First Phase Syntax of Persian Complex Predicates: Argument Structure and Telicity

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Abstract

In this paper, I propose an analysis of Persian complex predicates, based on the First Phase Verbal syntax developed by Ramchand (2008). I suggest that the light verbs lexicalize the subevent heads into which the verbal phrase is decomposed, while the preverbal element occupies the Rheme position and semantically unifies with the light verb to build one joint predication. Further, I propose a feature specification for some of the most productive light verbs. I argue that the light verb is responsible for the argument structure of the entire predicate (in line with Megerdoomian 2002b, Folli et al. 2005), while the aspectual properties of the complex predicate depend on the interaction between the preverb and the light verb.

1. Introduction

Persian is a language that makes extensive use of the so called complex predicates — a predicate which consists of a non-verbal part, often referred to as *preverb* (Lazard 1957) and a semantically bleached verb, called *light verb*. The preverb and the light verb together build one predicate.[1]

(1)   mina reza-ra[2] dust   dare.
       *Mina Reza-*OM *friend has*
       'Mina loves Reza'

The preverb can represent different syntactic categories: noun, adjective, adverb, preposition, or prepositional phrase. Interestingly, certain light verbs tend to take preverbs belonging to certain categories. In Table 1, I present some of the most common light verbs and the preverb categories they productively combine with.

An issue that has been the cause of much debate in the literature relates to the role of the two elements in the complex construction with respect to the aspectual properties of the complex predicate and its argument structure (Karimi-Doostan 1997, Karimi-Doostan 2005, Megerdoomian 2001,

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

[2]The clitic *-ra*, commonly termed *object marker* attaches to all direct objects that are construed as specific.

light verb		N	P/PP	Adj/Adv
kærdæn	'do'	ok		
aværdæn	'bring'	ok	ok	ok
amædæn	'come'	ok	ok	ok
gereftæn	'take'	ok	ok	
dadæn	'give'	ok	ok	
keshidæn	'pull'	ok		ok
xordæn	'eat'	ok		
zædæn	'hit'	ok		
kærdæn	'make'			ok
shodæn	'become'			ok
oftadæn	'fall'		ok	
ændæxtæn	'throw'		ok	

Table 1: Preverb and light verbs combinations

Megerdoomian 2002a, Folli et al. 2005). A common view is that the light verb is responsible for the projection of the external argument and, according to Karimi-Doostan, it also determines the aspect ot the complex predicate. Folli et al. (2005), however, claim that the (un)boundedness of the event is dependent entirely on the type of preverb the light verb combines with. The goal of the present paper is to discuss this issue and provide insight into the ways telicity arises in complex predicates. More specifically, I am going to show how each of the two elements contributes to the telicity of the entire predicate and will investigate the ways in which they interact.
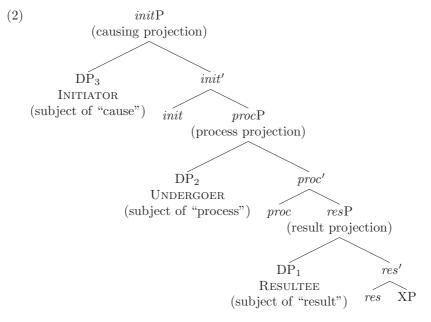
The analysis of Persian complex predicates I propose is based on the First Phase Syntax research program developed in Ramchand (2008). According to her theory, events are decomposed into three subevents (*init*, *proc* and *res*), each corresponding to a distinct head in the verbal projection and introducing an event participant. Applying this system to the Persian data, I will investigate the question of what is the contribution of the two components of the complex predicate when it comes to its argument structure and telicity.

The paper is organized as follows. In Section 2, I briefly introduce the First Phase Syntax system and lay out the proposal concerning the syntactic structure that underlies complex predicates. Section 3 deals with the feature specification of the light verbs according to the model described in Section 2. In Section 4, I handle the question of telicity of events by means of the tools provided by the system. Section 5 summarizes and concludes the paper.

2. First Phase Syntax of Persian complex predicates

2.1. A quick guide to the Verbal First Phase Syntax

Ramchand's (2008) First Phase Syntax is characterized by the decomposition of the verbal domain into three distinct heads, each corresponding to a primitive element of events. The internal structure of the verbal phrase, then, contains the following three subevent projections: *init*P, *proc*P, and *res*P. The first (*init*) and the third (*res*) are stative heads, while the second – *proc* – is dynamic and is present in the decomposition of all dynamic verbs. The stative *init* and *res* heads, however, can be missing. Each subevent head enters in a predicational relation with its specifier position, where we find the "subject" of the event. Below, I present the maximal decomposition of the verb phrase.

(2)

*init*P
(causing projection)

DP$_3$
INITIATOR
(subject of "cause")

init'

init   *proc*P
(process projection)

DP$_2$
UNDERGOER
(subject of "process")

proc'

proc   *res*P
(result projection)

DP$_1$
RESULTEE
(subject of "result")

res'

res   XP

Thus, 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)

Verbs come in the lexicon with a feature specification determining which subevent heads they lexicalilze. This allows for a classification of verbs

into types, depending on the categorial features they have. For instance, verbs with volitional agents have the feature $< init >$, while verbs with the features $< proc >$ and $< res >$ typically belong to the class of semelfactives.

The DP arguments of the verb carry various thematic roles, depending on which specifier of a subevent they occupy. In addition to the three thematic roles above, there exist *composite* roles which arise when the same DP argument occupies two or more specifier positions. Therefore, we have also the roles of Undergoer-Initiator, Undergoer-Resultee, and Initiator-Undergoer-Resultee.

A subevent head is not restricted to taking another subevent phrase as a complement. It can also have non-verbal material (DP, AP, PP, etc.) occupying its complement position. Such complements are called Rhemes. Rhemes are not subjects of events but part of the description of the predicate. The principle of *Homomorphic Unity* determines what kind of complements a subevent head can take. According to this principle, the scalar properties of a head must match the scalar properties of its Rheme, thus unifying to express a joint predication. In other words, by Homomorphic Unity a head and a Rheme complement must match in their topological properties in order to describe the same event. More specifically, a *proc* head must take as a complement an extended/scalar path-like structure, while a *res* head combines only with non-extended/non-scalar structures. To illustrate for a verb with a PP Rheme: a *proc* head, being an extended change, takes a PathP since it denotes extended (ordered) locations. Naturally, a *res* head combines with a PlaceP. Likewise for adjectival Rhemes, a non-gradable adjective will be the complement of *res*, while a gradable adjective, having a scalar structure, will be the complement of the *proc* head.
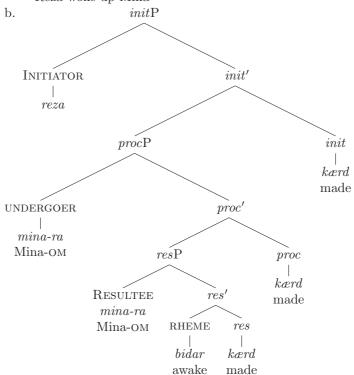
It is important to note that the (un)boundedness of the macro-event does not necessarily entail that there is a *res*P in the stucrure. The Rheme plays an important role in determining the telicity of *proc* verbs that do not instantiate *res*. More specifically, a telic interpretation arises with *proc* verbs whenever their Rheme is a closed scale gradable adjective, a bounded path PP, or a quantized noun.

2.2. Applying the system to complex predicates

It is intuitive to propose that Persian light verbs lexicalize the subevent heads. Still, given their bleached semantics, they cannot constitute a predicate with a full lexical meaning. The meaning of the complex predicate, then, comes from the preverb, which is the contentful part. I suggest that preverbs occupy the rhematic position in the decomposed verbal phrase. The preverb in the rheme conceptually unifies with the semantically bleached light verb. The role of the light verb is to determine the argument structure of the complex predicate and introduce the thematic arguments.

If I am on the right track, the structure for the Persian complex predicate *bidar kærdæn* (awake make) 'wake up somebody' in (3a) is like the one presented in (3b).

(3)   a.   reza mina-ra bidar kærd.
            Reza Mina-OM *awake made*
            'Reza woke up Mina'

       b.

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                           initP
                          /     \
                   INITIATOR    init'
                      |        /     \
                    reza    procP     init
                           /    \       |
                   UNDERGOER    proc'   kærd
                       |       /    \   made
                   mina-ra   resP   proc
                   Mina-OM  /    \     |
                    RESULTEE  res'   kærd
                    mina-ra  /   \   made
                    Mina-OM RHEME res
                             |     |
                           bidar  kærd
                           awake  made
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In the structure above, *Resa* is in Spec,*init*P, as the external argument and the initiator of the event. The direct object *Mina* bears a composite thematic role — it is the UNDERGOER and, in addition, the RESULTEE, that is, the holder of the state of being awake described by the RHEME preverb. The light verb and the adjective in the rhematic position unify to build one predicate.

Preverb modification lends support to the hypothesis that preverbs occupy the rhematic position. The point is that modification of a preverbal noun element differs from the cases when a direct object is modified. Compare the (a) and (b) example in the data set below.

(4) a. mina do-ta   shune gereft.
         Mina two-CLASS *comb got*
         'Mina received two combs'
     b. mina mu-ha-sh-ra   do-ta   shune zæd.
         mina hair-PL-3CL-OM *two*-CLASS *comb hit*
         'Mina combed her hair twice'
         (modified from Megerdoomian 2006)

In (4a), the noun *shune* 'comb' is an UNDERGOER-RESULTEE direct object of the verb *gereftæn* and thus the number of combs received by Mina is two. In example (4b), featuring a complex predicate, however, the numeral does not scope over the noun but is interpreted as modifying the whole event. The reason for this is that the numeral is inside the RHEME, where it gets interpreted as part of the whole predication.

Turning now to the unification of the preverb and the light verb into one semantic unit, I suggest that some verbs in Persian come in two varieties: a heavy variant (lexical verbs) and a light variant (light verbs) (cf., Butt's Generalization in Butt 2003, stating that each light verb has a heavy counterpart). I suppose that by being semantically impoverished the lexical entry for the light verb needs something in its rhematic position to combine with and build a full-fledged predicate. The element which satisfies the need of the light verb is the preverb. Because of the fusion of the preverb and the light verb, any preverb modifier will be interpreted as modifying the event.

2.3. Consequences

Assuming a RHEME position for the preverb has an immediate payoff. Namely, it correctly predicts that preverbs can be phrasal. Thus it solves the problem which incorporation analyses (like the one of Ghomeshi and Massam 1994) inevitably have to face when it comes to explaining the possibility of a noun preverb to appear in a non-bare form.

However, this proposal has a price to pay too. Designating the RHEME position of a light verb for its preverb entails that we deprive the light verbs of the possibility to have rhematic material. This entails that heavy verbs have an equal or greater number of arguments[3] than their light verb counterparts. This is expected under this proposal, since a complex predicate "loses" the position of the RHEME, because it is occupied by the non-verbal part of the predicate itself. Examples (5) to (7) below illustrate this point.

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[3]In this particular case, I use the term "argument" rather loosely in the sense of NPs and PP which are in the specifiers and complement position of the subevent heads.

(5)   Heavy verb *give*: direct object, indirect object

      mina gol-ra   be madær dad.
      *Mina flower-*OM *to mother gave*
      'Mina gave the flower to mother'

(6)   Light verb *give*: direct object

      reza mina-ra   hol   dad.
      *Reza Mina-*OM *push gave*
      'Reza pushed Mina'

(7)   Light verb *give*: intransitive

      ye   entefaq rui dad.
      a   incident face gave
      'An incident happened'

However, there exist complex predicates that constitute a counterexample.

(8)   Light verb *give*: direct object, indirect object

      mina mæsælle-ra be reza tozih   dad.
      *Mina problem-*OM *to Reza explanation gave*
      'Mina explained the problem to Reza'

The complex predicate *tozih dadæn* (explanation give) 'explain' in (8) has the same argument structure as the heavy verb *dadæn* 'give' in (5): in both cases we have a direct object and an indirect object. If we assume that the *to*-PP in (5) is hosted by the RHEME, then the RHEME in the complex predicate of (8) will have to host both the preverb *tozih* and the to-PP *to Reza*, which is rather unlikely to be true. The key to a potential solution of this problem lies in the different behavior of the two *to*-PPs. While the indirect object *to mother* in (5) is obligatory (unless implied by the context), the indirect object *to Reza* in (8) can be freely omitted.

(9)   Heavy verb *give*

    *mina gol-ra   dad.
    *Mina flower-*OM *gave*
    ('Mina gave the flower')

(10)   Light verb *give*

      mina mæsælle-ra tozih   dad.
      *Mina problem-*OM *explanation gave*
      'Mina explained the problem'

I suggest that the indirect object in the sentence with the complex predicate *tozih dadæn* is simply an adjunct and therefore optional. No matter where this adjunct attaches, it does not occupy the rhematic position of the decomposed verbal phrase thus leaving it available for the noun preverb *tozih*.

3. Light verb classes

In the preceding section, I proposed that the light verbs in Persian complex predicates lexicalize the subevent heads in the verbal phrase. Hence, light verbs can be classified into types according to their feature specification just like ordinary "heavy" verbs. Given that all light verbs examined in this paper are dynamic, they will all be specified for the feature $< proc >$.[4] The two feature that are left to investigate, then, are $< init >$ and $< res >$. In the subsections to follow, I focus on these two subevent heads and propose a feature specification of some of the most commonly used light verbs in Persian, thus grouping them into classes.

3.1. Light verbs & init

Let us start with the *init*[iation] subevent and see which light verbs are endowed with this feature. Consider first the example below.

(11)   mina gul   xord.
         Mina deceit ate
         'Mina got deceived'

In this example, *Mina* experiences a deceit and carries the role of a proto-Patient, or, put in the terminology of the Verbal First Phase, the role of Undergoer. Crucially, *Mina* cannot be seen as the person initiating the deceit, hence, she is not the Initiator. This is further evidenced by the fact that the complex predicate in (11) is incompatible with agentive adverbials such as *æmdæn* 'intentionally.'

(12)   #mina æmdæn   gul   xord.
         Mina intentionally deceit ate
         ('Mina got deceived intentionally')

Moreover, the unavailability of an Initiator position in the sentence in (11) gains support from the impossibility to add a Causer (i.e., an Initiator).

(13)   *reza mina-ra gul   xord.
         *Reza Mina-*om *deceit ate*
         ('Reza deceived Mina')

Accordingly, we can conclude that the Initiator position is not projected in the examples just discussed, which in turn implies that there is no *init* head in the structure. The lack of the *init* head can be straightforwardly explained if we assume that the light verb *xordæn* is not endowed with the feature *init*.

Let us examine, then, what one should do in order to express the Causer *Reza* in example (11). Persian has a special causative morpheme *-un* which

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[4]In this paper, I will abstract away from the stative light verb *dashtæn* 'to have,' which forms stative transitive and intransitive complex predicates.

non-causative verb		causative verb	
suxtæn	'burn'	*suzundæn*	'burn' (transitive)
dævidæn	'run'	*dævundæn*	'make run'
fæhmidæn	'understand'	*fæhmundæn*	'make understand'
xordæn	'eat'	*xorundæn*	'make somebody eat'
ræghsidæn	'dance'	*ræghsundæn*	'make somebody dance'
pæridæn	'jump'	*pærundæn*	'to make jump'
jushidæn	'boil'	*jushundæn*	'to boil' (transitive)

Table 2: Causativization of Persian verbs

is used to derive causative verbs when applied to lexical verbs (see Table 2).

It is expected that Persian would employ this strategy to causativize the complex predicate discussed in (11). However, the causative version of the verb *xordæn* is ungrammatical in the context of a complex predicate.

(14) *reza mina-ra gul xor-un-d.
       Reza Mina-OM *deceit ate*-CAUS-PAST
       ('Reza deceived Mina')

Instead, the strategy employed by Persian is to choose a different, "initiatory" light verb and substitute *xordæn* for it.

(15) reza mina-ra gul zæd.
       Reza Mina-OM *deceit hit*
       'Reza deceived Mina'

In (15), the light verb *zædæn* 'hit' enables the expression of a INITIATOR, which leads to the conclusion that *zædæn* has the feature *init* and thus projects the necessary specifier position.

Thus, Persian provides a fairly systematic way to transform a complex predicate with no external argument to one with it by simply exchanging a light verb with no *init* for a light verb that can lexicalize *init* and therefore offers a Spec,*init*P position to be occupied by the INITIATOR.

This fact relates directly to Karimi-Doostan's (1997) classification of the dynamic light verbs in Persian into two groups called *initiatory* and *transition* light verbs, respectively. The former allow the expression of an Agent or Causer, while the latter do not. Translated into the terminology of the First Phase Syntax, the former lexicalize *init*, while the latter are not endowed with this feature. In Table 3, I present an overview of the most common light verbs with respect to the feature $< init >$. The verbs are arranged in the rows in such a way that they reflect the most often encountered alternating light verbs to form transitive-intransitive pairs.

light verbs with $< init >$		light verbs without $< init >$	
zædæn	'hit'	*xordæn*	'eat'
kærdæn	'make'	*shodæn*	'become'
aværdæn	'bring'	*amædæn*	'come'
dadæn	'give'	*gereftæn*	'get'
ændæxtæn	'throw'	*oftadæn*	'fall'

Table 3: Classification of Persian Light Verbs with respect to *init*

Given this pairing, the pattern of preverb distribution, as presented in Table 1 does not seem surprising. The table is repeated below and rearranged so that the symmetry of light verb+preverb combinations becomes clearer. Thus, if we regard the light verbs in the left column simply as the causative versions of the verbs in the right column, it is reasonable that they will combine with the same type of preverbs.

Light verb				N	P/PP	Adj/Adv
zædæn	'hit'	*xordæn*	'eat'	ok		
kærdæn	'make'	*shodæn*	'become'			ok
aværdæn	'bring'	*amædæn*	'come'	ok	ok	ok
dadæn	'give'	*gereftæn*	'get'	ok	ok	
ændæxtæn	'throw'	*oftadæn*	'fall'		ok	

Table 4: Preverb and light verb combinations (modified and repeated from Table 1)

In the light of this data, it seems that complex predicates, not surprisingly, "causativize" differently than lexical verbs. More specifically, intransitive and non-causative complex predicates form their causative counterparts by replacing the light verb by its causative peer (the one specified for *init*), as further illustrated for *amædæn–aværdæn* 'come–bring' and *oftadæn–ændæxtæn* 'fall–throw' in (16) and (17), respectively (examples from Megerdoomian 2002b).

(16)   a.   ab   be jush amæd
          water to boil came
          'The water boiled'
      b.   nima ab-ra   be jush aværd
          *Nima water-*OM *to boil brought*
          'Nima boiled the water'

(17)   a.   homa be gerye oftad
          Homa to crying fell
          'Homa started to cry'

b. nima homa-ra   be gerye ændæxt
    Nima Homa-OM *to crying threw*
    'Nima made Homa (start to) cry'

Further support comes from passive. In the First Phase Syntax system, only verbs that project and identify *init* can passivize. In Persian, deriving passive from complex predicates is quite rare but it can be done with *init* light verbs, (18), while with *init*-less light verbs this leads to ungrammaticality, (19).

(18) a. reza xunæ-ra   atesh zæd.
          Reza house-OM *fire   hit*
          'Reza set the house on fire'
      b. xune atesh zæd-e shod.
          house fire   hit-PP PASS
          'The house was set on fire' (adapted from Mace 2003)

(19) a. xune atesh gereft.
          house fire   caught
          'The house caught fire'
      b. *xane atesh gereft-e shod.
          house fire   catch-PP PASS

Summing up, the light verbs called "initiatory" by Karimi-Doostan can all be characterized by the presence of the feature $< init >$ in their specification. The "transition" light verbs lack this feature and lead to non-agentive complex predicates. Thus, the conclusion in this section is very much in line with the claim made in Folli et al. (2005) concerning the role of light verbs in complex predicates in determining agentivity.

3.2. Light verbs & res

Now that I have established that the feature $< init >$ is to be ascribed to the light verb, in this subsection I will try to determine which element of the complex predicate is to be endowed with the feature $< res >$.

Since, in the First Phase Syntax, telicity arises as the result of complex interaction between different factors and, crucially, does not depend solely on the presence of a *res*P in the verbal decomposition, I will not make use of telicity tests in order to diagnose a *res*P. However, telicity is an important property of events and I will take up this discussion in Section 4.

The diagnostic I will be using in order to determine whether a certain light verb is endowed with $< res >$ is the availability of a punctual reading for a complex predicate which it is part of. Here, I follow Ramchand's (2008) suggestion that an event is punctual when a verb identifies both *proc* and *res*.

I will start out with an observation made by Megerdoomian (2002b) concerning different types of events expressed by the complex predicates.

Consider the verbs in (20).

(20)   a.   dad zædæn   dad keshidæn   'to shout'
               cry hit   *cry pull*
        b.   næfæs zædæn næfæs keshidæn 'to breathe'
               breath hit   *breath pull*

Megerdoomian notes that the verbs in the first column have a punctual reading, whereas the verbs in the second column have a durative reading. Hence, the difference between *dad zædæn* and *dad keshidæn* is that the former denotes an event of one (sudden) uttering of a cry, while the latter denotes a prolonged production of a shout.[5] Similarly, for *næfæs zædæn* and *næfæs keshidæn*, the first one means roughly "to take a breath," while the second denotes the activity we do all the time in order to keep ourselves alive.

This distinction allows me to draw two conclusions. First, it is the light verb that carries the $< res >$ feature, since the noun in the pairs remains the same. Second, *zædæn* is endowed with it, whereas *keshidæn* lacks it.

However, this cannot be the whole story for *zædæn*, since complex predicates with this verb (shown in (21)) can give rise to durative (atelic) readings.

(21)   a.   chakosh zædæn
               hammer hit
               'to hammer'
        b.   lægæd zædæn
               kick   hit
               'to kick'
        c.   dad   zædæn
               shout hit
               'to shout'

The behavior of the verbs in (21) very much resembles the behavior of semelfactives, which are punctual, on one hand, but systematically give rise to a durative (indefinitely iterated) reading, on the other. Since, this is presumably what happens with the verbs in (21) above, I believe that it is not incorrect to ascribe the $< res >$ feature to *zædæn*. I further believe that, just like all semelfactives in the First Phase Syntax, *zædæn* can be seen to be ambiguous between $< init, proc, res >$ and $< init, proc >$, in the former case, giving rise to punctual events and in the latter case – to durative events. Thus, I directly adopt the way semelfactives are treated by Ram-

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[5]To help the reader understand the (untranslatable in English) distinction between the two Persian verbs, I provide a context where the different uses become clear: imagine children having a "shouting competition" with a prize for the one who can shout the loudest and the one who can shout the longest. In the first case, the verb *dad zædæn* will be used, in the second — the verb *dad keshidæn*, since here it is implied that the shout should last long time.

chand, namely, as being specified in the lexicon as $< init, proc, (res) >$.[6]

3.3. Classes of light verbs

In this subsection, I present the lexical types of some of the light verbs in Persian. An important assumption is that the transitive-intransitive pairs, as shown in Table 3, differ only with respect to the availability of the *init* subevent. In other words, the feature specification of a verb from the left column will be identical, modulo $< init >$, to its peer in the right column.

In Table 5 below, I present my proposal regarding the feature specification of some of the light verbs in Persian.

kærdæn	'make'	$< init, proc, res >$	*shodæn*	'become'	$< proc, res >$
ændæxtæn	'throw'	$< init, proc, res >$	*oftadæn*	'fall'	$< proc, res >$
aværdæn	'bring'	$< init, proc, res >$	*amædæn*	'come'	$< proc, res >$
zædæn	'hit, strike'	$< init, proc, (res) >$	*xordæn*	'eat'	$< proc, (res) >$
dadæn	'give'	$< init, proc >$	*gereftæn*	'get'	$< proc >$
keshidæn	'pull'	$< init, proc >$	no clear counterpart		
kærdæn	'do'	$< init, proc >$	*		

Table 5: Light verb classes

A couple of comments are due here regarding the table above. First, the motivation for the different treatment of the light verbs *make*, *throw* and *bring*, on the one hand, and *hit*, on the other hand, lies in the fact that the first three are not semelfactive (but still resultative) verbs, while *hit* is semelfactive, as discussed above. Second, the fact that the light verb *kærdæn* is listed twice reflects its ambiguity between an activity verb, roughly corresponding to English *do* (22) and a causative verb *make* (cf. Megerdoomian 2001, Megerdoomian 2005). It is only in the latter meaning that *kærdæn* alternates with *shodæn* (23).

(22)   a.   bæchche bazi kærd.
            child   game did
            'The child played'
    b. *bazi shod.
            game became

(23)   a.   reza mina-ra bidar kærd.
            Reza Mina-OM *awake made*
            'Reza woke up Mina'
    b.   mina bidar shod.
            Mina awake bicame
            'Mina woke up'

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[6]A proposal along these lines is made by Megerdoomian (2005), who derives the different properties of *zædæn* by decomposing the predicate into different sets of primitive units of meaning.

What is to be noted concerning the ambiguity of the verb *kærdæn* is that when it is a $< init, proc, res >$ verb, there are two distinct argument: an INITIATOR and an UNDERGOER-RESULTEE, as in (23). When *kærdæn* is a $< init, proc >$ verb, there is one single argument carrying the composite role of INITIATOR-UNDERGOER, as in (22). In this latter case *kærdæn* is what is traditionally called an unergative verb and it is not suprising that it does not passivize. Interestingly, the two varieties of *kærdæn* also appear in combination with different preverbs – the unergative one takes nouns, while the causative one takes adjectival preverbs (see Table 1). For this reason, I do not list *kærdæn* as an $< init, proc, (res) >$ verb, as it is clearly different from *zædæn*, which appears with the same preverb, no matter whether it is $< init, proc >$ or $< init, proc, res >$.

4. Deriving telicity

In this section, I will outline how the temporal (un)boundedness of the macroevent can be accounted for by using the tools made available by the system. I will apply the *in an hour/for an hour*-test to diagnose telic and atelic predicates, respectively.

In Persian, there exist numerous ways to form the corresponding temporal phrases and sometimes speaker vary with respect to their interpretation.[7] To avoid confusion, I will use the expression *dær yek sa'æt* 'in one hour' and *bemodæte yek sa'æt* 'for one hour'[8] to diagnose telic and atelic sentences, respectively.

4.1. Rhematic material

As already mentioned in Section 2, the boundedness of the macroevent does not necessarily arise from the presence of *res* in the subevental decomposition of the VP. A telic interpretation can be the result of a $< init, proc >$ verb combining with a RHEME complement that is a bounded path PP, a closed scale adjective, or a quantized NP (in the sense of Kennedy and Levin 2007). I argued in Section 2.2 that the preverb in a complex predicate occupies the RHEME position. Therefore, the system predicts that the preverb will have impact on the telic/atelic interpretation of the complex predicate. The prediction is borne out, as illustrated in the data set below, where the light verb is the same but the interpretation nevertheless differs. When the $< init, proc >$ verb *kærdæn* 'do' (noted to lack $< res >$ when combining with a noun preverb) combines with a non-quantized nominal preverb, the predicate is atelic (24a). If we exchange the preverb for a quantized noun, the predicate becomes telic (24b).

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[7] For example, as pointed out by Karimi-Doostan (1997), for some speakers the non-durative adverbial *zærfe yek sa'æt* 'in one hour' has a durative meaning when stressed.

[8] The expression *bemodæte yek sa'æt*, roughly translated as 'in the course of one hour,' belongs to the formal style. A much more common way to convey the same meaning is to drop the preposition. *yek sa'æt* expresses the same notion of 'for one hour.'

(24) a. bæchche bemodæte /*dær yek sa'æt gerye kærd.
          child   for   / in   one hour crying did
          'The child cried for an hour /*in an hour'   (atelic)
     b. bæchche dær /*bemodæte yek sa'æt hæme-ye
          child   in / for   one hour all-EZ
          geryæ-sh-ra   kærd.
          crying-3CL-OM *did*
          'The child did all its crying in an hour /*for an hour'   (telic)

Megerdoomian (2005) presents some data which offer convincing evidence that an analysis like the one argued for in this paper might be on the right track. She discusses complex predicates which give rise to telic/atelic readings depending on the noun preverb. A sample of these verbs is presented in Table 6 below.

Telic		Atelic	
æfsær zædæn harness hit	'to harness'	*næmæk zædæn* salt hit	'to put salt'
palan zædæn blanket hit	'to saddle'	*rouqæn zædæn* oil hit	'to oil'
zæng zædæn bell hit	'to ring'	*gerd zædæn* powder hit	'to powder'

Table 6

Folli et al. (2005) discuss this set of data and suggest that the reason the complex predicates in the first column are telic is that the noun element is bounded. The noun preverb in the second column is unbounded and therefore gives rise to an atelic reading. I will adopt this proposal without further discussion, since it is perfectly compatible with the First Phase Syntax and the facts are exactly what the system predicts. Below, I briefly summarize the properties of *zædæn* with respect to the different event types it can give rise to, when it is an $< init, proc >$ verb.

(25) *zædæn* as $< init, proc >$
     a. telic - *palan zædæn* 'to saddle' (when the RHEME is bounded)
     b. atelic - *rouqæn zædæn* 'to oil' (when the RHEME is unbounded)

Since the intransitive counterpart of *zædæn* is *xordæn* 'eat' and I assumed that it has the same categorial specification as *zædæn* without the $< init >$ feature, it is expected that complex predicates with *xordæn* will allow atelic readings of the type in (25b). This is the case with the complex predicate *qosse xordæn* (worry eat) 'to worry,' which is atelic according to Megerdoomian (2006). Another example comes from Megerdoomian (2002a):

(26) mærdom sal-ha æz dowlæt færib xord-ænd.
people year-PL *from government fool ate*-3PL
'People have been fooled by the government for years'

More data illustrating the fact that telicity can be due to *proc* light verbs
with bounded RHEME preverbs are shown below:

(27) a. mehmani do sa'æt tul keshid.
party two hour length pulled
'The party lasted for two hours' (atelic)
b. reza xane-ra dær yek sa'æt be atesh keshid.
Reza house-OM *in one hour to fire pulled*
'Reza set the house on fire in one hour'
(Bounded TO path → telic)

However, there is a complication in that sometimes the light verbs that I
classified as *res* verbs in Section 3 can have a PP preverb headed by *be* 'to.'

(28) a. reza be gerye oftad.
Reza to crying fell
'Reza started crying' ($oftadæn < proc, res >$)
b. mina reza-ra be gerye ændæxt.
Mina Reza-OM *to crying threw*
'Mina made Reza cry' ($ændæxtæn < init, proc, res >$)

Under the system I adopt, this should be excluded by Homomorphic Unity.
Recall that *res* verbs are incompatible with path RHEMES, because they
require a non-scalar structure in the rhematic position, that is, a locative
PP. The solution I propose is that Persian *be* 'to' is ambiguous between a
bounded path reading and a locative reading. This is far from implausible,
since the Persian preposition *be* has purely locative uses where it is the
complement of stative verbs.

(29) be ængosht-æm yek ængoshtær hæst.
to finger-1CL *one ring is*
'There is a ring on my finger'

For the sake of a simpler presentation of the facts, I will assume that when-
ever *res* verbs combine with *be*-PP preverbs, *be* functions as a Place prepo-
sition. Similarly, when *proc* verbs take *be*-PP preverbs, *be* is in its "Path
use." Since the TO-Path is bounded, the complex predicates will always be
interpreted as telic.

4.2. More remarks on telicity

Folli et al. (2005) analyze Persian complex predicates with respect to their
event structure and conclude that, while the light verb is responsible for the
argument structure and event type of the complex predicate, the preverb

determines whether it will be telic or atelic. The event structure they propose for Persian is presented in Table 7, where, they argue, there is no relation between the boundedness of the event and the light verb.

preverb	telic	atelic
noun	ok (if eventive)	ok
Adj/Adv	ok	*
P/PP	ok	*

Table 7: Folli et al. (2005)

There are two observations to be made concerning the table above. First, a complex predicate with a noun as a preverb can be either telic or atelic. This is captured by the system and discussed in the beginning of this section, so it does not come as a surprise. Second, according to this table, it is never the case that a complex predicate with an adjectival, adverbial, prepositional or PP preverb is atelic. If we now go back to Table 1 in Section 3.3, and have a look at which light verbs combine with the aforementioned preverbs, it turns out they are mainly $< res >$ verbs, with two exceptions. Therefore, the natural interpretation of these predicates is a bounded one, because $< res >$ verbs by default lead to telic predicates, no matter the Rheme (i.e., the preverb). The facts are repeated in Table 8 below.

light verb			P/PP	Adj/Adv
aværdæn	'bring'	$< init, proc, res >$	ok	ok
keshidæn	'pull'	$< init, proc >$	ok	ok
amædæn	'come'	$< proc, res >$	ok	ok
gereftæn	'take'	$< proc, res >$	ok	
oftadæn	'fall'	$< proc, res >$	ok	
ændæxtæn	'throw'	$< init, proc, res >$	ok	
dadæn	'give'	$< init, proc >$	ok	
kærdæn	'make'	$< init, proc, res >$		ok
shodæn	'become'	$< proc, res >$		ok
zædæn	'hit'	$< init, proc, (res) >$		
kærdæn	'do'	$< init, proc >$		

Table 8

Let us now examine the cases when a *proc* verb combines with preverbs which are not nouns (*dædæn* 'give' and *keshidæn* 'pull'). In the system adopted in this paper, whenever the Rheme of a *proc* verb is bounded/closed scale, the predicate will be interpreted as telic. If the Rheme is unbounded/open scale, the event will be atelic. Applied to ad-

jectival RHEMES, whenever a *proc* light verb combines with gradable, closed scale adjectival preverb in the sense of Kennedy and Levin (2007), the interpretation should be telic and whenever a *proc* light verb combines with a gradable, open scale adjectival preverb, the interpretation should come out as atelic. Thus, the system predicts that there can exist complex predicates with a *proc* light verb and an adjectival preverb that are atelic. The prediction is borne out, as shown by the sentence below with the complex predicate *deraz keshidæn* (long pull) 'to take a nap.'

(30)   madær yek sa'æt deraz keshid.
        mother one hour long   pulled
        'Mother had a nap for one hour'

In other words, the First Phase Syntax model correctly captures the telicity facts. To a certain extent the way telicity is accounted for in the present paper and in Folli et al. (2005) overlaps in the sense that under both approaches the preverb has a role to play in detemining the boundedness of the event. However, I disagree that telicity depends exclusively on the type of the preverb.

5. Conclusion

In this paper, I presented an analysis of Persian complex predicates in the framework of the verbal First Phase Syntax, as developed in Ramchand (2008). I suggested that the subevent heads are lexicalized by the light verb and proposed a feature specification for some of the most common light verbs. Under this account, the light verb is responsible for the argument structure of the predicate. The preverbal element occupies the RHEME position and semantically unifies with the light verb to build one joint predication. It also, ideally, matches the topological properties of the verbal head. When RHEME of a *proc* light verb, the preverb can induce a telic reading in case it is bounded, and atelic reading, if it is unbounded.

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