the copular constructions, the lower verb does not receive the PA marker as shown in (45a&b), the phrasal projection below the copula is argued to be smaller than a CP[30]. So, the evidential denotation only occurs when the next projection following it is a CP. In the Inflected Type, -*mIş* can only denote evidentiality as shown in (46), which shows that the category on V1 where the morpheme -*mIş* is inserted in the Inflected Type is immediately below a CP projection.

(45) a. Parti-de içki iç-**miş** ol-malı-sın.   *copular construction*
      party-loc alcohol drink-perf cop-possib-2sg
      'You must have drunk alcohol in the party.'

    b. Parti-de içki iç-meli -y-**miş-**sin.   *copular construction*
      Party-loc alcohol drink-nec-cop-evid-2sg
      'Apparently, you must drink alcohol in the party.'

    c. Parti-de içki iç-**miş**-sin.   *no copula*
      Party-loc alcohol drink-past.evid.3sg
      'Apparently, he drank alcohol in the party.'

(46) Parti-de içki iç-**miş**-(s)in dur-muş-(s)un[31].   *Inflected Type*
    party-loc alcohol drink-past.evid-2sg stand-past.evid-2sg
    'Apparently, you kept drinking alcohol in the party.'

In light of the discussion made in this section, I propose that the extended projection of V1 is CP in the Inflected Type[32].

4.3 Implications

Three types of LVCs with different sizes of the extended projection of V1 shows us that all the possible verbal projections- V head, VP and vP, can adjoin to the V2 head yielding to complex predicate formation. Remember that VP in the -*A* Type and vP in the -*Ip* Type are argued to be base-generated as adjoined to the V2 head (pseudo incorporation) depending on the absence of morphological unity between them and V2 in contrast to the Inflected Type

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called the *high copula* because it precedes the higher categories (Enç's Zone 3) in the structure. Zone 1 categories are permission/ability -*A*, ability/possibility -*AbIl*, and Zone 2 are categories necessity -*mAlI*, imperfective -*Iyor*, perfective -*mIş*, aorist -*Ir/-Ar*. Zone 3 categories are past -*DI* and evidential -*mIş*. See also Kelepir (2003, 2007, 2012), Göksel (2001), and Kornfilt (1996) among others for more detail.

[30] It is argued that there is a Predicate Phrase immediately below the copula depending on the NPI subject licensing facts. See Section 5.1.2 for the discussion of this.

[31]The native speakers prefer to use the short form of the PA markers in these structures, the reason of which is unclear to me. So, rather than using the full form -*sIn*, they prefer the shorter and more colloquial form -*In* although in structures other than LVCs, it is perfectly fine to use both forms.

[32] In the -*Ip* and Inflected Types, both V1 and V2 receive stress on them. However, in the -*A* Type, the main stress is on V1. We can attribute the difference in stress assignment to the structural difference between them and phases (Chomsky, 2000, 2001, 2005). In the -*Ip* and Inflected Types, the two verbs belong to two different phases. V1 is inside the vP phase and V2 is inside the CP phase in the -*Ip* Type. In the Inflected Type, V1 is inside the vP phase and V2 is inside the higher CP phase. I suggest that one stress might be designated for each phase, so the result is two stressed verbs. In the -*A* Type, both verbs are in the same phase; namely, inside the vP phase. I suggest that the one and the only stress of the phase is assigned to V2.

where the V1 head moves and adjoins to the V2 head from the CP complement position (head incorporation) resulting in morphological unity.

What about the CP in the Inflected Type? Why is it not attested as directly adjoined to the V2 head instead of being a complement to it? This is a hard question to answer, but at least I can say that a clause without a postposition or a noun phrase cannot be in an adjunct status in Turkish (Göksel and Kerslake, 2005). The CP in the Inflected Type receives neither of them.

So far, I have discussed the two possible ways of forming a complex predicate in light of the analysis on LVCs in Turkish: head incorporation (head to head adjunction) and pseudo incorporation (phrase to head adjunction). I have also shown that three kinds of verbal projections can adjoin to the V2 head: V head, VP and vP (the first via head incorporation, and the others via pseudo incorporation). In the following section, the focus of the discussion will be on the comparison of LVCs with the superficially similar copular constructions where V2 (copula) is strictly meaningless, hence does not undergo predicate modification. Especially, the NPI subject licensing in LVCs in contrast to the one in copular constructions provide supporting evidence for what has been claimed so far.

5. A comparison of LVCs with Copular Constructions

Copular constructions in Turkish are such that the extended projection of V1 (which includes vP and TP-representing all TAM categories) is presumably a complement to V2 (the copula) similar to the case in the Inflected Type. Differently from it, there is no CP projection below V2, because person agreement is not realized on V1, but only on V2 (adopting Miyagawa, 2010). In addition, V2 lacks semantic content but it is merged in the structure in order to satisfy syntactic requirements (see Kelepir, 2003, 2007, 2012, Sağ, 2012, 2013a, 2013b). Therefore, the copula is not expected to undergo a predicate modification relation with V1[33].

If the copular constructions were a kind of complex predication formed via predicate modification, we would expect to see the same kind of morphological unity between V1 and V2 as it is in the Inflected Type because V1 would undergo head movement adjoining to the V2 head. The fact that this is not the case is evidenced by the ability of QP *mI* to intervene between the verbs as shown in (47a) and the possibility of coordination of two V1s under the scope of V2 as shown in (47b)[34].

(47) a. Bulut bir saat sonra eve   gel-miş   mi ol-acak?
        Bulut one hour later home.dat come-perf QP   cop-fut.3sg
        'Will Bulut have come tomorrow?'
     b. Bulut bir saat sonra eve   gel-miş   ve   yat-mış   ol-acak.
        Bulut one hour later home.dat come-perf and go.to.bed-perf cop-fut.3sg
        'Bulut will have come home and gone to sleep in an hour.'

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[33] See footnote 29 for the nature of the copulas in Turkish.

[34] The ellipsis of V2 under identity is not possible with copular constructions, the reason of which is not clear to me at this point. However, I believe that the ability of *mI* to intervene between the two verbs and the coordination of two V1s under the scope of V2 are enough to suggest that there is no morphological unity between V1 and V2 in the copular constructions.

Comparison of NPI subject licensing in LVCs and copular constructions will show us the conclusion above (which is that in the copular constructions V2 does not undergo head movement and adjoin to the V2 head) is on the right track, further providing us with implications about the mode of complex predication and the final position of the subjects in LVCs.

The full tree structures proposed for LVCs (the detailed versions of the ones in (30), (31), and (32)) are given below.

(48) Inflected Type

cyclic head movement of V2

Dummy Tense Agreement

head incorporation

(49) a. *-Ip* Type

```
                          CP
                      ╱      ╲
                    TP        C
                ╱      ╲
        (DP_subj)_h    T'
                    ╱      ╲
                  V2P       T
                   │
                   V2
                ╱     ╲
              vP       V2
            ╱    ╲
          t_h    v'
               ╱    ╲
            -IpP     v
           ╱    ╲
         V1P    -Ip
        ╱   ╲
    DP_obj   V1
```
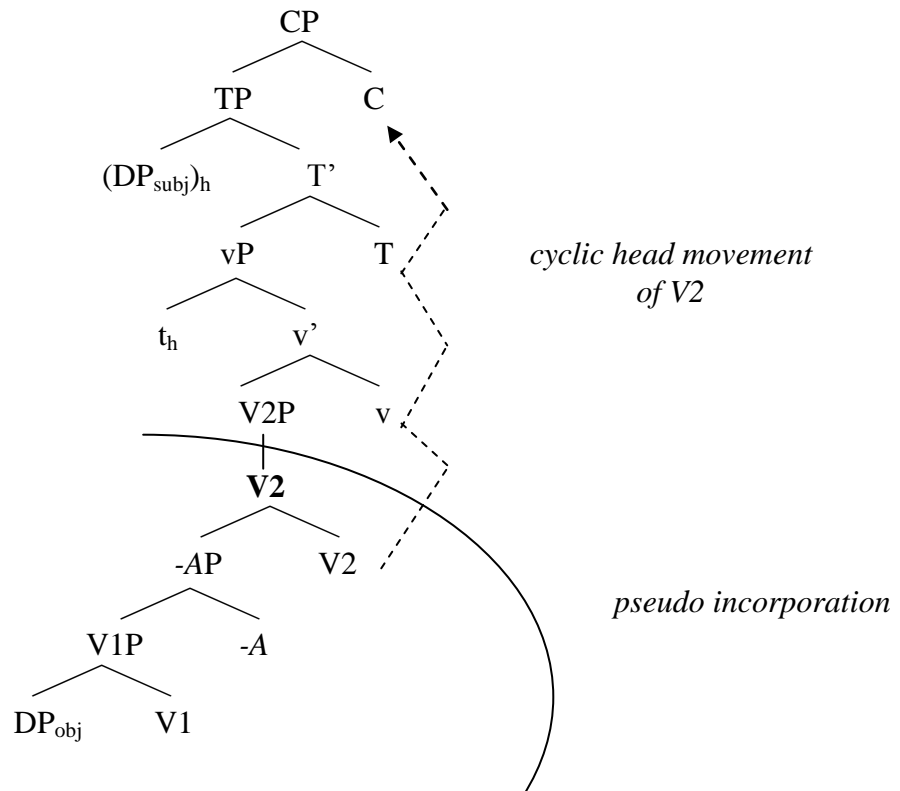
cyclic head movement of V2

pseudo incorporation

b. *-A* Type

```
                          CP
                      ╱      ╲
                    TP        C
                ╱      ╲
        (DP_subj)_h    T'
                    ╱      ╲
                   vP       T
                 ╱    ╲
               t_h    v'
                    ╱    ╲
                  V2P     v
                   │
                   V2
                ╱     ╲
              -AP      V2
            ╱    ╲
          V1P    -A
         ╱   ╲
     DP_obj   V1
```

cyclic head movement of V2

pseudo incorporation
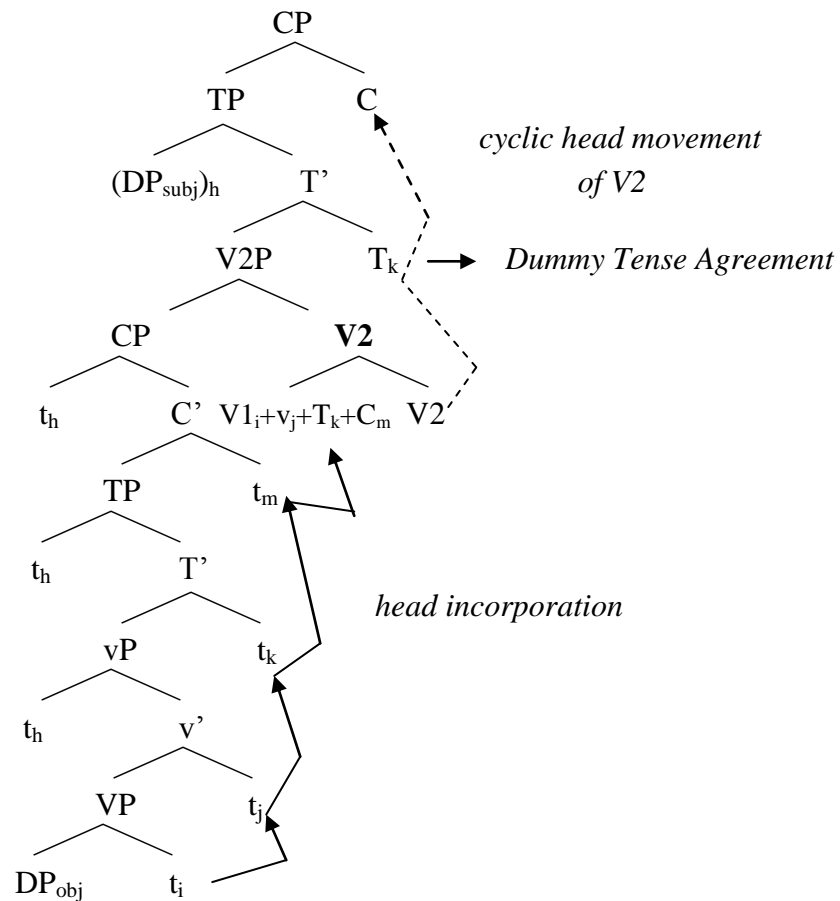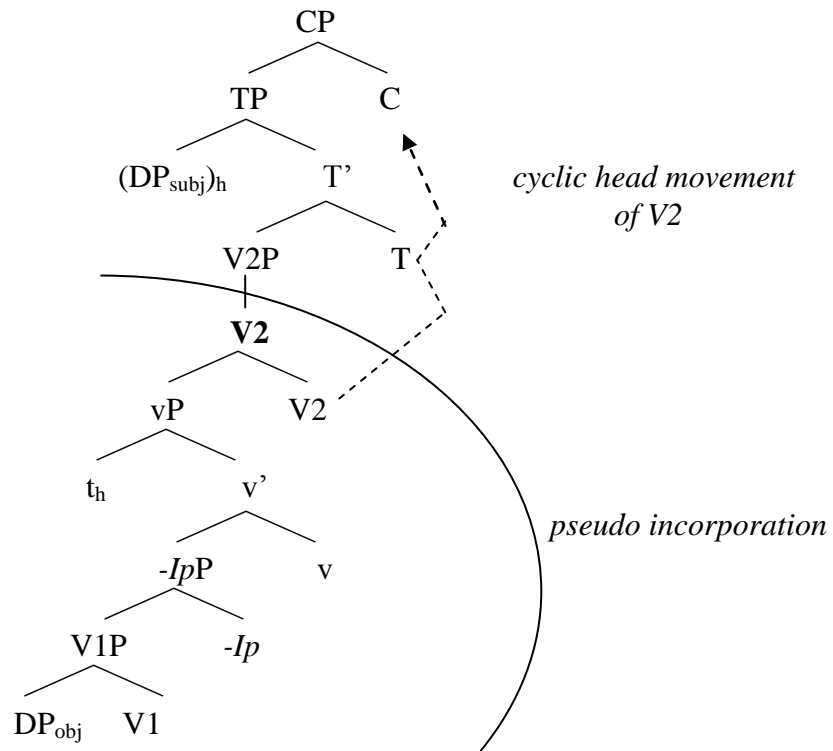
As stated in Section 4.1.2, in the *-Ip* Type and *-A* Type constructions, negation can either appear on V1 or V2. When it appears on V2 it takes both verbs in its scope, but when it

appears on V1 it only negates V1. In the Inflected Type, negation can only appear on V1 taking only V1 in its scope[35].

In order to analyze the behavior of negation in LVCs and copular constructions, we need to know how negation takes scope in Turkish: whether it is a syntactic or a semantic phenomenon. In order to understand that, we also need to decide whether subjects stay in-situ or undergo any movement. If they move, we need to show where the subjects end up because the scope properties of negation can be understood by looking at its interaction with quantified subjects, especially the NPI subjects, which, we know, should always be under the scope of negation.

In this study, it is argued that subjects in Turkish do not stay in situ (Spec, vP) (contra Öztürk, 2005 and following Kelepir, 2011) but move up to the T layer (assuming it to be Spec, TP). The scope of negation and NPI licensing is claimed to be a syntactic phenomenon contra Kelepir (2011). Although negation occupies a low position below TP, it moves cyclically up to the functional layer, in which case it can license an NPI subject.

First, the arguments about the final position of the subjects and the scope properties of negation in Turkish in Section 5.1 together with a comparison of LVCs and copular constructions in Section 5.2 are presented. Then the implications of this analysis for the mode of complex predicate formation in LVCs are discussed in Section 5.3.

5.1 The position of the subjects and the scope of negation

5.1.1 Where does the subject move?

Negation in Turkish is argued to occupy a fixed scope position in the syntactic structure in Öztürk (2005). However, Kelepir (2011) argues that there is no designated position for negation in the structure, but LF movement of negation determines its scope.

The claim in this study is that negation does not take scope from its base position which is below TP contra Öztürk (2005), but it undergoes cyclic head movement together with the lexical verb and other categories on its way. Negation licenses the NPI in its moved position. Contra Kelepir (2011), I claim that the scope of negation is a syntactic phenomenon.

Öztürk (2005) adopts a neo-Davidsonian approach to the clause structure, where the subject and the object are base-generated at AgentP, and ThemeP, respectively as shown in (50). NegP is argued to occupy a position between TP and AgentP.

(50) TP> NegP> AgentP > ThemeP> VP

The main claim in Öztürk (2005) is that when the subject Quantifier Phrase takes narrow scope with respect to negation, it stays in situ. However, when negation takes narrow scope the subject moves to the Spec position of TP. So, the subject moves to TP for the reasons of scope interaction, not for EPP or case checking.

Evidence given for the movement of the subject to TP when negation takes narrow scope comes from the following: The relative order of the subject and the TP adverbial determines the scope relation between the subject and negation as shown in (51).

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[35] See Appendix 2 for the judgments of the informants on the scope of negation for each light verb.

(51) a. Allahtan bütün çocuklar o test-e   gir-me-di(*-ler).

      Luckily   all   child.pl that test-dat take-neg-past(-pl)

      'Luckily, all children did not take the test.'   (*all> not, not>all)

    b. Bütün çocuk-lar Allahtan o test-e   gir-me-di-ler.

      All   child-pl   luckily that test-dat take-neg-past-pl   (all>not, *not>all)

                                     (Öztürk 2005: 131)

When the adverb precedes the subject as in (51a), the subject takes narrow scope with respect to negation, whereas when the subject precedes the adverb, it takes wide scope.

      The presence of plural marking on the verb is also taken as evidence for the movement of the subject. It is argued that when it stays in situ, there is no plural agreement on the verb as in (51a), but when it moves to TP, it triggers plural agreement as in (51b).

      In summary, Öztürk (2005) claims that the position of negation is fixed and does not change, and the subjects can only move to TP for scope reasons, not for EPP or case checking.

      First of all, the judgments above do not reflect the judgments of many Turkish speakers. Based on the evidence of the plural agreement for the movement of the subject to Spec, TP, the below example should be ungrammatical, but it is not.

(52) Bütün çocuk-lar Allahtan o test-e   gir-me-di.

     all   child-pl   luckily that test-dat take-neg-past   (all>not, not>all)

If this position of the subject relative to the adverb means that it occupies a Spec, TP position, the absence of plurality should yield ungrammaticality. In addition, the judgments of the speakers show that the easiest interpretation is where the subject takes narrow scope with respect to negation. For some speakers, it is even ambiguous although they accept that the presence of plural agreement makes the interpretation where negation takes narrow scope easier. Thus, the plural agreement test is not a very reliable test for the movement of the subject.

      In Kelepir (2011), it is argued that neither the position of the TP adverbial nor the subject-verb agreement is a reliable test for the position of the subject. The universal quantifiers can precede the frequency and aspectual adverbs, suggesting that they occur in a higher position than the position of these adverbs. Even in that case negation takes wide scope. Looking at what is argued in Öztürk (2005), we need to assume that the universal quantifier should be in situ (below negation), but in that case we cannot explain how they can precede the frequency and aspectual adverbs which are higher than the negation in Turkish.

(53) a. <u>Frequency adverbs</u>

      Herkes   diş-ler-i-ni   <u>gün-de üç kez</u> / <u>sık sık</u>   fırçala-mı-yor.

      Everybody tooth-pl-3poss-acc <u>day-loc three times</u> / <u>often</u> brush-neg-imperf.3sg

      'Not everybody brushes his/her teeth three times a day/often.

    b. <u>Aspectual adverbs</u>

      Herkes   bu iş-i   <u>iki saat-te</u>   bitir-e-me-di.

      everybody this job-acc <u>two hour-loc</u> finish-abil-neg-past.3sg

      'Not everybody finished this job in two hours.'

                                         (Kelepir 2011: 40)

Another counter-example to Öztürk's argument comes from NPIs which should always be under the scope of negation. If we adopt the claim in Öztürk (2005), we need to assume that the position of the NPI subjects should always be under negation, which is its theta-position. However, they can precede the TP layer adverbs, still licensed by the negation.

(54) (Hiç) kimse Allahtan o test-e   gir-me-di.
     any body   luckily   that test-dat take-neg-past.3sg
     'Luckily, nobody took the exam.'   (not> any)

The conclusion up to this point is that the position of the subject with respect to the adverbials and the plural agreement marker are not convincing evidence for the scope relations of the quantifiers with negation, which is argued to be the reason why subjects can move to Spec, TP in Turkish by Öztürk (2005).

In that case, I cannot assume that the canonical surface subject position in Turkish is its theta-position which is lower than the position of negation. Although the precise reason of it remains out of the scope of this study, I claim that subjects in Turkish move up to TP (Spec, TP) from their base positions.

5.1.2 How does negation take scope in Turkish?

Many works show that the syntactic position of negation varies among languages; some occupy a position below TP and some appear above TP (Cinque, 1999, Zanuttini, 2001, 1997, 1996, 1994, Haegeman and Zanuttini, 1991, Ouhalla 1991, Zeijlstra, 2004 among others). Among these, Haegeman and Zanuttini (1991) and Zeijlstra (2004) argue that Turkish negation marker is a head category. In Ouhalla (1991) and Aygen-Tosun (1998) negation in Turkish is argued to occupy a position below TP based on the fact that it precedes tense morphemes.

In Zeijlstra (2004), it is claimed that in the languages where negation is below TP such as English, NPI subject licensing should be impossible. However, this claim is problematic for Turkish because although negation is below TP, the NPI subject licensing is possible as shown in (55).

(55) Hiç kimse gel-me-di.
     any body come-neg-past.3sg
     'Nobody came.'

Laka (1990) argues that negation in English can move up to CP together with T and in that case NPIs in subject positions can be licensed by it as in (56).

(56) What didn't anybody eat?

In light of this claim made in Laka (1990), I suggest that the case of negation should be similar to English where NPI subjects cannot be licensed by negation, unless negation moves up to a higher head.

Therefore, it is possible to make the following proposal about negation in Turkish: Negation cyclically moves up to a head higher than TP at S-structure assuming that NPI licensing requires c-command relation (i.e it needs to c-command the NPI in Spec, TP). That

is why NPI subjects are always licensed in Turkish. I suggest that this head is Pred(icate) head which occupies the position immediately above TP (the name also used in Baker, 2008, Bowers, 2010[36], Sağ, 2013a, in press). Note that I do not argue that negation cyclically moves up to the C head whose reasons will be clear in Section 5.2.2.

Now let us look at how negation licenses NPI subjects in LVCs and copular constructions.

5.2 NPI Subject Licensing in LVCs and Copular Constructions

5.2.1 LVCs

In the *-Ip* Type constructions, negation can either appear on V1 or V2. However, it can only license an NPI subject when it is on V2 as shown in (57b).

(57) a. *(Hiç) kimse yemek ye-**me**-yip dur-du.
         any body food   eat-neg-Ip stand-past.3sg
         Intended meaning: 'Nobody kept eating food.'
      b. (Hiç) kimse yemek yi-yip dur-**ma**-dı.
         any body food   eat-Ip stand-neg-past.3sg
         'Nobody kept eating food.'

Although the subject originates in Spec of vP as claimed in 4.1.1, it ends up on the higher subject position (Spec, TP) as proposed in Section 5.1.1.1. So, when it is not in the scope of the negation on V1, it cannot be licensed as in (57a). This sentence shows that the negation on V1 does not move to PredP above V2. This also implies that NPI cannot be licensed under A-movement reconstruction (which is also the case in English).

The generalization for the negation in the *-A* Type constructions is similar to the one in the *-Ip* Type. Namely, it can either occur on V2 taking both verbs under its scope or it can occur on V1 only taking V1 in its scope. Negation can only license an NPI subject when it is on V2 as shown in (58b).

(58) a. *(Hiç) kimse ödevim-i   yap-**ma-**yı ver-di.
         any body my.homework-acc do-neg-I give-past.3sg
         Intended meaning: 'Nobody did my homework.'
      b. (Hiç) kimse ödevim-i   yap-ı ver-**me**-di.
         any body my.homeowrk-acc do-I give-neg-past.3sg
         'Nobody did my homework.'

In the Inflected Type, NPI subject licensing is impossible due to the inability of negation to appear on V2 as discussed in Section 4.2, which is shown in (59). The fact that negation on V1 cannot license the NPI subject shows that the subject does not stay in the lower CP domain but needs to undergo further movement up to the Spec of TP above V2. Otherwise,

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[36] Baker (2008) uses the Pred head as the position for the adjectival and nominal agreement which is higher than T/Infl categories. In Bowers (2010), it is used as a position where an argument such as agent can raise via EPP and then undergo Agree with T. In this work, it is taken as a head proposed to emphasize the boundary of a predicate and where negation can raise to take scope.

we would expect the negation on V1 to move up to the Pred head in the domain of the lower CP (the extended projection of V1) and license the NPI subject.

(59) *(Hiç) kimse bu kitab-ı   oku-**ma-**dı   dur-du.
     any body that book-acc read-neg-past.3sg stand-past.3sg
     Intended meaning: 'Nobody kept not reading that book.'

Why does the subject of the Inflected Type undergo further movement up to the Spec of higher TP above V2?

A comparison with copular constructions shows that the further subject movement in the Inflected Type is related to the complex predicate formation via head incorporation. In the following section, the story for the NPI subject licensing in copular constructions, which also suggests that light verbs are not the same as copular verbs, is presented.

5.2.2 Copular Constructions

NPI subject licensing in the copular constructions show that the subject can either end up in the Spec position of the lower TP (below V2) or further move up to the Spec position of the higher TP (above V2) as opposed to the Inflected Type, where the subject always needs to move up to higher Spec, TP (above V2). This is tested by the position of the subject with respect to the adverbials. Consider the following discussion.

Differently from LVCs, in the copular constructions when negation is either on V1 or V2, it can license the NPI subject.

(60) a. (Hiç) kimse o elma-yı   ye-**me**-miş   ol-abil-ir.
     Any body that apple-acc eat-neg-perf cop-possib-aor.3sg
     'It is possible that nobody ate that apple.'
    b. (Hiç) kimse o elma-yı   ye-miş ol-a-**ma**-z.
     any body that apple-acc eat-perf cop-possib-neg-aor.3sg
     'It is impossible that everybody ate that apple.'

Although the negation on V1 seems to move higher above V2 in these examples; hence, license the NPI subject, this is an illusion. Actually its movement ends when the copula is merged because V1 does not move and adjoin to V2. Consider the following examples.

(61) a. <u>Yarın</u>   [(hiç) kimse o elma-yı   ye-**me**-miş] ol-acak.
     Tomorrow any body that apple-acc eat-neg-perf cop-fut.3sg
     'Everybody will be in the state of not having eaten that apple tomorrow.'
    b. *(Hiç) kimse <u>yarın</u>   [o elma-yı   ye-**me**-miş] ol-acak.
     Any   body tomorrow that apple-acc eat-neg-perf cop-fut.3sg

(62) a. Yarın   [(hiç) kimse o elma-yı   ye-miş] ol-**ma**-yacak.
     Tomorrow any   body   that apple-acc eat-perf cop-neg-fut.3sg
     'Nobody will have eaten that apple tomorrow.'

b. (Hiç) kimse yarın   [o elma-yı   ye-miş] ol-**ma**-yacak.
   Any   body   tomorrow that apple-acc eat-perf cop-neg-fut.3sg
   'Nobody will have eaten that apple tomorrow.'

The ungrammaticality of (61b) shows that the place of the subject with respect to the adverb matters. In these examples, the adverb *yarın* 'tomorrow' is assumed to occupy a position in FutureP which is above the copula[37]. When the subject follows the adverb as in (61a), we can make two possible assumptions about its position: One is the layer of FutureP (possibly occupying its Spec position) and the other is below FutureP and V2. However, when it precedes the adverb as in (61b), it is guaranteed that it occupies a position in FutureP above V2.

In (61a), because it is possible that the subject is in the lower spec, TP (below FutureP and V2 as in the second possibility mentioned above), and if we assume that negation on V1 cyclically moves higher (to the Pred head) until it encounters V2 where it can take the subject in Spec, TP in its scope, the NPI subject licensing happens.

I suggest that the head, which negation cyclically moves and adjoins to, cannot be C head because in the copular constructions, the extended projection of V1 does not include a CP due to the lack of person agreement on it as stated before. Because negation cannot move further above V2 due to the lack of head movement relation between the two verbs, but it can license a subject which is in the lower spec, TP, I suggest that there must a be head above the lower TP where negation can move up and take the subject in the lower Spec, TP in its scope. I call this head Pred(icate) adopting the name from Baker (2008) and Bowers (2010)[38]. I assume that Pred head exists above both the TP below V2 and the one above it to emphasize the boundary of the extended projections of the two verbs.

In (61b), because the subject precedes the adverb which is above V2, the NPI subject is also above V2, in Spec, FutureP, which is higher than where negation is added (on V1). Negation cannot move above V2; hence, cannot license the NPI subject[39].

In (62), in both cases, the NPI subject is always under the scope of negation which is on V2, so it can be licensed by negation[40].

---

[37] The adverb may be in Spec, FutureP following Cinque (1999), or it might be adjoined to FutureP. In this study, which one is the position of the adverb does not matter because the important point that matters is that it is in the layer of the projection of Future head.
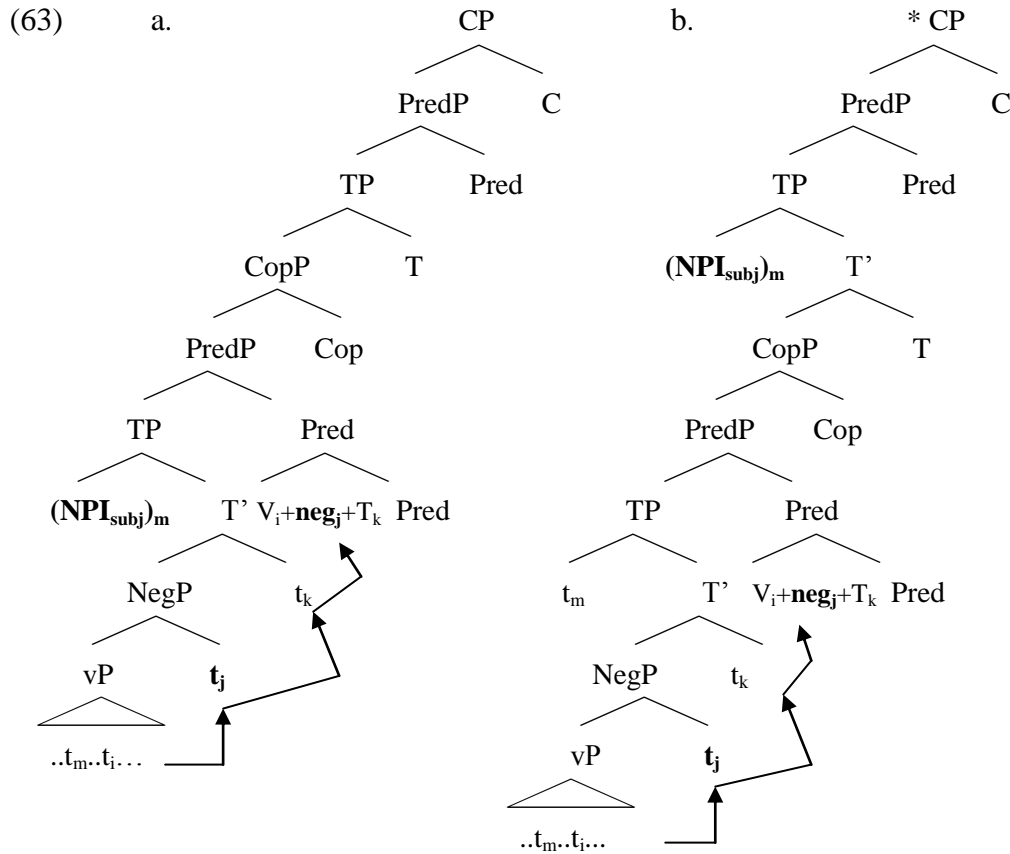
[38] See Sağ (2013a and in press) for an analysis where the existence of a Pred head above TP is argued.

[39] The examples along the same lines are given below.
   (i) a. [(Hiç) kimse yarın   o gömleğ-i   giy-**me**-yecek] ol-abil-ir.
           any   body   tomorrow that shirt-acc wear-neg-fut cop-possib-aor.3sg
           'It is possible that nobody will wear that shirt tomorrow.'
        b. [Yarın   (hiç) kimse o gömleğ-i   giy-**me**-yecek] ol-abil-ir.
           tomorrow any body   that shirt-acc wear-neg-fut cop-possib-aor.3sg
           'It is possible that nobody will wear that shirt tomorrow.'
In (i), the FutureP is under the copula, and when the subject precedes the future adverb as in (ia) it means that it is either in Spec, TP above the copula or Spec, FutureP below the copula. When it follows the adverb as in (ib) it means that it is in Spec, FutureP and it is guaranteed that the subject is below the copula because the FutureP is lower than the copula. In (ia), because it is possible that the subject is at the same layer (below the copula) as the negation, it can be licensed. In (ib), the subject is also licensed because it is still at the same layer as the negation.

In summary, NPI subject licensing in copular constructions is represented in (63) and (64). In the former negation is on V1 whereas in the latter, it is on V2. Only the cyclic head movement of the categories with negation is shown although it is argued that all the verbs in Turkish undergo successive cyclic head movement.
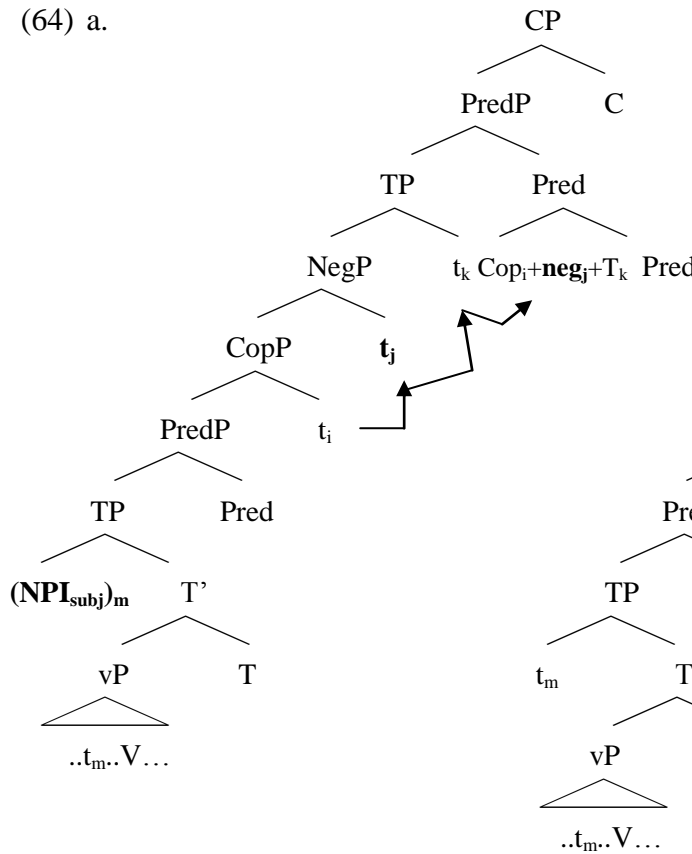
(63)   a.

```
                CP
              /    \
           PredP    C
          /    \
        TP     Pred
       /   \
     CopP    T
    /    \
  PredP   Cop
  /    \
 TP    Pred
/  \      \
(NPIsubj)m  T'  Vi+negj+Tk  Pred
     /  \        \
   NegP  tk      tk
   /  \
  vP   tj
  /\
 ..tm..ti...
```

b.   * CP

```
                CP
              /    \
           PredP    C
          /    \
        TP     Pred
       /   \
 (NPIsubj)m  T'
           /   \
         CopP    T
        /    \
      PredP   Cop
      /    \
    TP     Pred
   /  \        \
  tm    T'   Vi+negj+Tk  Pred
       /  \        \
     NegP  tk      tk
     /  \
    vP   tj
    /\
   ..tm..ti...
```

---

(64) a.

```
                        CP
                   ┌────┴────┐
                 PredP        C
              ┌────┴────┐
             TP         Pred
          ┌───┴───┐   ┌──┴──────────────────┐
        NegP     Pred  t_k Cop_i+neg_j+T_k  Pred
      ┌───┴───┐
    CopP      t_j
  ┌───┴───┐
PredP     t_i
┌──┴──┐
TP    Pred
┌─┴─┐
(NPI_subj)_m  T'
          ┌──┴──┐
         vP     T
         ..t_m..V…
```

b.

```
                        CP
                   ┌────┴────┐
                 PredP        C
              ┌────┴────┐
             TP         Pred
          ┌───┴───┐   ┌──┴──────────────────┐
   (NPI_subj)_i  T'   T' Cop_i+neg_j+T_k   Pred
              ┌──┴──┐
            NegP    t_k
         ┌────┴────┐
       CopP       t_j
     ┌───┴───┐
   PredP     t_i
  ┌───┴──┐
 TP     Pred
┌─┴─┐
t_m  T'
   ┌─┴─┐
  vP    T
  ..t_m..V…
```

5.3 Implications

So far, the discussion has been on a comparison of LVCs and copular constructions with respect to NPI subject licensing. I have argued that subjects in Turkish do not stay in situ (contra Öztürk, 2005, following Kelepir, 2011) but moves to the Spec, TP position. In the *-Ip* and *-A* Types, the final position of the subject is Spec, TP and it ends up above V2. In the Inflected Type, the subject always moves up to the higher Spec, TP above V2. Namely, in LVCs the subjects always end up above the higher verb.

In the *-Ip* and *-A* Type constructions, the impossibility of negation on V1 to license the NPI subject is a result of the lack of a head movement relation between V1 and V2. The head of V1 does not undergo movement adjoining to V2 in light of the pseudo incorporation analysis where instead there is a base-generated adjunction relation between its extended projection and the head of V2. For that reason, the negation head above V1 cannot move up to the Pred head above TP which is again above the complex head formed via pseudo incorporation. Given the argument that the subject ends up in the Spec, TP, the negation on V1 cannot license an NPI subject. Therefore, NPI subject licensing is only possible when negation is on V2 in these types of LVCs.

In the Inflected Type, NPI subject licensing has two implications. First, in the copular constructions, the subject may either move up to the Spec of lower TP below V2 or undergo a further movement to the Spec of higher TP above V2. This is different from the case in the Inflected Type, where the subject always moves up to the higher Spec, TP above V2. I claim that this is due to head incorporation in the Inflected Type which does not exist in the copular constructions. Movement of the subject up to the higher Spec, TP reflects the complex

predicate formation via head incorporation, where V1 and V2 form both a syntactic and morphological unit. In the copular constructions; on the other hand, because V1 does not adjoin to the V2 head, the subject does not have to move to the Spec, TP above V2.

Second, NPI subject licensing by the negation on V1 is still impossible although V1 undergoes head incorporation adjoining to the V2 head. The reason I claim for this is that this head incorporation is without fusion; therefore, V2 undergoes further successive cyclic head movement leaving V1 and the other categories incorporated together with it on their incorporation position, among which there is also negation. For that reason, negation cannot move further up to the higher Pred head (above V2), hence license the NPI subject.

Head movement without fusion in the Inflected Type can be considered as an excorporation case (following Roberts, 1991, 2010, Guasti, 1991)[41]. Excorporation is defined as "…successive cyclic head-to-head movement where one head simply "passes through" another, first incorporating and then moving on…" in Roberts (1991: 211). Roberts also analyzes the verb raising case in Dutch as excorporation, where it is not the adjoined element that incorporates suggested by the definition of it, but rather the original incorporation host. Such kind of excorporation is impossible in morphological cases of head-to-head movement such as affixation. In the same line, in the Inflected Type, the excorporating element is V2 (the incorporation host), leaving the adjoined elements on their moved position. This is reasoned by the fact that negation appearing on V1 cannot move further up to the PredP above V2 to license the NPI subject in higher Spec, TP position. Negation on V1 cannot undergo further successive cyclic movement to that position after incorporating into the V2 head because there is no fusion occurring between the adjoined elements and the incorporation host. Therefore, only V2 excorporates leaving V1+NEG+T+C in their incorporation position.

To summarize, the scenario for the negation in the Inflected Type is the following:

(i)   V1 together with other categories above it (including negation) cyclically moves up adjoining to the V2 head via head incorporation.

(ii) Any verb undergoes cyclic head movement up to the functional domain in Turkish (for affixation relation). In these constructions, only V2 undergoes that movement leaving V1+neg+TAM+C in its place after incorporation, which is due to the lack of fusion between V1 and V2 (excorporation).

(iii) Therefore, negation cannot move higher and license the NPI subject.

This proposal implies that head incorporation might either result in fusion/affixation as in causative structures in Turkish (see Section 3.3) or it might happen without any fusion still causing a morphological unity between the incorporated element and incorporation host. The latter case is what is argued for the Inflected Type.

In conclusion, the aim of Section 5 has been to compare LVCs (especially the Inflected Type) with the superficially similar copular constructions where the extended projection of V1 is a complement to V2. Adjunction of V1 to the V2 head is not induced in the copular constructions because the copula lacks semantic content, hence does not undergo predicate

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[41] In Guasti (1991) Italian causative structures are analyzed as involving excorporation of the causative verb from the complex verb where there is no affixation relation. They are derived by both incorporation of the lexical verb to the causative head and excorporation of the causative head undergoing further movement. This proposal is similar to what is proposed for the Inflected Type in this study.

modification. This is evidenced by the lack of morphological unity between V1 and V2. In the end, the comparison (especially the one of NPI subject licensing) supports the claim that in the *-Ip* and *-A* Types, the strategy used for complex predicate formation is pseudo incorporation, and in the Inflected Type, it is head incorporation (without fusion).

In the following section, the analysis on LVCs in Turkish will be extended to other types of complex predicates formed via predicate modification. The scope will be on PNI and constructions formed by the combination of a non-derived adverb and a verb in Turkish. However, I expect that the analysis can also be extended to similar phenomena observed in other languages, especially NI in general, which is the starting point of the analysis adopted here.

6. Extending the Proposal

The main aim of this article has been to explore the syntactic structure of complex predicates formed via predicate modification. It has been argued that the resulted head by adjunction of the first element of those predicates, either as a phrase or head, to the head of the second element is interpreted as a complex head on the semantic component, yielding to complex predication. To support this proposal, LVCs in Turkish has been used as a tool, and the two possible ways of adjunction- movement and base-generation- have been shown to be attested in LVCs, and no others.

Now, it is time to extend this proposal to the other types of complex predicates, especially canonical NI and PNI, in pursuit of a more general theory. I will limit my data to Turkish cases again, but note that although an extensive study is required, the main argument of this paper can be considered as potential to apply to other languages as well.

To my knowledge, Turkish does not have a case where canonical NI is attested. However, Öztürk (2005) claims that predicates formed with a bare NP and a verb in Turkish are instances of PNI following Massam (2001). They are exemplified below.

NP + verb
   (65) a. Ali kitap oku-du.
       Ali book read-past.3sg
       'Ali did book-reading (as an activity).'   (Öztürk, 2005: 32)

Idioms: NP +verb
   (66) Ali surat as-tı.
       Ali face hang-past.3sg
       'Ali made a sour face.'   (Öztürk, 2005: 54)

LVCs with NP+ *et-* 'do'
   (67) Meclis   yasa-yı red   et-ti.
       Assembly law-acc rejection do-past.3sg
       'The assembly rejected the law.'   (Öztürk, 2005: 55)

These predicates show striking similarities to the *-Ip* and *-A* Types of LVCs. Namely, the bare NP and the verb cannot be separated by any other element or by means of scrambling, which proves the existence of a syntactic unity as exemplified in (68). (Note that Turkish is a

scrambling language and a nominal element which receives case can be scrambled away being separated from the verb.) However, the focus elements such as QP *mI* can intervene between the two elements of the complex ((69a)), and the ellipsis of the verb under identity ((69b)) and coordination of two bare NPs under the scope of the verb ((69c)) are possible. This is the indication of the lack of morphological unity just as it is in the -*Ip* and -*A* Types.

(68) Bulut (sessizce) kitap (*sessizce) oku-du.
　　　Bulut quietly　book quietly read-past.3sg
　　 'Bulut did book reading quietly.'

(69) a. Bulut kitap mı oku-du?
　　　　 Bulut book QP read-past.3sg
　　　 'Did Ali do book reading?'
　　 b. Bulut kitap oku-du, gazete değil.
　　　　 Bulut book read-past.3sg, newspaper not
　　　 'Bulut did book reading, not newspaper (reading).'
　　 c. Bulut kitap ve gazete oku-du.
　　　　 Bulut book and newspaper read-past.3sg
　　　 'Bulut did book and newspaper reading.'

I argue that another type of complex predicates formed via predicate modification is the constructions where a non-derived adverb (e.g. *yavaş* 'slow', *hızlı* 'fast', *güzel* 'nice') combines with a verb. Taylan (1984) shows that non-derived adverbs always have to occupy and immediately preverbal position and cannot precede any argument. These constructions also show a syntactic unity based on the fact that the adverb and the verb cannot be separated by scrambling or any argument ((70))[42], but they lack morphological unity evidenced by the ability of the QP *mI* to intervene between the two elements ((71a)), and ellipsis ((71b))/ coordination tests ((71c)) as in the case of LVCs with pseudo incorporation and PNI constructions.

(70) Bulut　(yemeğ-i)　yavaş (*yemeğ-i) ye-di.
　　　Bulut　food-acc　slow　　food-acc eat-past.3sg
　　 'Bulut ate the food slowly.'

(71) a. Bulut yemeğ-i　yavaş mı ye-di?
　　　　 Bulut good-acc slow QP eat-past.3sg
　　　 'Did Bulut eat food slowly?'

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[42] Note that a bare NP which is not in an argument position as claimed in Öztürk (2005) can intervene between the non-derived adverb and the verb. I suggest that the non-derived adverb can also form a complex predicate via pseudo incorporation with the one already formed by the pseudo incorporation of a bare NP to the verb. This structure is such that the bare NP is adjoined to the head of the verb resulting in a complex verbal head, and the phrase including the non-derived adverb is also adjoined to this head turning it into a more complex head. Why bare NP is adjoined to the verb before the non-derived adverb, but not vice versa, might be because of semantic reasons. Namely, as mentioned in Section 3.3, there might be a precedence condition on what can form a complex predicate with a verb first. In this case, a bare NP seems to be on the first row with respect to a non-derived adverb.

b. Bulut yemeğ-i yavaş ye-di, hızlı değil.
   Bulut food-acc slow eat-past.3sg, fast not
   'Bulut ate the food slowly, not fast.'
c. Bulut yemeğ-i yavaş ve güzel ye-di.
   Bulut food-acc slow and nice eat-past.3sg
   'Bulut ate the food slowly and nicely.'

I suggest that the bare NP in PNI and non-derived adverb in adverbial constructions is base-generated as adjoined to the V head; namely, they are instances of pseudo incorporation. If we assume that the bare NP is the complement of the verb following the general literature on PNI, we cannot account for the lack of head incorporation, which would result in the same kind of morphological unity as in the Inflected Type of LVCs. Instead, I argue that the resulting complex head of the adjunction relation between the bare NP and the verbal head yields to complex predicate interpretation in PNI constructions. Similarly, in non-derived adverb+verb structures, the similar kind of adjunction relation results in complex predicate formation. In both constructions, the existence of syntactic unity without morphological one is due to phrasal adjunction, just as it is in the -*Ip* and -*A* Types of LVCs[43].

   As a final remark, the proposal on pseudo incorporation in this study can also be extended to the languages with PNI (e.g. Hindi (Dayal, 2011, 2015), Niuean (Massam, 2001), Sakha and Tamil (Baker, 2014), Hungarian (Kiss, 2002), Chamorro (Chung and Ladusaw, 2004), among others). The canonical NI cases (e.g. Mohawk and Inuit (Sadock, 1980, Mithun, 1984, Baker, 1988, van Geenhoven, 1998)) can be considered as instances of head incorporation as already proposed in the literature. Of course, this requires further and detailed research, for which I hope this study will be an inspiration.

7. Concluding Remarks

In this article, I have argued that the complex predicates formed via predicate modification (in the sense of Dayal, 2011) should have a syntactic structure where one element of the predicate is adjoined as a phrase or head to the head of the other element by partially adopting what is

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[43]The stress pattern in the -*A* Type and the predicates formed with the combination of a bare NP+verb, and a non-derived adverb+verb is similar to the one in compound structures in Turkish (Knecht, 1986). Consider the regular noun compounds shown below, where the stress falls on the first noun of the compound. The stressed word is underlined.

   (i) a. <u>kara</u> biber
          black pepper
       b. <u>çilek</u>   reçeli
          strawberry marmalade

Looking at their similarity in stress assignment, one can claim that the constructions which have the same stress pattern as noun compounds are also a way of forming a compound. However, I want to point out that they are better not to be analyzed as compound structures because nothing, such as a focus particle, can intervene between the two nouns in a compound as shown in (ii). It is shown throughout the discussion so far that in the structures mentioned above, the question particle *mI* can be inserted between the first and the second elements of the predicate. This implies that compound structures must have a stricter unit between its elements which needs to be studied in more detail, and I leave that issue for further research.

   (ii) a. çilek   (*mi) reçeli?
            strawberry QP marmalade

proposed for NI in general in the literature for the analysis of LVCs in Turkish. The resulting X^0 category is interpreted as a complex head semantically, which yields to complex predication (Baker, 2014). The overall aim is to show the potential of my proposal to shed light on complex predicates of the same nature cross-linguistically.

I show that there are two logical possibilities for adjoining an element to a head category, and these two possibilities and no others are attested in LVCs. One of them is movement of a head category from a complement position adjoining to another head, and it is the strategy used in the Inflected Type of LVCs. This is head incorporation (Baker, 1988). The other is base-generation of a phrasal projection as adjoined to the head, which is defined as pseudo incorporation in this study (cf. Massam, 2001, Öztürk, 2005, Dayal, 2011, 2015, Baker, 2014 among others), and it is argued to occur in the *-Ip* and *-A* Types of LVCs. The morphological unity in the Inflected Type in contrast to the *-Ip* and *-A* Types, in which only a syntactic unity is observed, can be accounted for by the strategy of head incorporation in the former.

A comparison of LVCs with the copular constructions especially in the field of NPI subject licensing proves that adjunction to the head is not instantiated if there is no predicate modification relation, supporting my hypothesis.

Finally, I extend the main proposal of this study to the PNI and non-derived adverb+verb structures in Turkish, suggesting that they are also instances of pseudo incorporation by means of which we can explain the striking similarities between those structures and the *-Ip* and *-A* Types of LVCs.

How general might the proposal of this article can prove? Although this question requires an extensive study, I think it should be possible to extend it to other instances where strict syntactic or morphological adjacency is observed and the relation of predicate modification is suspected to exist which is related to complex predicate formation. I have taken a starting step in this direction by analyzing an unexplored field and showing that complex predication of this nature should not only be limited to NI and similar phenomena in other structures should be explored as well.

Appendix 1: Examples for LVCs

Verbs with the-*Ip* Type
    (1) Sizi   beklerken   çay   iç-**ip**   **dur** -du.
        you.acc while.waiting tea   drink-Ip stand-past.3sg
        'While waiting for you, he kept drinking tea.'
        (expressing a durative/iterative event: There is more than one 'drinking tea' event.)
    (2) Televizyon karşısında uyu-**yup kal-**dı.
        TV   across   sleep-Ip remain-past.3sg
        'He fell asleep while watching TV.'
        (Expressing punctual change)
    (3) Çiçekler sol-**up**   **gid**-iyor.
        flowers get.pale-Ip go-pres.imperf.3sg
        'The flowers are getting pale.'
        (Expressing incremental change)

Verb with the -*A* Type

(4) Sizi   beklerken   çay   iç**-e**   **dur** -du.
    you.acc while.waiting tea   drink-A stand-past.3sg
    'While waiting for you, he kept drinking tea.'
    (expressing duration but not necessarily iteration: There might be only one 'drinking tea'
    event.)

(5) Televizyon karşısında uyu**-ya** **kal**-dı.
    TV   across   sleep-A remain-past.3sg
    'He fell asleep while watching TV.'
    (Expressing punctual change)

(6) Ödevimi   yap**-ı** **ver** -di.
    my.homework do-I   give-past.3sg
    'He did my homework (quickly/ in my favor).'
    (Expressing complete action/in favor of somebody/something)

(7) Biz hep böyle yap**-a gel**-di-k
    we always so do-A come-past-2pl
    'We have always gone on doing [it] so.'
    (Expressing perfectivity/imperfectivity)

(8) Düş**-e**   **yaz**-dı.
    fall.down-A   write-past.3sg
    'He was about to fall down (but didn't).'

(9) Sen gelene kadar, kitap oku**-ya koy**-du.
    you come until,   book read-A put-past.3sg
    'He kept reading a book until you came.'
    (Expressing duration)

Verbs with the Inflected Type

(10) Sizi beklerken   çay   iç-ti   **dur**-du.
     you.acc while.waiting tea.acc drink- past.3sg stand-past.3sg
     'While waiting for you, he kept drinking the tea.'
     (Expressing an iterative event: There is more than one 'drinking tea' event.)

(11) Televizyon karşısında uyu-du   **kal**-dı.
     TV   across   sleep-past.3sg remain-past.3sg
     'He fell asleep while watching TV.'
     (Expressing punctual change)

(12) Çiçekler sol-du   **git-**ti.
     flowers get.pale-past.3sg go-past.3sg
     'The flowers got pale.'
     (Expressing incremental change)

Appendix 2: Judgments of the informants on negated LVCs

-*Ip* Type	Neg on V2	Neg on V1
kal 'stay/remain' (punctual change)	OK	*
dur 'stay/stand' (duration/iteration)	OK	?/OK (except 3 people out of 10)
git 'go' (incremental change)	OK	OK

-*A* Type	Neg on V2	Neg on V1
kal 'stay/remain' (punctual change)	OK	*
dur 'stay/stand' (duration)	*	?/OK (better with imperative)
ver 'give' (complete action, quickly done/in favor of someone)	*OK*	*OK*
yaz 'write' (being close to do something)	?/??	*OK*
gel 'come' (perfectivity/ imperfectivity)	?/??	?? (this verb has a restricted usage)
koy 'put' (duration)	OK	?/OK

Inflected Type	Neg on V2	Neg on V1
kal 'stay/remain' (punctual change)	*	*
dur 'stay/stand' (duration/iteration)	*	?/OK (except 3 people out of 10)
git 'go' (incremental change)	*	OK

Note that the data has been collected from 10 people who are from different parts of Turkey. Three people who find negation on V1 with the verb *dur* 'stand/stay' completely bad reported that they do not prefer using this verb as a light verb very frequently. Although my informants all use LVCs in their daily lives, they are not used by some Turkish speakers. Some verbs such as *gel* 'come' and *koy* 'put' have either a restricted usage or more common in some dialects.

Except the verb *kal* 'stay/remain, negation on V1 is possible in the *-Ip* Type. In the *-A* Type verbs show variance with respect to the position of negation. Some of them are better when negation appears on V1 and for the others it is vice versa. In the Inflected Type, negation on V2 is completely rejected by all the informants. Although there are some variations depending on which light verb is at issue, the generalization about the *–Ip* and *-A* Types is that negation can either occur on V1 or V2. The variations might be due to some semantic factors or frequency of usage.

Appendix 3: LVCs are not coordinations

Although in LVCs, the fact that V2 adds aspectual interpretation to the complex formed with the combination of V1 and V2 leads one not to consider an analysis based on coordination, it is worth to test whether they are real coordination structures or not. However, I eliminate the possibility of coordination due to the following reasons.

The first conjunct of a coordination structure can never be focused with the question particle in Turkish. However, the question particle *mI* can intervene between V1 and V2 in the *-Ip* and *-A* Types.

(1) *Bulut Ayşe-yi gör-dü **mü** ve selamla-dı?   *coordination*
    Bulut Ayşe-acc see-past.3sg QP and greet-past.3sg
    'Did Bulut see Ayşe and greet her?'

(2) Biz-i beklerken çay iç-**ip** mi **dur**-du?   *LVC*
    we-acc while.waiting tea drink-Ip QP stand-past.3sg
    Intended meaning: 'Did he keep drinking tea, waiting for us?' (durative/iterative)

In coordination structures in Turkish when negation appears on the second conjunct it cannot take the first conjunct in its scope; hence, cannot license the NPI in the first conjunct as in (3). However, as in (4), negation on V2 can license the NPI object of V1 in the *-Ip* Type, which is also the case in the *-A* Type. In the Inflected Type, negation can only appear on V1, so this test cannot be applied to it.

(3) *Bulut kimse-ye   bak-tı   ve selam ver-**me**-di.   *coordination*
    Bulut anybody-dat look-past.3sg and greet-neg-past.3sg
    'Bulut did not look at and greet anybody.'

(4) Kimse-ye   kız-ıp   dur-**ma**-dı.   *LVC*
    anyboday-dat get.angry-Ip stand-neg-past.3sg
    'He did not keep getting angry at anybody.'

One can claim that V1 and V2 coordinate at V level. Namely, the argument of V1 is introduced after the coordination and it is shared by the two verbs; hence, licensing of the NPI by the negation on V2 is possible in LVCs. Remember that negation can appear either on V1 or V2 in these structures. When it appears on V1 it does not take V2 in its scope, which shows that negation cannot take sentential scope in this position. Now consider the NPI case when negation appears on V1.

(5) ? Çocuk resimleri-ni kimse-ye   göster-**me**-yip dur-du.
     kid   pictures-acc anybody-dat show-**neg**-Ip   stand-past.3sg
     'The kid kept not showing his pictures to anybody (in the context of complaining).'

If the object was introduced after the coordination of the two verbs; namely, after the negation is added on V1, we would not expect negation to license the NPI because it cannot take scope out of V1.

   Due to the lightness of V2 in the sense that it loses its lexical meaning to some extent or fully and add aspectual interpretation to the whole complex predicate, coupled with the reasons mentioned above, I abandon the possibility of coordination for LVCs in Turkish.

Appendix 4: The degree of inseparability

V1 and V2 cannot be separated in the following ways (adopted from Öztürk, 2005 and Knecht, 1986). In Turkish, immediate preverbal position is a focus position, but in LVCs whatever needs to be focused precedes V1+ V2 combination, but it cannot intervene between them as shown in (1).

(1) a. Bulut kitab-ı <u>dün</u>   oku-**yup/-du**   (*dün)   **dur**-du.   *-Ip*/Inflected Types
       Bulut book-acc yesterday read-Ip/-past.3sg (yesterday) stand-past.3sg
       'It was yesterday that Bulut kept reading the book.'
    b. Bulut ödevim-i   <u>dün</u>   yap-**ı** (*dün)   **ver**-di.   *-A* Type
       Bulut my.homework-acc yesterday do-I   (yesterday) give-past.3sg
       'It was yesterday that Bulut did my homework for me.'

Besides this, V1 cannot be scrambled away leaving V2 in its base position as shown in (2).

(2) a. (*oku-yup/-du)   Bulut (*oku-yup/-du)   kitab-ı   oku-**yup/-du**   **dur**-du
       (read-Ip/-past.3sg) Bulut (read-Ip/-past.3sg) book-acc read-Ip/-past.3sg stand-past.3sg
       (*oku-yup/-du)   *-Ip*/Inflected Types
       (read-Ip/-past.3sg)
       'Bulut kept reading the book.'
    b. (*yap-ı) Bulut (*yap-ı) ödevim-i   yap-**ı** **ver**-di   (*yap-ı).   *-A* Type
       (do-I)   Bulut (do-I)   my.homework-acc do-I   give-past.3sg (do-I)
       'Bulut did my homework for me.'

Non-derived adverbs always occupy the immediate preverbal position in Turkish even following the DP complement of the verb (Taylan, 1984) as shown in (3a). These adverbs cannot intervene between the two verbs, but need to precede the combination of them in LVCs as in (3b).

(3) a. Bulut (*yavaş) yemeğ-i   yavaş ye-di.
       Bulut (slow)   food-acc slow eat-past.3sg
       'Bulut ate food slowly.'
    b. Bulut yemeğ-i   yavaş yi-**yip/-di**   (*yavaş) **dur**-du.   *-Ip*/Inflected Types
        Bulut food-acc slow eat-Ip/past.3sg (slow)   stand-past.3sg
        'Bulut kept eating food slowly.'
    c. Bulut ödevim-i   güzel   yap-ı (*güzel) **ver**-di.   *-A* Type
       Bulut my.homework beautiful do-I   (beautiful) give-past.3sg
       'Bulut did my homework nicely for me.'

Appendix 5: The distribution of V2s among three types of LVCs

This part is devoted to the discussion on what verbs are used in which type as summarized below.

  (i)   V2s used in the *-Ip* Type are also used in the Inflected Type. These are *dur* 'stand/stay',
          kal 'remain/stay' and *go* 'git'. What is the relation between the two constructions?
  (ii)   The V2s *ver* 'give', *yaz* 'write', *gel* 'come' and *koy* 'put' only occur in the *-A* Type
          constructions, and they become fully idiomatic compared to the others.
  (iii)   Two V2s (*dur* 'stand/stay', *kal* 'remain/stay') are used in all LVCs.

Vs which occur in the *-Ip* Type constructions also occur in the Inflected Type, but the ones which get
idiomatic reading do not occur in any construction other than the *-A* Type. This shows that there is a
difference between the *-Ip* and Inflected Types, on the one hand, and the *-A* Type on the other hand.
To understand what kind of difference this is, let us consider the two verbs which occur in three types:
dur 'stand/stay', *kal* 'remain/stay'.
     When these verbs occur in the *-Ip* and Inflected Types, they get the same meaning, but in the *-A*
type, they get a different interpretation. This is summarized in the table below.

***-Ip* and Inflected Types** **dur** 'stand/stay'	-duration and iterative reading -no restriction on the 'volitional/ non-volitional' interpretation
-Ip does not have any semantic role.	

***-A* Type** **dur** 'stand/stay'	-duration (iterative reading is lost) -restriction on the 'volitional/ non-volitional'' interpretation (volitional)
-A has a semantic role.	

***-Ip* and Inflected Types** **kal** 'remain/stay'	-punctual change -no restriction on the 'volitional/ non-volitional' interpretation (depending on which verb is used, i.e. *bak* 'look', not *uyu* 'fall asleep')
-Ip does not have any semantic role.	

***-A* Type** **kal** 'remain/stay'	-punctual change - restriction on the 'volitional/ non-volitional' interpretation (non-volitional)
-A has a semantic role.	

The table shows that *-Ip* is not responsible for any semantic interpretation because in the absence of it
in the Inflected Type we also get the same meaning as in the *-Ip* Type. In addition, the iterative reading
of *dur* which is absent in the *-A* Type does not come from the suffix *-Ip* because with the other V2s
used in the *-Ip* Type we do not get this reading, and in the absence of it in the Inflected Type we still
get iterative reading with the verb *dur*.

45

However, the suffix -*A* seems to have a role in the overall interpretation of the complex predicate because in the absence of it (in the -*Ip* and Inflected Types), iterative reading is added with the verb *dur* although it does not have any significant meaning difference with the verb *kal*. In the -*A* Type we also see a restriction on the role of the subject which we do not observe in the other types.

The same V2s in the -*Ip* Type constructions occur in the Inflected Type because in both of them, the subject and the object are introduced by V1, and the suffix -*Ip* does not have any semantic role. Structurally, the -*Ip* Type seems to be a smaller version of the Inflected Type. In the former, V1 is inside a vP with a full argument structure whereas in the latter it is inside a CP, again with a full argument structure, but bigger. Nevertheless, in the -*A* Type, there is a different structure where V1 is under VP and the subject is introduced by the whole complex predicate in contrast to the other types. See Section 4 for the discussion. In addition, the suffix -*A* itself seems to affect the aspectual interpretation of the complex predicate.

V2s which only occur in the -*A* Type constructions (*ver* 'give', *yaz* 'write', *gel* 'come' and *koy* 'put') become fully idiomatic when compared to the others. I suggest that this idiomatic reading comes from the structure of the -*A* Type, maybe even the suffix -*A* itself. That is why these verbs cannot be used in other LVCs where they do not serve as a light verb but retain their lexical meaning losing the idiomatic reading they get in the -*A* Type construction.

What about the two V2s *dur* and *kal* which are used in all the types? They do not get an idiomatic reading in the same sense as the other V2s when they are used in the -*A* Type. Although I do not have any explanation for it, it is obvious that they have a meaning difference when compared to the reading they get in the -*Ip* and Inflected Types. (The iterative reading attested in these types is lost when the verb *dur* is used and there is a restriction on the role of the subject when both verbs are used.)

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