Noun preverbs in Persian Complex Predicates

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Abstract

In this paper, I propose a syntax-based analysis of Persian complex predicates (a predicate consisting of a so called preverb and a light verb). I adopt the framework of the verbal First Phase Syntax developed by Ramchand (2008). I use complex predicates with the light verb *zædæn* 'hit' to illustrate how this approach sheds light on some widely discussed issues in the literature. The problem I mainly focus on is the syntactic status of noun preverbs. In general, noun preverbs exhibit properties typically ascribed to direct objects (Samvelian 2001; 2004), while at the same time being distinct from real arguments of the verb (Megerdoomian 2006). I suggest that noun preverbs can occupy more than one position in the verbal phrase and show how this analysis captures their dual nature, as well as some other syntactic and semantic peculiarities.

1. Introduction

Along with many other languages Persian employs a large number of complex predicates (henceforth CPr) which consist of a light verb and a non-verbal part. The vast number of complex predicates is due to the high productivity of their formation in Persian — it has been reported that only 115 of the verbs in this language are simple verbs (Mohammad and Karimi 1992).

Light verbs is a popular term used to refer to a class of verbs with bleached semantics that combine with a non-verbal element to build one predicate.[1] The lexical meaning of the predicate thus derived is provided by the non-verbal element, still, the light verb contributes some semantic information (inception, volition, causativity, etc.). The light verbs in Persian are a subset of the Persian full lexical verbs and, in some cases, they retain to a certain degree the semantics of their heavy counterpart. In most cases, however, their semantics is fairly abstract.

[1]This holds of Persian. In other languages, e.g., Urdu, light verbs can combine also with another verb, thus forming a V-V complex predicate (see Butt 2003).

The non-verbal element, which I call the *preverb* adopting the terminology in Lazard (1957), can belong to different syntactic categories: noun, adjective, adverb, or preposition (Folli et al. 2005, Karimi-Doostan 2008). In addition, preverbs can be phrasal: DP, PP, etc. The preverb and the light verb together build a lexical unit whose meaning ranges from fairly transparent (i.e. compositional), see (1a), to completely opaque as in (1b).

(1)   a.   tæbær zædæn   b.   gushe zædæn
              ax   *hit*   *corner hit*
              'to hit with an ax'   'speak allusively'

Much research has dealt with the relationship between the two components of the CPr. Special attention has been paid to the question of how noun preverbs differ from direct objects. The reason for this is that noun preverbs, like all other preverbs, invariably precede the light verb. As Persian is an SOV language, direct objects, too, are placed before the verb. Very often then it is not easy to decide whether a given noun is a preverb or an internal argument of the verb. This question has triggered much debate in the literature concerning the relation of the nominal element in CPrs and the light verb. The result is a two-way split: according to some researchers, noun preverbs are just like (bare) direct objects (Samvelian 2001; 2004). According to others, most notably Megerdoomian (2006), noun preverbs differ from objects and occupy a different position in the syntactic structure.

This paper is not intended to resolve the issue as it is formulated above. That is, I do not claim that noun preverbs are either internal arguments of the verb, or that they are a part of the predicate itself. What I argue for is that, in those cases when they exhibit dual behavior, they are both an argument and a part of the predicate simultaneously.

For my purpose, I adopt Ramchand's (2008) analysis of the verbal phrase. I suggest that a noun preverb can lexicalize more than one projection in the verbal phrase. Specifically, a noun preverb is hosted by the projection where we find elements that are part of the predicate (schematically represented in (2a)), but in some cases the same noun preverb comes to occupy a position normally reserved for the verbal arguments, as in (2b).

(2)   a.
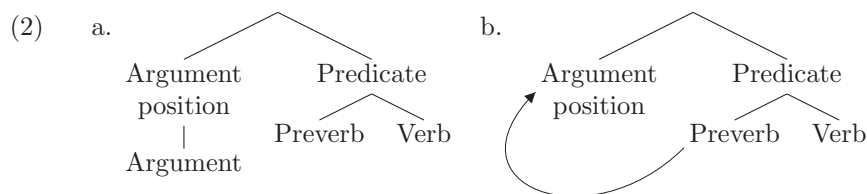
Because of the latter fact, some noun preverbs exhibit properties typical for direct objects, while at the same time being distinct from them in that they form together with the light verb one predicate. To illustrate how this
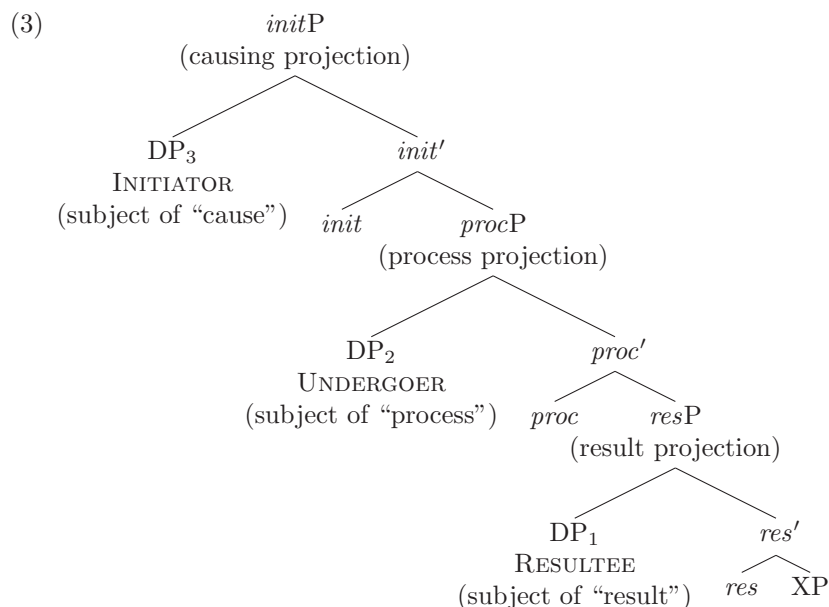
approach can shed light on the dual behavior of Persian complex predicates, I analyze complex predicates with the light verb *zædæn* 'hit.'

The paper is organized as follows. In section 2, I introduce Ramchand's (2008) First Phase Syntax system and lay out the way it works. In the following section 3, I develop my proposal concerning the syntactic structure underlying complex predicates taking as a basis the verbal decomposition of Ramchand (2008). Then I proceed to discus the dual nature of noun preverbs in section 4, focussing on certain syntactic phenomena. Finally, in section 5, I discuss a case of *zædæn* complex predicates occurring in different constructions and show how this proposal captures the subtle semantic and syntactic differences between then. Section 6 summarizes and concludes the paper.

2. The theoretical framework

Before embarking on the analysis of (some types of) *zædæn*-CPs, I present the Verbal First Phase research program of Ramchand (2008). The central feature of this system is that it decomposes the verbal phrase into three distinct heads, each corresponding to a primitive element of events. Thus, the internal structure of the verbal domain is formed of three subevent projections: *init*P, *proc*P, and *res*P. Of the three, the *proc* head is the one always present in the decomposition of dynamic verbs, while *init* and *res* can be missing. Each subevent head enters in a core predicational relation with its specifier position. Thus, the specifier positions host the thematic participants in the particular subevent, or the "subject" of the subevent. Translated into more traditional terms, the specifiers of the subevent heads host the arguments of the verb.

The maximal decomposition of the verb phrase is presented below:

(3)   *init*P
      (causing projection)

DP$_3$ *init*′
INITIATOR
(subject of "cause")   *init*   *proc*P
                              (process projection)

              DP$_2$ *proc*′
              UNDERGOER
              (subject of "process")   *proc*   *res*P
                                            (result projection)

                          DP$_1$ *res*′
                          RESULTEE
                          (subject of "result")   *res*   XP

The three core projections are:

- InitP: introduces the causation event and licenses the external argument (the INITIATOR)

- ProcP: specifies the process or the nature of the change and licenses the internal argument (the UNDERGOER)

- ResP: introduces the result state and licenses the holder of the result state (the RESULTEE)

Apart from the three thematic roles above, there exist *composite* roles which arise when the same DP argument occupies two (or more) specifier positions. This happens when a DP raises from the specifier of a lower subevent head to the specifier of a higher subevent head. In such cases, we have the roles of UNDERGOER-INITIATOR, UNDERGOER-RESULTEE, and INITIATOR-UNDERGOER-RESULTEE. The first one arises when the same argument is the holder of the initiational stage and undergoes the process/change (e.g. the sole argument of the verb *run*). The second one arises when the same argument undergoes the process/change specified by the *proc* head and holds the result state (e.g. the direct object of *break*). The third one arises when the same argument initiates the event, undergoes the process/change and is the holder of the result state (e.g. the argument of *arrive*).

Crucially, a verb can lexicalize more than one head in the verbal phrase. Thus, in this model, verbs come with a categorial feature specification which determines which subevents they lexicalize. Depending on which subevents

a verb lexicalizes, it belongs to a particular verb class. When heavy, the verb also decides whether a DP in a specifier position raises or not to another specifier position. Put in other words, whether or not a DP carries a composite role depends on the heavy verb it is an argument of.

As to the semantic interpretation of the verbal phrase, the system employs compositional semantic rules that interpret the embedded predication via a causational semantics. Clearly, the advantage of this system is that it allows for many different types of verbs to be put together by means of a fairly impoverished set of primitives, some general principles of lexical association and a compositional semantic rule based on the relation "leads-to."

A subevent descriptor is not restricted to taking another subevent phrase as a complement. An event head can also have non-verbal material (DP, AP, PP, etc.) occupying its complement position. Such non-verbal complements are called Rhemes (e.g., the XP in (3)). Rhemes are not subjects of events but part of the description of the predicate. Hence, there is an important difference between a DP in the Rheme position and a DP occupying the specifier of a subevent head. Namely, the first one builds one joint predication with the verb, while the latter is a verbal argument.

Having introduced the decomposed verbal structure of Ramchand (2008), in the sections to come, I apply it to Persian complex predicates and discuss how this system can capture the dual behavior of noun preverbs.

3. Assembling the complex predicate

My proposal is that light verbs lexicalize the subevent heads in the decomposed VP. Hence, there is no syntactic difference between a light verb and a full verb. This is in line with Butt's 2003 claim that light verbs always have a main verb counterpart in the language. The distinction between light and heavy verbs, then, is due to the fact that the former have a very abstract semantics, while the latter have full lexical meaning. Hence, the distinction between the two types of verbs is purely semantic and is not represented in syntax. For instance, according to Family (2006:60), the light verb *zædæn* participates in agentive complex predicates that, in general, denote instantaneous actions, with the possibility of being iterated. The action usually involves change of state either of the agent herself, or of another entity. Thus, the light verb *zædæn* is impoverished semantically, however, it is not totally deprived of content. The semantic content of the full verb *zædæn* retains the meaning components of its light peer but, in addition to these meaning components, it carries a richer conceptual content. Its meaning is roughly "cause x to come into contact with y, quickly and forcefully," and can be best rendered by the English verb *hit* (see (4a)).[2] Note that the meaning of "hitting" is not preserved in the complex predicate in (4b),

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[2]Abbreviations in glosses used in this paper are as follows: 1, 2, 3 – first, second and third person; CL – clitic; EZ – Ezafe linker; OM – object marker; PL – plural.

where there is no notion of impact whatsoever. Still, in both examples, the action is rather short.

(4)   a.   mina sæng-ra[3] be divar zæd.
            *Mina stone-*OM *to wall hit*
            'Mina hit the stone at the wall'

        b.   bæd æz   nahar baba chort zæd.
            after from lunch father nap   hit
            'Father took a nap after lunch'

As the reader can observe, the meaning of the complex predicate *chort zædæn* (nap hit) in (4b) is very specific, although, as I just argued, the light verb contributes to the predicate only a very abstract meaning. Hence, it is logical to conclude that the main conceptual-intentional content of the CPr comes from the preverb. With respect to the syntactic position of the preverb, I suggest that it occupies the Rheme position and semantically unifies with the light verb to build one joint predicate. The syntactic structure of the complex predicate *chort zædæn* (nap hit) 'to take a nap' in (4b) will be then as in the tree diagram in (5).

(5)
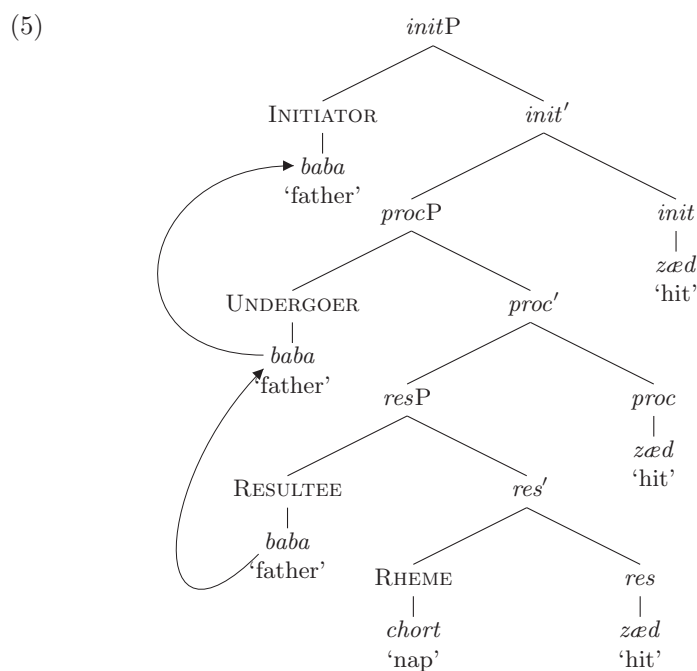
In the tree structure above, the light verb *zædæn* spells out all three subevent heads, thus projecting all three specifier positions in the VP. The

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[3]The morpheme *-ra*, glossed here as "object marker" attaches to direct objects which are specific. The suffixation by *-ra* is discussed in more details in section 4.

subject *baba* 'father' is first merged in the lowest one as a Resultee, subsequently moves to Spec,*proc*P, and from there to the highest specifier — the Initiator position. As a consequence, the argument *baba* acquires the composite role of Initiator-Undergoer-Resultee, that is, he initiates the nap, undergoes the process and holds the result state. The other noun element — the preverb *chort* 'nap' in the Rheme — is interpreted as part of the entire predicate.

Given that it is the light verb that lexicalizes the verbal heads, the argument structure of the whole complex predicate will depend on the feature specification of the light verb. By argument structure I mean the projection of the specifier positions of subevent heads, or, put in other words, the presence of the "subjects" of the subevents: Initiator, Undergoer, and Resultee. Thus, if we want to have an agentive complex predicate, we need to choose a light verb that has the feature $< init >$, so that the *init* head is spelled out and the Initiator position is projected. This is very much in accordance with the complex predicate analysis of Megerdoomian (2001) and Folli et al. (2005), who convincingly show that the light verbs in Persian determine the agentivity/causativity of the predicates they form, regardless of the preverb. I also agree with Megerdoomian's claim that the light verb projects the internal argument of the complex predicate (Megerdoomian 2001; 2002). This goes against some analyses of Persian complex predicates, according to which it is the preverb that contributes the internal argument (see, for instance, Karimi-Doostan 1997; 2005). This disagreement can be, however, easily resolved, as the system proposed here provides a way to unify the two approaches. Consider the following examples:

(6)   a.   mina gusht-ra næmæk zæd.
            Mina meat-om *salt   hit*
            'Mina salted the meat'
    b.   mina tshærx zæd.
            Mina turn   hit
            'Mina turned (around)'

The light verb in both sentences remains constant, still, the a-example features an external and an internal argument, while the b-example appears to have just an external argument. Since the element that varies in the two sentences is the preverb (*næmæk* 'salt' versus *tshærx* 'turn'), it is possible to conclude that the preverb *næmæk* contributes the internal argument in (6a). However, I argue that this is not the case. Recall that under the approach assumed here, one DP can raise through multiple specifiers of subevents, thus acquiring a composite thematic role. Maintaining the proposal that the Initiator, Undergoer and Resultee positions are contributed by the light verb, I suggest that certain preverbs require the DP to undergo movement to a particular specifier (or specifiers), while other preverbs do not. Thus, the preverb in a complex predicate conditions the

raising of a DP argument in the same way as a heavy verb does. Applied to the data in (6), this would mean that the preverb *næmæk* 'salt' prohibits the DP *gusht* 'meat' to raise to the Initiator position, thus enforcing the merge of a distinct DP, *Mina*, in Spec,*init*P. The preverb *tshærx*, on the contrary, requires the DP *Mina* to go through all specifiers, which results in there being just one argument but with the composite role or Initiator-Undergoer-Resultee. Hence, in a way, both the light verb and the preverb play some role in determining the presence of an internal argument: the light verb contributes the syntactic position for it, and the preverb says whether it is going to be a distinct DP from the external argument or not. This proposal is quite tentative it is still not clear to me how it can be implemented formally. Still, it has the virtue of making the two hypotheses converge and captures the empirical data.

Another outcome of this proposal is that light verbs fall into various types according to which subevent heads they can lexicalize. In this respect, light verbs do not differ from full lexical verbs, which also belong to various verb classes. For instance, heavy verbs endowed by the features $< proc, res >$ belong to the class of semelfactives. Heavy verbs with volitional agents have the feature $< init >$.

With respect to the classification of light verbs, it is necessary to mention the work of Karimi-Doostan (1997), who divides them into two groups: stative and dynamic. The latter group is further subdivided into *initiatory* and *transition* light verbs. Initiatory light verbs form complex predicates with external (agent) arguments (see (7a)), while transition light verbs participate in predicates whose subject is an internal (patient) argument, which is affected or undergoes some kind of change, (7b).

(7) a. mina tænab-ra gereh zæd.
         *Mina rope-*OM *knot hit*
         'Mina tied the rope in a knot'
     b. æz in bad-e porzur mu-ha-m gereh xord-ænd.
         *from this wind-*EZ *strong hair-*PL-1CL *knot collided-*3PL
         'My hairs got in a knot from the strong wind'

Translated into the terminology of the First Phase Syntax, initiatory light verbs are the ones that are specified for the feature *init*, while transition light verbs lack *init* and hence do not project a position for the Initiator.

Interestingly, in Persian complex predicates we find a phenomenon which can be dubbed "light verb alternation." This phenomenon is illustrated by the pair given above. As the reader can observe, when we exchange the light verb *zædæn* in the causative complex predicate in (7a) *gereh zædæn* (knot hit) 'to tie a knot' for the light verb *xordæn* 'collide,' the newly derived complex predicate *gereh xordæn* (knot collide) retains the same meaning, but under an inchoative interpretation, as in (7b).

In Table 1, I present some of the most productive initiatory and transition light verbs in Persian. For each verb in the left column in Table 1 there

	init light verbs		*init*-less light verbs	
zædæn	'hit, strike'	*xordæn*	'collide'	
kærdæn	'make'	*shodæn*	'become'	
aværdæn	'bring'	*amædæn*	'come'	
dadæn	'give'	*didæn*	'see'	
ændæxtæn	'throw'	*oftadæn*	'fall'	

Table 1: Classification of Persian light verbs with respect to the feature $< init >$

is a verb in the right column, with which it tends to alternate, thus forming a non-agentive complex predicate.[4] Such causative-inchoative pairs have been thoroughly discussed by Megerdoomian (2002) and Folli et al. (2005). They can receive explanation in the framework adopted here by the assumption that *xordæn* is simply the *init*-less counterpart of *zædæn*, hence the non-agentive interpretation of CPrs with *xordæn*. In other words, I suggest that the two light verbs *zædæn* 'hit' and *xordæn* 'collide' have roughly the same abstract semantic content, expressing a (rather quick) change of state. They are also specified for the same syntactic features, modulo the feature $< init >$. When they appear with the same preverb, the difference in the meanings of the two complex predicates thus derived is due to the different underlying syntactic structures and the entailments they have for the interpretation of the predicate. More specifically, complex predicates with *zædæn* will have an external argument, most commonly a causer (in the case of a transitive predicate – cf. (7a)), or a volitional agent (in the case of an intransitive predicate – cf. (8a)).

(8)   Data from Samvelian (2004)

    a. bæchche qælt zæd.
         child   roll hit
         'The child tripped'
         (intentionally)

    b. bæchche qælt xord.
         child   roll collided
         'The child tripped'
         (unintentionally)

The complex predicate formed by the verb *xordæn* will lack a causer/volitional agent because of the absence of the feature $< init >$ (see the b-examples in

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[4]Pairs like *zædæn–xordæn* are fairly robust, however, the relation between alternating light verbs is many-to-many. For instance, the causative CPr *atæsh zædæn* (fire hit) 'set on fire' forms its inchoative counterpart by the verb *gereftæn* 'catch': *atæsh gereftæn* (fire catch) 'catch fire,' arguably because the light verb *gereftæn* has an additional meaning component of inception, which lacks in *xordæn*. Likewise, the inchoative light verb in the CPr *shekæst xordæn* (defeat collide) 'to be defeated' alternates with the causative light verb *dadæn* 'give': *shekæst dadæn* (defeat give) 'defeat' and the form **shekæst zædæn* (defeat hit) is ungrammatical. I come back to the differences between *zædæn* and *dadæn* at the end of this section.

(7) and (8)). The tree diagrams corresponding to the each of the sentences above are presented in (9).

(9)   a.

$init$P
├── INITIATOR
│   │
│ $bæchche$
│   'child'
└── $init'$
       ├── $proc$P
       │   ├── UNDERGOER
       │   │   │
       │   │ $bæchche$
       │   │   'child'
       │   └── $proc'$
       │   ├── resP
       │   │   ├── RESULTEE
       │   │   │   │
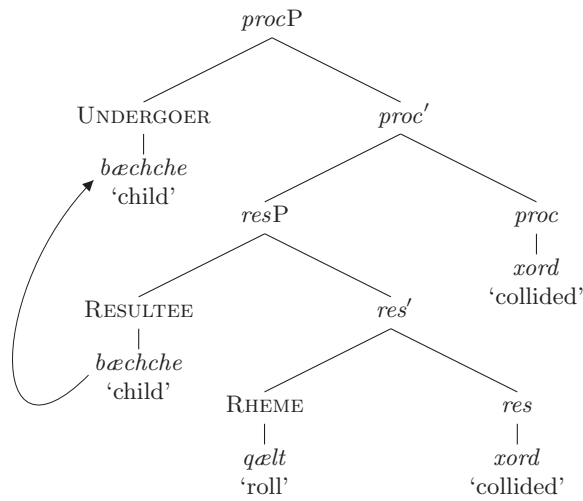   │   │   │ $bæchche$
       │   │   │   'child'
       │   │   └── res'
       │   │   ├── RHEME
       │   │   │   │
       │   │   │ $qælt$
       │   │   │   'roll'
       │   │   └── res
       │   │   │
       │   │ $zæd$
       │   │   'hit'
       │   └── $proc$
       │   │
       │ $zæd$
       │   'hit'
       └── $init$
              │
              $zæd$
              'hit'

b.

$proc$P
├── UNDERGOER
│   │
│ $bæchche$
│   'child'
└── $proc'$
       ├── resP
       │   ├── RESULTEE
       │   │   │
       │   │ $bæchche$
       │   │   'child'
       │   └── res'
       │   ├── RHEME
       │   │   │
       │   │ $qælt$
       │   │   'roll'
       │   └── res
       │   │
       │ $xord$
       │   'collided'
       └── $proc$
              │
              $xord$
              'collided'
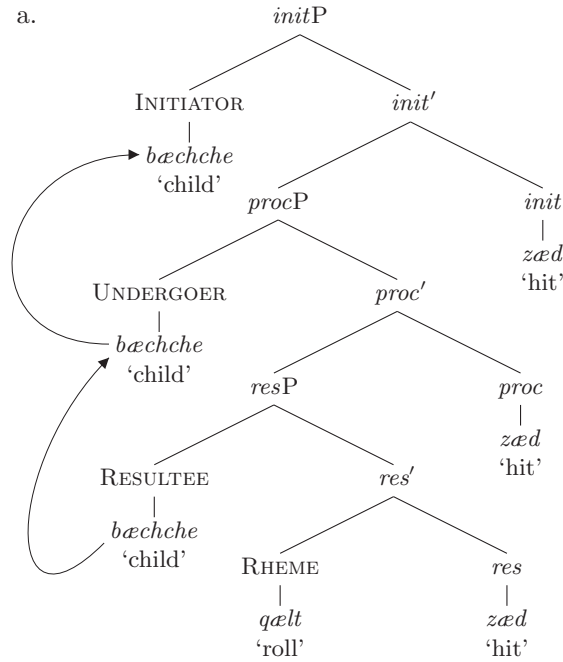
The examples above relate to light verbs which alternate on the basis of syntactic features and share certain abstract semantic features (in the particular case of *zædæn–xordæn* , the most salient common semantic feature

28

is instantaneity of the action, and they differ with respect to the feature $< init >$). We would expect, nevertheless, an alternation which keeps the syntactic features constant, and comes about because of the different abstract semantics of the participating light verbs. An example for such an alternation is provided by the light verb *dadæn* 'give.' Like *zædæn*, *dadæn* is specified for the feature $< init >$, as it participates in agentive complex predicates. The semantic content of *dadæn*, however, differs in that *dadæn* expresses a notion of offering or imposing (Family 2006). Whether the interpretation of the light verb (and of the complex predicate in its entirety) is benefactive or malefactive depends on the preverb — a preverb associated to a "positive" concept (*help, food, permission*) leads to a benefactive reading; a preverb associated to a "negative" concept (*tickle, twist, ache*) triggers a malefactive interpretation. Now, if we exchange the light verb *zædæn* in (8) for the light verb *dadæn*, the resulting complex predicate *qælt dadæn* (roll give) has the meaning of making somebody or something roll or flip over.

(10)   doktor mæriz-ra be tæræf-e rast qælt dad.
        doctor sick-OM   *to side*-EZ *right roll gave*
        'The doctor turned the patient on his right side'

Thus, we have the light verb pair *zædæn-dadæn* which is based not on a syntactic causative-inchoative alternation, but on some fairly abstract semantic alternation. The nuances in the meaning are somewhat difficult to define in a precise way, but they doubtlessly exist. For instance, the complex predicates in the minimal pair *fer zædæn* (curl hit) and *fer dadæn* (curl give) are synonymous in that they both express the transitive event of making something curly. When we use the light verb *zædæn*, however, the implication is that the curls persist longer, and the change inflicted on the patient is more accentuated. In other words, the choice of the light verb *zædæn* leads to a complex predicate that focusses on the change of state and the following result state. With *dadæn*, on the other hand, the main stress falls on the fact hat the curls are caused by somebody, that is, by an agent imposing a change of state on the patient.

To summarize this section, I proposed that the light verbs in Persian complex predicates lexicalize the verbal subevent heads. Which heads in the VP are spelled out depends on the feature specification of the light verb. This entails that the argument structure of the complex predicate is also dependent on the light verb's features. In addition, light verbs can be classified into types on the basis of their feature specification, for instance, light verbs forming predicates with volitional agents, light verbs forming inchoative predicates, etc. The conceptual content of the complex predicate comes from the preverb, which occupies the RHEME position and is part of one predication together with the light verb.

4. The dual nature of noun preverbs

As we saw from the discussion in the previous section, in the verbal first phase, a noun phrase can occupy the specifier position(s) of the subevent head(s), however, it can also appear in the rhematic position. In the first case, the noun is interpreted as an argument of the verb (internal or external). In the second case, the noun phrase forms one predicate with the verb. Thus, when we encounter a sequence of a noun and a verb, a question to the point is what position this noun occupies — a specifier of a subevent or the Rheme? Persian provides an excellent case to examine this issue. Consider, for example, the sentences below.

(11)   a.   mina be divar sæng zæd.
                Mina to wall   stone hit
                'Mina hit a stone/stones at the wall'
    b.   mina be baba   telefon zæd.
                Mina to father phone   hit
                'Mina called father'

In (11), we have two noun+verb sequences: *sæng zædæn* (stone hit) and *telefon zædæn* (phone hit). On the face of it, they appear to be syntactically identical. There is, nevertheless, a semantic difference between the two. The first one, *sæng zædæn* (stone hit) in (11a), conveys the meaning of hitting a stone. In this sense, the semantics of the sentence in (11a) is transparent — the agent (Mina) performs an action of hitting a patient (the stone) with the goal of her action being the wall. The meanings of the second sentence in (11), however, is not purely compositional. What (11b) means is that Mina *called* her father, and the interpretation of Mina hitting a telephone at her father strikes one as very unusual (albeit available). These facts lead to the conclusion that the relation between *hit* and *stone* in (11a) is different from the relation between *hit* and *phone* in (11b). In actuality, in (11a) we encounter what one would traditionally call a verb plus bare direct object construction, while the noun+verb combination in (11b) represents what is commonly assumed to be a typical complex predicate (at least, it is one of the complex predicates listed as such in works by Dabir-Moghaddam (1997), Haji-Abdolhosseini (2000), Family (2006), among others). This, in turn, implies that *stone* is hosted by some specifier of a subevent head (*proc* and *res*, to be more precise), while *phone* occupies the Rheme position. Given that here we deal with two different underlying structures, it is expected that the direct object+verb sequence in (11a) exhibits different properties from the preverb+light verb sequence in (11b). One property that differentiates between them, suggested by Megerdoomian (2006), is the availability of a specific counterpart. According to Megerdoomian (2006), bare direct objects have specific counterpart, but preverbs do not.

(12) a. mina in sæng-ra zæd.
          Mina this stone-OM *hit*
          'Mina hit this stone'
      b. *mina in telefon-ra zæd.
          Mina this phone-OM *hit*
          Intended: 'Mina made this call'

The pair in (12) illustrates the fact that a bare direct object can be con-strued as specific. In such case the sentence is grammatical and the direct object receives the marker *-ra*. A specific preverb, however, leads to un-grammaticality, and this is independent of whether the marker *-ra* is present or not.[5] It is important to note, however, that the sentence in (12b) is perfectly grammatical under the interpretation *Mina hit this phone* (the object).

Still, some researchers disagree that noun preverbs cannot be specific (for instance, Dabir-Moghaddam 1997). A convincing example comes from Samvelian (2001) (the sentences are slightly modified from the original).

(13) a. mina be dændunha-sh mesvak zæd.
          Mina to teeth-3CL *brush hit*
          'Mina brushed her teeth'
      b. mina in mesvak-ra be dændunha-sh zæd.
          Mina this brush-OM *to teeth*-3CL *hit*
          'Mina brushed her teeth with this brush' or
          'Mina hit her teeth with this brush'

In (13a), we have a "bare" preverb *mesvak* 'brush' and the light verb *zædæn* 'hit.' In (13b) the preverb is specific and, as any well-behaved specific direct object, it takes the marker *-ra*. In addition, it moves across the *to*-PP thus exhibiting the unmarked word order of verb arguments in Persian (Mahootian 1997, Karimi 2003).

(14) a. Subject – Indirect object (*to*-PP) – Bare direct object – Verb
      b. Subject – Specific direct object – Indirect object (*to*-PP) – Verb

In Persian, bare direct objects immediately precede the verb (see (14a)). When the direct object is specific, however, it moves to a higher position thus disrupting the adjacency to the verb in the presence of other elements, like a *to*-PP. As the preverb *brush* does exactly the same in (13), there are good reasons to think that *brush* is the direct object of the verb *zædæn* 'hit.' However, if we assume that *brush* is the direct object of *zædæn*, it becomes unclear why the interpretation of (13a) is *Mina brushed her teeth* and not *Mina hit a (non-specific) brush at her teeth*. Moreover, the first reading of the sentence in (13b) is unaccounted for — if *brush* is the direct

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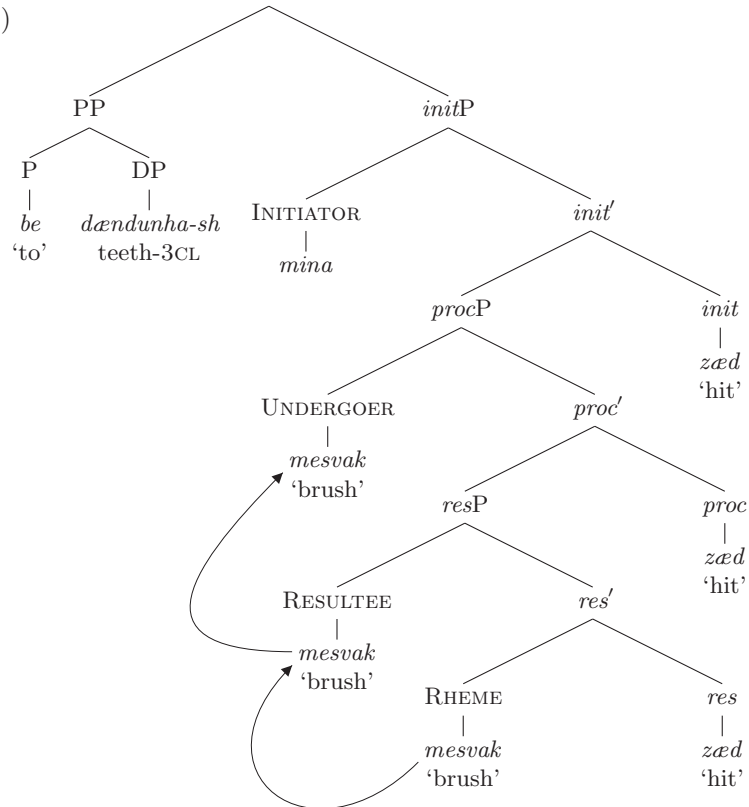[5]The example in (12b) is equally bad if the marker *-ra* is missing.

object of *hit*, then why should this sentence mean that Mina brushed her teeth using a specific brush. It is expected that the only available reading would be that she hit her teeth with a specific brush.

To sum up, the noun *brush* in the sequence *brush hit* in (13) exhibits a dual behavior: when it comes to the semantic interpretation, *brush* seems to built one joint predicate with the verb. This indicates that it occupies the Rheme position in the verbal structure. With respect to the syntactic behavior, however, *brush* behaves just like a direct object, suggesting that it is hosted by the specifier of the *res* and/or the *proc* head.

In order to resolve that paradox, I propose that *brush* actually occupies both the Rheme position and the specifiers of the relevant subevent heads. Thus, the syntactic structure underlying the example in (13a) is as shown in (15).

In this structure, the light verb *zædæn* lexicalizes all three subevent heads, as assumed thus far. The preverb *brush* starts out in the Rheme position. From this position, *brush* moves to Spec,*res*P and subsequently to Spec,*proc*P, in this way acquiring the composite role of Undergoer-Resultee. The outcome of this derivation is that, on the one hand, the noun *brush* is part of the predicate building one semantic unit with the light verb, due to its copy in the Rheme. On the other hand, *brush* is an Undergoer-Resultee argument of the verb, that is, a direct object.

(15)

```
                          PP                        initP
                       /      \                   /       \
                      P        DP          Initiator        init'
                      |        |               |           /     \
                     be    dændunha-sh       mina        procP      init
                    'to'     teeth-3CL                 /      \       |
                                              Undergoer      proc'   zæd
                                                 |          /     \   'hit'
                                              mesvak      resP    proc
                                              'brush'    /    \     |
                                                   Resultee   res'  zæd
                                                      |       /   \  'hit'
                                                   mesvak  Rheme   res
                                                   'brush'   |      |
                                                          mesvak   zæd
                                                          'brush'  'hit'
```

Let us now turn to the example in (13b). Here, we find the same preverb *mesvak* 'brush,' but this time construed as specific. As a result, it appears in a position preceding the *to*-PP and carries the object marker *-ra*. Thus, the preverb behaves in a way identical to specific direct objects, which also precede *to*-PPs and are marked by *-ra*. The appearance of a specific direct object in a higher position than its non-specific counterpart has been argued to be the result of a syntactic movement. For instance, Browning and Karimi (1994) propose that specific DPs move to a VP-external position for case reasons. Further, they suggest that the object marker *-ra* is the realization of case. Karimi (2005) also shares the view that all direct objects are merged in the same position in the verbal phrase, but the specific objects move to the specifier of *v*P to receive interpretation. For my analysis, I assume that specific direct objects (i.e., specific Undergoers, Resultees, and Undergoer-Resultees) undergo a movement to a position higher than the attachment site of the *to*-PP (I remain vague as to whether this is a VP-external position or the edge of *v*P). Given this, the word order and the *-ra* suffixation of *brush* in (13b) fall out: apart from being part of the predicate by virtue of originating inside the Rheme, *brush* is also an Undergoer-Resultee argument and, when specific, raises above the

33

to-PP and receives the marker -*ra*, as any specific Undergoer-Resultee does. This movement is depicted in (16).

(16)
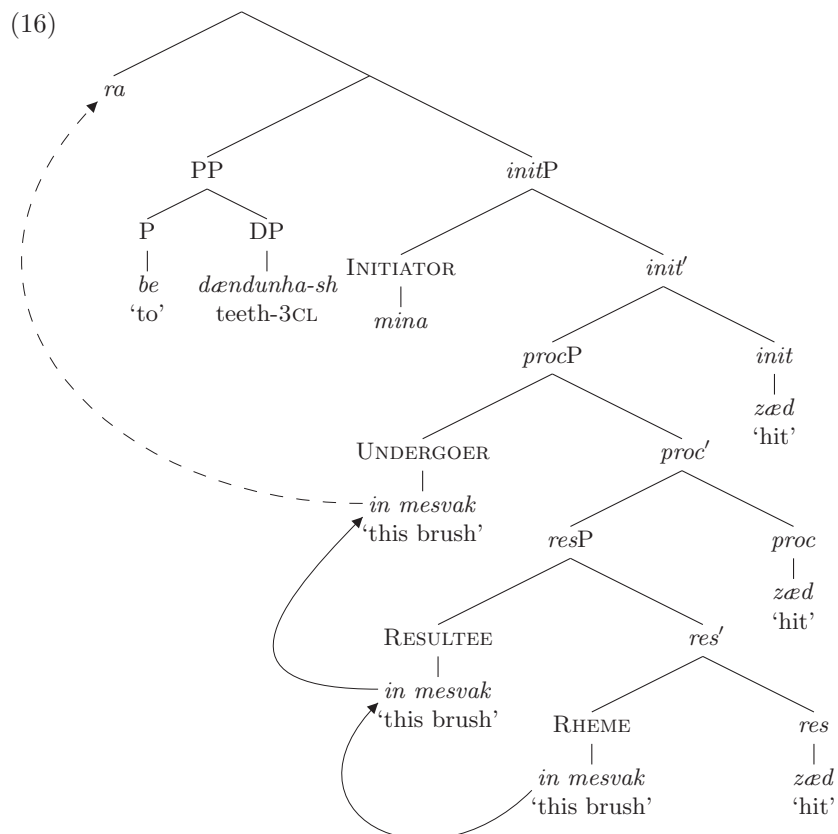
With this analysis in hand, we have an explanation of the word order facts and the *ra*-suffixation of the preverb. Both phenomena are the result of the movement of the preverb from the Rheme to the Undergoer-Resultee position, where we find also direct objects. The next question to address is, then, when and why this raising from the Rheme happens. The answer I suggest is that it happens whenever the Spec,*res*P and Spec,*proc*P are available, i.e. occupied by no other noun. If there is a DP argument merged in the specifiers of the *init* and *proc* subevent heads, the preverb will not raise to these positions from the Rheme. To illustrate a such a scenario, consider the following example.

(17) mina dandunha-sh-ra mesvak zæd.
      Mina teeth-3CL-OM   *brush*   *hit*
      'Mina brushed her teeth'

In (17), the noun *dændunha-sh* 'her teeth' is introduced not as the complement of the preposition *be* 'to' but as a specific direct object, as also

evidenced by the presence of the marker *-ra*, which attaches only to direct objects. Thus, *her teeth* occupies the specifier of the *res* head, by virtue of *her teeth* being the holder of the result state, and the specifier of the *proc* head, since *her teeth* also undergo the brushing activity. As a consequence, the preverb *mesvak* 'brush' in RHEME cannot raise to the UNDERGOER-RESULTEE position and stays in the rhematic position.

(18)
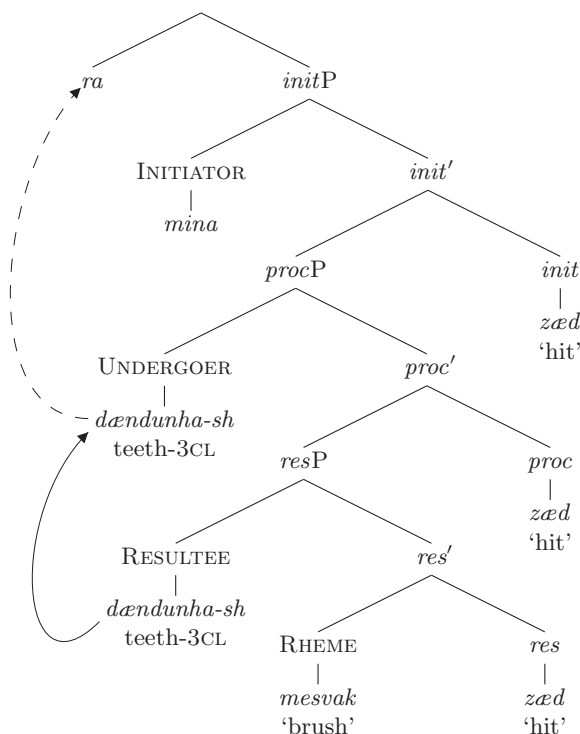
To sum up, there are two ways to convey the meaning *Mina brushed her teeth* in Persian. One is by introducing *her teeth* as a complement of the preposition *be* 'to' and consequently raising the preverb *brush* from the RHEME to the specifiers of *proc* and *res* (see the tree diagrams in (15) and (16)). The other way is to introduce *her teeth* as a direct object, i.e., in the specifiers of the *proc* and *res* heads, and have the preverbs *brush* stay in the RHEME (see the structure in (18)). The two strategies are expected to have different entailments regarding the semantic interpretation of the nouns involved. More specifically, *her teeth* in (13) and *her teeth* in (17) should be interpreted as being differently affected by the predicate, as in (13) *her teeth* is just an indirect object, while in (17) *her teeth* is an UNDERGOER-RESULTEE argument (i.e., a direct object). Likewise, the interpretation of *brush* in (13) and *brush* in (17) should vary from each other, as in one case *brush* is only a RHEME, while in the other case *brush* is an UNDERGOER-RESULTEE in addition to being a RHEME. There is indeed a subtle semantic

difference and I will come back to this issue in the next section 5 and illustrate it with another *zædæn* complex predicate, where the contrast is more distinct.

Now, let us turn to the examples with the verb *zædæn* 'hit' taking a direct object *sæng* 'stone.' Such data were given in (11a), repeated below as (19a), and (4a), repeated below as (19b).

(19)   a.   mina be divar sæng zæd.
             Mina to wall   stone hit
             'Mina hit a stone/stones at the wall'
        b.   mina sæng-ra   be divar zæd.
             *Mina stone-*OM *to wall   hit*
             'Mina hit the stone at the wall'

In this case, we do not deal with a complex predicate, but with *zædæn* as full lexical verb taking a direct object. I suggest that the difference between the direct object+heavy verb construction in (19) and the structure of the complex predicate *brush+hit* in (13) is due to the different position where the nominal preceding the verb is first merged. Specifically, *sæng* 'stone' in (19) starts out *not* from the rhematic position, but directly as a RESULTEE. As a consequence, it does *not* semantically unify into one predicate with the verb.

(20)
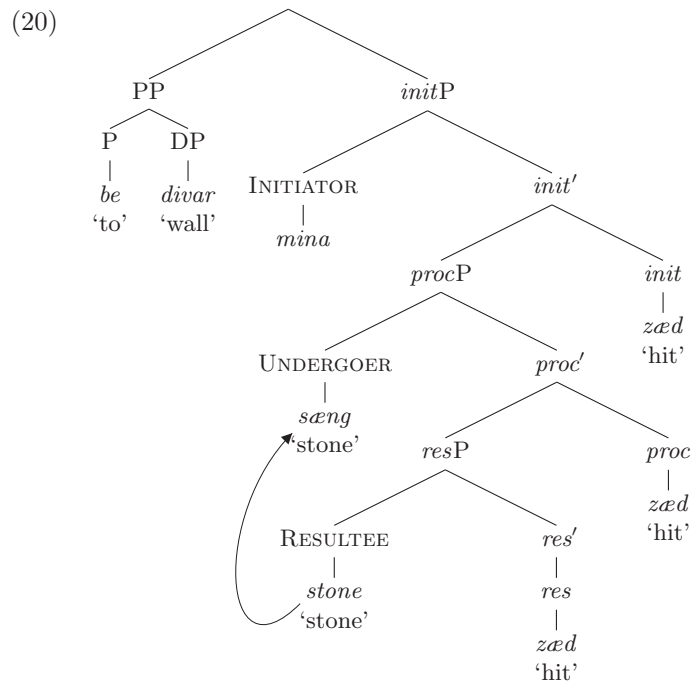
When specific, *sæng* 'stone' moves to the *ra*-projection above the PP *to the wall*, as depicted in (21). What is important in the derivation of (20) and (21) is that *sæng* is the direct object of the verb *zædæn* and does not appear in the rhematic position (which stays unoccupied in this case).

(21)
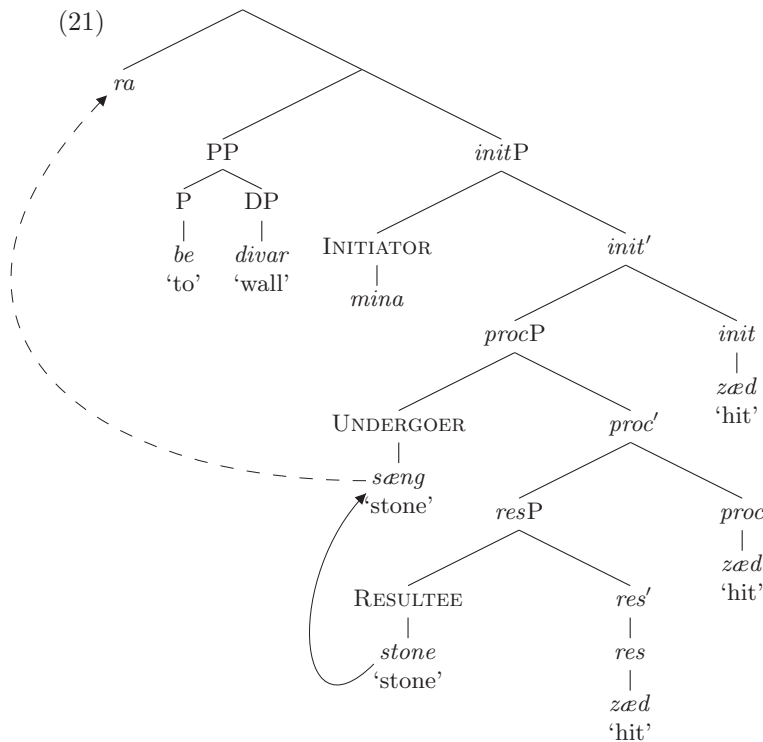
To sum up, the syntactic structure underlying the complex predicate *mesvak zædæn* (brush hit) 'brush' is different from the syntax of constructions where a heavy verb *zædæn* 'hit' takes a direct object, as in *sæng zædæn* (stone hit) 'hit a stone.' This difference gains further support from the fact that the complex predicate *brush hit* can appear with a direct object, (recall (17), repeated below as (22a)). However, the direct object+heavy verb construction cannot, as shown in (22b).

(22)   a.   mina dandunha-sh-ra mesvak zæd.
             Mina teeth-3CL-OM   *brush   hit*
             'Mina brushed her teeth'
       b.   *mina divar-ra sæng zæd.
             Mina wall-OM *stone hit*
             Intended: 'Mina hit the wall with a stone'

The analysis proposed here offers an immediate explanation of this contrast. When *mesavk zædæn* (brush hit) appears with a direct object, the

noun *mesvak* 'brush' originates inside the RHEME and stays there. As a consequence, the specifiers of the subevent heads *proc* and *res* are available to be occupied by some other nominal projection (i.e., *her teeth*).

This operation is, however, not applicable to the direct object+heavy verb construction *sæng zædæn*. As the reader can see from the tree diagrams in (20) and (21), the noun *sæng* 'stone' is an UNDERGOER-RESULTEE argument. Therefore, no other UNDERGOER-RESULTEE argument is possible. Hence, the noun *divar* 'wall' can only be introduced as the complement of the preposition *be* 'to'.[6]

Before concluding this section, let me go back to the ambiguous example in (13b), repeated below, and make some final remarks.

(23) mina in   mesvak-ra be dændunha-sh zæd.
      Mina this brush-OM *to teeth*-3CL   *hit*
      'Mina brushed her teeth with this brush' or
      'Mina hit her teeth with this brush'

The translation indicates that the sentence is ambiguous between a literal reading and a complex predicate reading. The syntactic structure giving rise to the literal interpretation is equivalent to the one presented in (21), modulo the actual lexical items (*in mesvak* instead of *sæng*, and *dændunha-sh* instead of *divar*). The syntactic structure responsible for the complex predicate reading was shown in (16). Focussing on the the complex predicate interpretation, Samvelian (2001:371) observes that (23) can be paraphrased as (24):
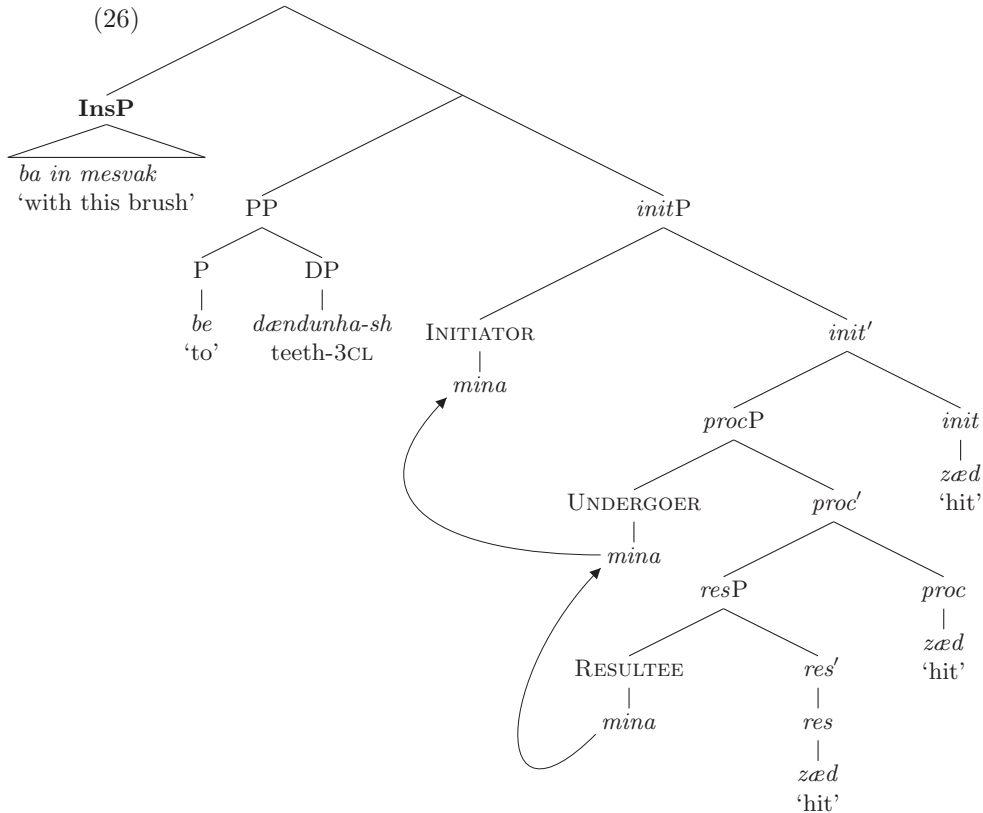
(24) mina ba   in   mesvak be dændunha-sh mesvak zæd.
      Mina with this brush   *to teeth*-3CL   *brush*   *hit*
      'Mina brushed her teeth with this brush'

The interesting fact is that, in (24), the presence of the instrumental phrase *with this brush* alone is not enough for interpreting the verb *zædæn* 'hit' as 'brush.' Thus, if we omit the noun *brush* from the position immediately preceding the verb *hit*, the only interpretation available is the one where *hit* is a heavy verb.

(25) mina ba   in   mesvak be dændunha-sh zæd.
      Mina with this brush   *to teeth*-3CL   *hit*
      'Mina hit her teeth with this brush'

The reason for this is that the instrumental phrase *ba in mesvak* is a PP adjunct. Hence, *mesvak* 'brush' is not part of the RHEME and therefore cannot build one predicate with the verb *zædæn*.

---

[6]It is possible to have *divar* as an UNDERGOER-RESULTEE, but then *sæng* has to be introduced as an instrumental phrase, that is, as an adjunct.

(26)

InsP

ba in mesvak
'with this brush'

PP

P
|
be
'to'

DP
|
dændunha-sh
teeth-3CL

*init*P

INITIATOR
|
mina

init′

*proc*P

init
|
zæd
'hit'

UNDERGOER
|
mina

proc′

*res*P

proc
|
zæd
'hit'

RESULTEE
|
mina

res′
|
res
|
zæd
'hit'

Put in other words, the occurrence of *mesvak* 'brush' and *zædæn* 'hit' in the same clause is not a sufficient condition for the interpretation of the predicate as denoting an event of brushing. What is needed is that these two elements appear in the right structural configuration, namely, *mesvak* has to be in the rhematic position of the verbal phrase.

5. Alternating constructions

In the previous section, I mentioned the possibility of the complex predicate *mesvak zædæn* (brush hit) 'brush' to take the argument *dændunha-sh* 'her teeth' as a direct object ((17), repeated as (27a)), or as the complement of the preposition *be* 'to' ((13a), repeated below as (27b)).

(27) a. mina dandunha-sh-ra mesvak zæd.
          Mina teeth-3CL-OM   *brush   hit*
          'Mina brushed her teeth'
      b. mina be dændunha-sh mesvak zæd.
          Mina to teeth-3CL   *brush   hit*
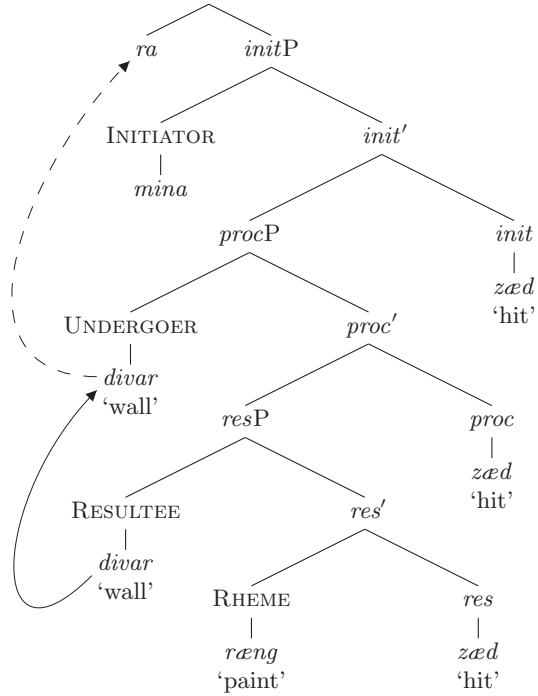   'Mina brushed her teeth'

39

The different underlying syntactic structures predict different semantic interpretation of the two constructions. The distinction is subtle but nevertheless present — in the first sentence the teeth are perceived as more "affected" than in the second one. This contrast is, however, not very easily perceptible in this particular pair. It comes out much more clearly if we choose a different complex predicate, for instance, *ræng zædæn* (paint hit) 'paint.' Consider the examples below.

(28)   a.   mina divar-ra ræng zæd.
               *Mina wall-*OM *paint hit*
               'Mina painted the wall (completely)'
       b.   mina be divar ræng zæd.
               Mina to wall   paint hit
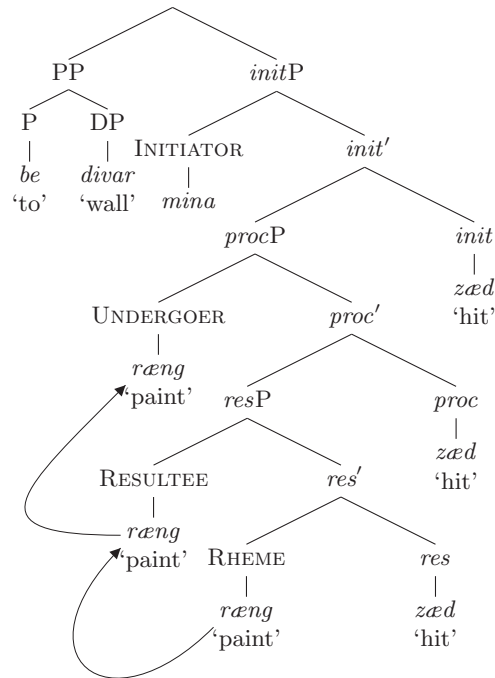   'Mina painted (at) the wall'

The sentence in (28a) says that Mina performed an action of painting the wall and the wall ended up being completely painted. There is no such implication in the second sentence. (28b) merely conveys the information that Mina participated in an event of painting the wall (or some wall), but she need not have finished her task. That is, the wall could have remained half-painted after Mina had stopped painting at it. Let us now see how the different entailments are accounted for under the present analysis.

As I argued in section 4, the two examples in (28) correspond to two different syntactic structures. In (28a), the argument *divar* 'wall' occupies the specifier positions of the *proc* and the *res* heads (see (29a)), while in (28b) *divar* is the complement of the preposition *be* 'to' in the rhematic position (see (29b)). Importantly, Romanova (2007), applying Ramchand's system to Russian verbs, claims that affected object are in Spec,*res*P. It then comes as no surprise that when *divar* is an Undergoer-Resultee it is interpreted as affected.

(29)   a.

```
              ra        initP
                      /        \
              Initiator         init′
                 |           /        \
               mina       procP        init
                        /       \        |
               Undergoer        proc′    zæd
                  |           /       \   'hit'
                divar       resP       proc
                'wall'    /      \       |
              Resultee         res′      zæd
                 |           /     \     'hit'
               divar      Rheme     res
               'wall'       |        |
                          ræng      zæd
                          'paint'   'hit'
```

b.

```
         PP              initP
        /   \          /       \
       P    DP    Initiator     init′
       |    |        |        /       \
       be  divar    mina    procP      init
      'to' 'wall'         /      \       |
                  Undergoer      proc′   zæd
                     |         /      \  'hit'
                    ræng     resP      proc
                   'paint' /      \      |
                 Resultee        res′    zæd
                    |         /      \   'hit'
                  ræng     Rheme      res
                 'paint'     |         |
                           ræng       zæd
                          'paint'     'hit'
```

41

Apart from exhibiting subtle semantic differences, the two sentences in (28) contrast also with respect to some syntactic phenomena. Specifically, if we make the noun preverb *ræng* 'paint' in (28a) specific, it surprisingly *does not* take the marker *-ra* and stays *in situ* (see (30a)). If the preverb *ræng* in (28b) is made specific, then it moves to the position reserved for specific direct objects (before the *to*-PP) and takes the object marker *-ra* (see (30b)).
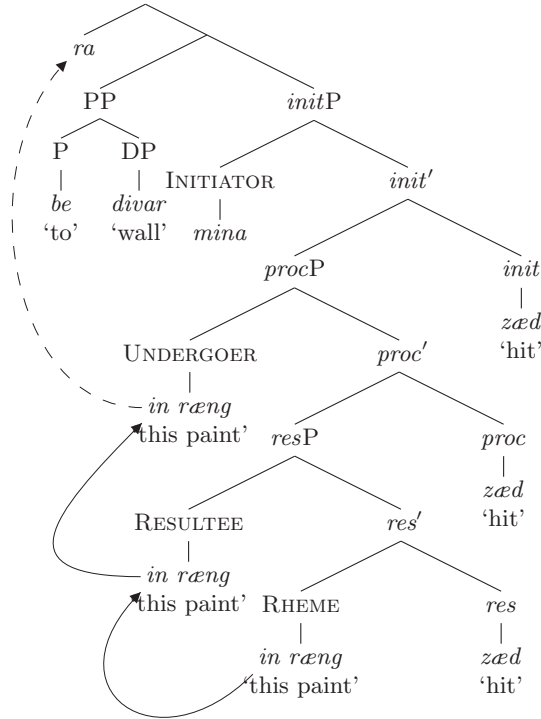
(30)   a.   mina divar-ra **in   ræng** zæd.
            Mina wall-OM *this paint   hit*
            'Mina painted the wall in this color'
       b.   mina **in   ræng-ra** be divar zæd.
            Mina this paint-OM *to wall   hit*
            'Mina painted the wall using this paint'

The key to this peculiar behavior lies again in the syntactic structures corresponding to (30a) and (30b).

(31)
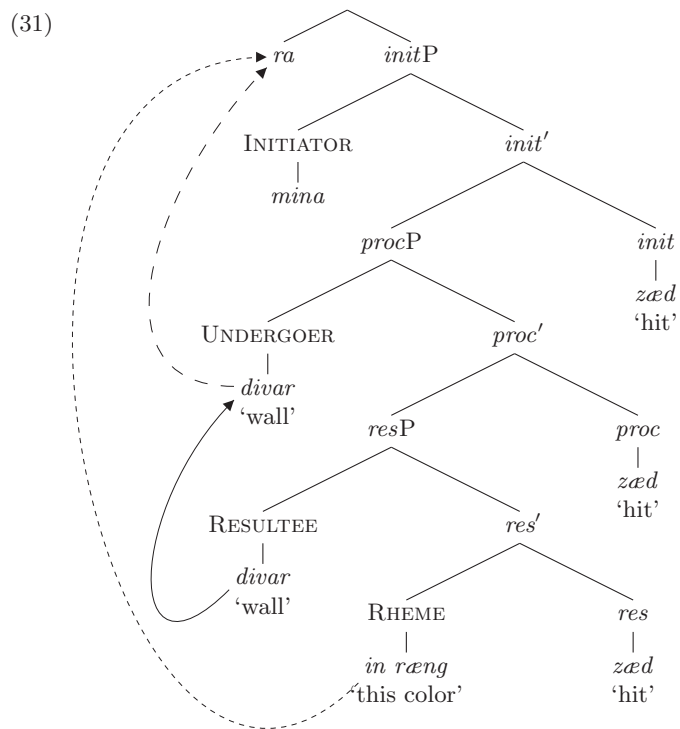
(32)

Under the assumption that the movement to the *ra*-projection targets only Undergoers, Resultees, and Undergoer-Resultee arguments, the Rheme *in ræng* in (32a) has no access to this position. Therefore, the DP *in ræng* cannot raise to that position, even if there were no specific Undergoer-Resultee arguments in the clause (i.e., even if *divar* 'wall' were non-specific). In (32b), however, *ra*-affixation is licit, since the noun preverb *in ræng* is also an Undergoer-Resultee argument and therefore can access the *ra*-projection.

6. Conclusion

In this paper, I presented an analysis of Persian complex predicates in the framework of the verbal First Phase Syntax, developed in Ramchand (2008). I suggested that the subevent heads are lexicalized by the light verb. Hence, under this account, the light verb is responsible for the argument structure of the predicate in the sense of which specifiers of subevent heads will be projected. The preverbal element occupies the Rheme position and semantically unifies with the light verb to build one joint predication.

Then, I showed how this proposal sheds light on the question of the dual nature of noun preverbs, by suggesting that noun preverbs can simultaneously occupy an argument position of the verb and its Rheme. Such an approach can account for several facts concerning the noun preverbs

in *zædæn* complex predicates (specifically, the "Instrument complex predicates" discussed in this paper). The preverbs of the examined complex predicates exhibit properties ascribed to direct objects. This is because, in absence of an Undergoer-Resultee argument, these preverbs can move from the *Rheme* to the Undergoer position, via Resultee. From this position, when specific, they also raise to the projection of the specificity marker *ra*, just like specific direct objects. When Undergoer-Resultees, the preverbs can be interpreted as affected, as direct objects can be. At the same time, such preverbs are interpreted as part of the complex predicate, since they leave a copy inside the Rheme, which semantically unifies with the verb.

Assuming a Rheme position for the preverb has also another payoff. Namely, it correctly predicts that preverbs can be phrasal. Thus, it solves the problem which every non-projecting analysis (e.g., Ghomeshi and Massam 1994) inevitably faces when it comes to explaining the possibility of a noun preverb to appear in a non-bare form.

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