

# Complex Aspectual Structure in Hindi/Urdu

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## 1 Introduction

South Asian languages are well known for possessing a large number of complex verbal constructions containing either a verb, a noun or an adjective as main predicator and a ‘light verb’ as the part of the construction which carries the tense and agreement morphology.<sup>1</sup> Light verbs in these languages have long intrigued grammar writers (e.g., Kellogg 1893, Chatterji 1926, McGregor 1968) and linguists (e.g., Vale 1948, Hook 1974), as the contribution of the light verb to the complex construction does not appear to be a purely functional one. This is especially evident with V-V sequences (main verb followed by a light verb) where the contribution of the light verb has often been characterized via aspectual terms such as perfectivity (Hook 1991, Singh 1994) or inception/completion (Butt 1995), but also via semantically less well defined terms like forcefulness, suddenness, volitionality, benefaction, etc. The range of meanings is broad and appears to be related to the basic lexical semantics of the base verb that is involved (i.e., ‘take’ vs. ‘give’ for benefaction, ‘fall’ for suddenness, ‘hit’ for forcefulness).<sup>2</sup>

While the morphological and syntactic properties of these verbal complex constructions have been described in some detail for South Asian languages, the precise semantic characterization of the role of light verbs remains the subject of investigation and debate. This paper proposes to take a fresh look from a perspective which presupposes a tight mapping between syntactic structure and semantic combinatorial possibilities. We aim to show that the morphosyntax of predicational structures is closely correlated with aspectual and event-structure notions in semantic representation. Our primary language of investigation is Hindi/Urdu,<sup>3</sup> for which we examine three distinct syntactic types of V-V collocations. We argue that these morphosyntactically distinct types correlate exactly with three distinct subevental architectures, thus lending support to our view of the syntax-semantics interface.

In what follows, we first lay out the data which furnishes the basis of our discussion. After pointing out that light verbs and auxiliaries must be clearly distinguished from one another on phonological and syntactic grounds, we show that the three differing V-V constructions display differences in terms of whether they predicate jointly or separately. We then go on to explain the cluster of properties by proposing that verbs in general can be lexically attached/instantiated as either *v*, *V* or as part of a result phrase (*R*). A verb can be Merged in the (first phase) syntax as a *v*, but then must enter into a complex predicate construction with another verbal head or heads to complete the subevental structure. Each verb in the language carries syntactic category features which determine the possible positions of Merge. In the cases where the so-called main verb of the construction ends up giving rise to aspectual effects, this is because it has Merged to instantiate the *R* head (result portion) of the predication. Conversely, when the light verb of the construction appears to contribute some variant on causative semantics, it is because this verb is Merging as *v* in the first phase syntax. Because of its explicit decompositional morphology, the detailed consideration of the morphosyntax and semantics of the light verb construction ends up providing overt evidence for a three way categorial decomposition of this type, and contributes invaluable data for investigating the constraints on their modes of combination. Moreover, the approach presented in this paper allows a novel understanding of the internal mechanics of complex predication, i.e., of the precise manner in which light verb and main verb interact at the syntax/semantics interface.

## 2 The Basic Data

Before we turn to the central phenomena, we first outline the basic clause structural properties of Hindi/Urdu and its system of tense/aspect marking. Hindi/Urdu is an SOV (head-final) language with a mixed system of periphrastic constructions and tense/aspect inflections. The verb either inflects by itself or co-occurs with inflecting auxiliaries which carry tense and aspect. This is summarized in (1) for the verb *mar* ‘hit’.

(1)	<b>Pres</b>	<b>Past</b>	<b>Fut</b>	<b>Impf</b>	<b>Perf</b>	<b>Prog</b>
				Pres/Past	Pres/Past	Pres/Past
<b>Urdu</b>		mara	marega	marta	mara	mar raha
				+ Aux (be)	+ Aux (be)	+ Aux (be)

mar- ‘hit’ — 3.Sg.M

Independent of this basic tense/aspect paradigm, there are three distinct classes of complex verbal constructions that will concern us in this paper. These constructions all superficially consist of the structure V1 followed by V2, where only V2 inflects for tense/aspect.

### 2.1 The ‘tell’ type: V1\_Infinitive+Case V2

In these constructions, the inflecting ‘light’ verb (here typically instantiated by the verb ‘tell’) combines with an infinitive or gerund which bears a case marker identical to those found on nominal arguments.<sup>4</sup>

A number of examples of the ‘tell’ type are given below. Many of these constructions are similar to obligatory object-control structures in other languages (see examples (2) and (3)).<sup>5</sup>

- (2) anjum=ne saddaf=ko [xat **lh<sup>h</sup>-ne]=ko **kah-a**  
 Anjum.F=Erg Saddaf.F=Dat letter.M.Nom write-Inf.Obl=Acc say-Perf.M.Sg  
 ‘Anjum told Saddaf to write the letter.’**

- (3) a. rad<sup>h</sup>a=ne mohan=ko [kitab paṛ<sup>h</sup>-ne]=**ko** majbur ki-ya  
 Radha.F=Erg Mohan.M=Dat book.FNom read-Inf.Obl=Acc force do-Perf.M.Sg  
 ‘Radha forced Mohan to read a book.’

- b. rad<sup>h</sup>a=ne mohan=ko [kitab paṛ<sup>h</sup>-ne]=**par** majbur ki-ya  
 Radha.F=Erg Mohan.M=Dat book.F.Nom read-Inf.Obl=on(Loc) force do-Perf.M.Sg  
 ‘Radha forced Mohan to read a book.’

- c. rad<sup>h</sup>a=ne mohan=ko [kitab paṛ<sup>h</sup>-ne]=**ke liye** majbur ki-ya  
 Radha.F=Erg Mohan.M=Dat book.F.Nom read-Inf.Obl=for force do-Perf.M.Sg  
 ‘Radha forced Mohan to read a book.’

A number of different case markers are theoretically possible here, depending on the final predicate. While the case marker used on the V1 infinitive in the case of ‘tell’ is the accusative one; the case-marker when the V2 consists of ‘force do’ seems to be subject to variation with little apparent difference in meaning. Crucially, when we come to describing the syntactic properties of this construction, the actual choice of case marker will not affect the behaviour we examine.

## 2.2 The ‘let’ type: V1\_Infinitive.Oblique V2

In these constructions, the inflecting ‘light’ verb combines with a main verb in the oblique inflectional form of the infinitive, but with no case marker.<sup>6</sup> The range of meanings that arise include inceptive ((4a)), and permissive ((4b)) readings.

- (4) a. vo            ro-ne        lag-i  
Pron.Nom cry-Inf.Obl be.attached-Perf.F.Sg  
‘She began to cry.’
- b. kis=ne        kutte=ko        g<sup>h</sup>ar    ke andar        aa-ne        di-a?  
who.Obl=Erg dog.M.Obl=Dat house Gen.Obl inside come-Inf.Obl give-Perf.M.Sg  
‘Who let the dog come into the house?’        (Glassman 1976:235)

## 2.3 The ‘result’ type: V1\_Stem V2

These constructions are formed from what looks like the stem form of the main verb and an inflecting light verb, here illustrated by ‘give’ and ‘take’. They are possibly the most difficult to characterize semantically. Traditionally, the addition of the light verb has been said to contribute a range of meanings such as completion, inception, benefaction, force, suddenness, etc. (see Hook 1974 for a detailed study).

- (5) a. nadya=ne    xat            lk<sup>h</sup>    li-ya  
Nadya.F=Erg letter.M.Nom write take-Perf.M.Sg  
‘Nadya wrote a letter (completely).’
- b. nadya=ne    makan        bana di-ya  
Nadya.F=Erg house.M.Nom make give-Perf.M.Sg  
‘Nadya built a house (completely, for somebody else).’

The common denominator of all these different types of meanings is the bounded or telic event that the construction seems to describe. Indeed, it has been claimed that this class of light verbs is really a class of aspectual auxiliaries giving rise to perfectives in the language (e.g., Hook 1991, Hook 1993). However, as we show in the next section, the light verbs in question do not pattern with auxiliaries either syntactically or morphologically. While it is true that the light verb seems to create accomplishment or achievement predicates, this is crucially different from the role of an actual perfective tense form or auxiliary (see Butt and Geuder 2001 for detailed argumentation, also Bashir 1993 for similar conclusions). In particular, the resulting accomplishments/achievements are not necessarily perfective in broader (outer) aspectual terms, but occur in all the tense/aspect forms of the language see (6b) for an example of the accomplishment predicate derived via this kind of construction occurring in the past continuous tense).

- (6) a. mariam        imel            lk<sup>h</sup>    ruh-i        t<sup>h</sup>-i  
Miriam.F.Nom e-mail.F.Nom write Prog-F.Sg be.Past-F.Sg  
  
jab    vili            kamre=mē        a-ya  
when Willi.M.Nom room.M.Obl=in come-Perf.M.Sg  
‘Miriam was writing an e-mail when Willi came into the room.’
- b. mariam        imel            lk<sup>h</sup>    mar ruh-i        t<sup>h</sup>-i  
Miriam.F.Nom e-mail.F.Nom write hit Prog-F.Sg be.Past-F.Sg

jab vili kamre=mē a-ya  
when Willi.M.Nom room.M.Obl=in come-Perf.M.Sg  
'Miriam was dashing off an e-mail when Willi came into the room.'

Significantly, the effect of this construction is to create a different kind of *aktionsart*, a distinction traditionally taken to be encoded within lexical items. This is a further factor in the impression that complex predicates of the 'result' type are more tightly bound as a unit than the other two types.

In each of these cases, two separate lexical items combine compositionally to produce a more complex type of predication. This is not unusual in itself—there are many cases in natural language where a clausal or infinitival projection forms the complement to a higher matrix verb. The fact that this language exhibits a word order pattern which can be described as 'head-final' means that a subordinating construction will result in a sentence where the matrix verb and the subordinated non-finite verb are linearly adjacent. In such a case we would be dealing with a simple biclausal construction with a nonfinite subordinate clause. At the other end of the spectrum, it is possible, and commonplace, for a main verb to occur with one or more 'auxiliaries' which simply modify the eventuality description in particular ways and which carry the tense and agreement inflection of the clause. Here the construction would be monoclausal, but once again, the 'head-final' language would express this with a word order in which the main verb and auxiliary are linearly adjacent. Our three types of construction delineated above could in principle belong to either of these two combinatoric possibilities, neither of which would be particularly interesting from a crosslinguistic perspective. In the first section of the paper, we labor to convince the reader that the complex predicates of the 'let' and 'result' types do not fall neatly into either the monoclausal or biclausal characterization given above, but represent a decomposition of verbal meaning that is traditionally carried by single lexical items in languages of the more familiar European variety.

In section 3, we compare complex predicates to auxiliary constructions, and argue that the light verb is not an auxiliary and carries more information than the kind of functional and grammatical information traditionally associated with auxiliaries. In section 4, we demonstrate that the 'tell' type contrasts with the 'let' type and the 'result' type in that only the former can be shown to be a biclausal construction from the point of view of all the diagnostics available to us in the language. The section ends with a summary of the paradoxical properties of the 'let' and 'result' complex predicates which will be the focus of the analysis in subsequent sections.

### 3 Light Verbs are not Auxiliaries

Light verbs in Hindi/Urdu appear to make a functional contribution to the sentence as they signal the inception or completion of an event (among other things). For these reasons, light verbs have often been classed as a type of auxiliary. However, there is good evidence that Hindi/Urdu does possess auxiliaries, and that light verbs are syntactically and distributionally distinct from them in number of ways.<sup>7</sup>

First it should be noted that the ordering within the Hindi/Urdu verbal complex is strict and requires a distinction to be made between main verbs, light verbs, the passive (formed with 'go'), the progressive auxiliary and the 'be' auxiliary.

(7) Main Verb (Light Verb) (Passive) (Progressive) (Be Auxiliary)

There are three uncontroversial auxiliaries in Hindi/Urdu, as shown in (8).<sup>8</sup>

(8)

Urdu Auxiliaries			
Form	Meaning	Inflection	Defective Cells
ho	to be	Pres/Fut/Impf/Perf	Past
t <sup>h</sup> -a/i/e/ī	be (Orig. stand)	Past	All Others
rah	Progressive (Orig. stay)	Perf (Fut/Impf only with special morphology)	Pres/Past/Prog

If one considers (8), it can be seen that the auxiliaries have defective paradigms and do not inflect according to all possible tenses and aspects in the verbal system; in fact they function to create a number of the tense/aspect meanings in the language. On the other hand, true ‘light’ verbs are not a subclass of the tense/aspect system in this way—they inflect according to *all* tenses and aspects possible in the language.

From a syntactic point of view as well, it can be shown that auxiliaries and light verbs have distinct syntactic properties with respect to (at least) case marking, reduplication and topicalization. In the following subsections, we demonstrate each of these diagnostics in turn.

### 3.1 Case

Urdu/Hindi is a split-ergative language: ergative subjects only appear in the perfect tenses (see Davison 1999 for a very detailed discussion). However, even in the presence of perfect morphology, the verb’s lexical specification is important because only (di)transitive verbs allow ergative case on the subject in the first place. In the case of complex predicates, it is possible for there to be a mismatch between the transitivity of the main verb and the light verb. Interestingly, it is the transitivity properties of the *light* verb that determine the possibility of ergative case marking in this case (see Butt 1995).<sup>9</sup>

In the example (9) below, the transitive main verb ‘write’ carries perfect morphology and therefore structurally requires ergative case on the subject. However, in a complex predicate construction ‘write’ can be paired up with one of at least two types of V2: the unaccusative light verb ‘fall’ disallows ergative case in general, while the light verb ‘take’ requires it. The examples (10) show that the case-marking of the subject is dependent on the requirements of the light verb, rather than that of the main verb on its own.

(9) *us=ne/\*vo*                      *xat*                      *lik<sup>h</sup>-a*  
 Pron.Obl=Erg/Pron.Nom letter.M.Nom write-Perf.M.Sg  
 ‘He wrote a letter.’

(10) a. *\*us=ne/vo*                      *xat*                      *lik<sup>h</sup> paṛ-a*  
 Pron.Obl=Erg/Pron.Nom letter.M.Nom write fall-Perf.M.Sg  
 ‘He fell to writing a letter.’

b. *us=ne/\*vo*                      *xat*                      *lik<sup>h</sup> li-ya*  
 Pron.Obl=Erg/Pron.Nom letter.M.Nom write take-Perf.M.Sg  
 ‘He wrote a letter (completely).’

If we think of case marking as being dependent on lexical/argument structural properties of individual verbs, as is usual, then the relevance of the light verb here is somewhat surprising. At the very least, it shows that the light verb does not have the status of an auxiliary, whose contribution to the possibility of ergative case marking is entirely restricted to the perfect vs. non-perfect distinction.

### 3.2 Reduplication

Differences between verbal complexes can also be found with respect to reduplication. In complex predicates the light verb, the main verb, or both may be reduplicated (see Fitzpatrick-Cole 1994, 1996 for a detailed study on Bengali, see Abbi 1992 for a general discussion of reduplication in South Asian languages). The example (11) below shows the reduplication of the light verb ‘go’ to give an ‘over and over again’ interpretation.

- (11) a. vo           so   **ja-ti**           t<sup>h</sup>-i  
Pron.Nom sleep go-Impf.F.Sg be.Past-Sg.F  
‘She used to go to sleep.’
- b. vo           so   **ja-ti**           **va-ti**           t<sup>h</sup>-i  
Pron.Nom sleep go-Impf.F.Sg go.Redup-Impf.F.Sg be.Past-Sg.F  
‘She used to keep going to sleep (at inopportune moments).’

In contrast, it is not possible to reduplicate an auxiliary in this way. Example (12) shows the ungrammaticality that result from trying to reduplicate the progressive auxiliary, while (13) is an example of an unsuccessful ‘be’ auxiliary reduplication.

- (12) a. vo           so   **rah-i**           t<sup>h</sup>-i  
Pron.Nom sleep Prog-F.Sg be.Past-Sg.F  
‘She was sleeping.’
- b. \*vo           so   **rah-i**           **vah-i**           t<sup>h</sup>-i  
Pron.Nom sleep Prog-F.Sg Prog-Redup be.Past-Sg.F  
‘She was sleeping.’
- (13) a. vo           so-ti           t<sup>h</sup>-i  
Pron.Nom sleep-Impf.F.Sg be.Past-Sg.F  
‘She used to sleep.’
- a. \*vo           so-ti           t<sup>h</sup>-i           š-i  
Pron.Nom sleep-Impf.F.Sg be.Past-Sg.F be.Redup  
‘She used to sleep.’

Once again this diagnostic shows that the light verb patterns more like an ordinary main verb than the grammaticalized auxiliary does: both light verbs and main verbs have the level of prosodic and semantic autonomy required for reduplication.

### 3.3 Topicalization

With regard to topicalization, a main verb can always be topicalized away from a light verb, as shown in example (14a) where ‘sleep’ has been fronted, stranding the light verb ‘go’. In contrast, the very same main verb ‘sleep’ cannot be fronted/topicalized away from a cluster of auxiliaries, as the ungrammaticality of (14b) shows (cf. Mohanan 1994).

- (14) a. **so**   to   bacca           **ga-ya**  
sleep Top child.M.Sg.Nom go-Perf.M.Sg  
‘The child has gone to sleep.’

- b. \*so to bacca                   rah-a       hε  
 sleep Top child.M.Sg.Nom Prog-M.Sg be.Pres.3.Sg  
 ‘The child is sleeping.’

Once again, the inability of auxiliaries to strand under topicalization seems to correlate with their highly dependent and functional nature. This defectiveness is strikingly absent with the ‘light’ verb however.

To summarize, therefore, there is good evidence that light verbs form a distinct subclass, both inflectionally and syntactically, from pure auxiliaries in this language. Any analysis which conflates the two types of construction is simply missing a substantial set of syntactic, semantic and morphological generalizations.

## 4 Distinguishing Joint Predication from Separate Predication

Light verb constructions are thus clearly differentiable from simple auxiliary cases, and so a standard monoclausal analysis with the light verb in the role of tense/aspect modifier is not immediately tenable. As mentioned before, the other obvious relationship possible between two verbal elements is that of simple complementation to create a biclausal structure. With regard to this second possibility, we will find that light verb constructions themselves do not form a unified class. As was already seen, even a superficial inspection of the morphology revealed that the types of V-V constructions are distinct. In this section, we describe the main syntactic and morphological properties of the three construction types introduced at the beginning of the paper and argue that a simple biclausal analysis is possible for only one of them.

Specifically, we must investigate next whether the different complex verbal constructions at issue here project independent clauses with distinct complete functional complexes (CFCs) or whether the verbal heads in question in some way *jointly* determine a simplex CFC for the sentence. In investigating the monoclausal or biclausal status of these constructions in this sense, certain diagnostics from the literature can be applied, particularly for Hindi/Urdu (Butt 1995, Mohanan 1994).

To anticipate the results of the following subsections, the tests with respect to anaphora, control and verb agreement show that the ‘result’ type and the ‘let’ type behave like a single predicational unit, while the ‘tell’ type seems to contain two distinct argument domains and is thus biclausal in this sense.

### 4.1 Agreement

Generally in Hindi/Urdu, the descriptive generalization is that the verb agrees with the hierarchically highest nominative argument (Mohanan 1994).<sup>10</sup> If there is no nominative argument, masculine singular marking appears on the verb as the default. An inspection of the data below shows that the ‘result’ type construction and the ‘let’ type construction, but not the ‘tell’ type follow the pattern of agreement found in simple clauses. In particular, the internal argument of V1 can trigger agreement on V2 if it is the highest nominative argument in a sentence of the ‘result’ type (15), and also of the ‘let’ type (16).

#### Simple Clause — Object Agreement

- (15) a. **adnan**           gari           **cala-ta**           hε  
 Adnan.M.Nom car.F.Nom drive-Impf.M.Sg be.Pres.3.Sg  
 ‘Adnan drives a car.’
- b. adnan=ne       **gari**           **cala-yi**           hε1  
 Adnan.M=Erg car.F.Nom drive-Perf.F.Sg be.Pres.3.Sg  
 ‘Adnan has driven a car.’

- c. *nadya=ne gari=ko cula-ya he*  
 Nadya.F=Erg car.F=Acc drive-Perf.M.Sg be.Pres.3.Sg  
 ‘Nadya has driven the car.’

#### Result Type — Object Agreement

- (16) a. *nadya=ne makan bana li-ya*  
 Nadya.F=Erg house.M.Nom make take-Perf.M.Sg  
 ‘Nadya built a house (completely).’
- b. *nadya=ne kursi bana l-i*  
 Nadya.F=Erg chair.F.Sg.Nom make take-Perf.F.Sg  
 ‘Nadya built a chair (completely).’

#### Let Type — Object Agreement

- (17) a. *anjum=ne saddaf=ko xat lik<sup>h</sup>-ne di-ya*  
 Anjum.F=Erg Saddaf.F=Dat letter.M.Nom write-Inf.Obl give-Perf.M.Sg  
 ‘Anjum let Saddaf write a letter.’
- b. *anjum=ne saddaf=ko cıttı<sup>h</sup>i lik<sup>h</sup>-ne d-i*  
 Anjum.F=Erg Saddaf.F=Dat note.F.Nom write-Inf.Obl give-Perf.F.Sg  
 ‘Anjum let Saddaf write a note.’

However, as shown in (18), it is not possible for an internal argument of V1 to trigger agreement on V2 in a sentence of the ‘tell’ type, even if it could conceivably count as the “highest nominative argument”. The masculine singular marking on the verb in (18a) must thus be analyzed as a form of default agreement.<sup>11</sup>

#### Tell Type — No Object Agreement

- (18) a. *anjum=ne saddaf=ko [xat lik<sup>h</sup>-ne]=ko kah-a*  
 Anjum.F=Erg Saddaf.F=Dat letter.M.Nom write-Inf.Obl=Acc say-Perf.M.Sg  
 ‘Anjum told Saddaf to write the letter.’
- b. *anjum=ne saddaf=ko [cıttı<sup>h</sup>i lik<sup>h</sup>-ne]=ko kah-a*  
 Anjum.F=Erg Saddaf.F=Dat note.F.Nom write-Inf.Obl=Acc say-Perf.M.Sg  
 ‘Anjum told Saddaf to write the note.’

## 4.2 Control

With respect to control phenomena, both the ‘result’ type and the ‘let’ type constructions behave as if they have a single subject. The adverbial ‘having’ clause in these constructions can only be controlled by a matrix subject (Mohanani 1994) and since the control is unambiguous in (19) and in (20), one is forced to the conclusion that only a single subject controller is available despite the presence of two verbs (a more detailed discussion can be found in Butt 1995).

#### Result Type — Only one possible subject controller

- (19) *anjum=ne<sub>i</sub> saddaf=ko<sub>j</sub> [—<sub>i,\*j</sub> darvaza k<sup>h</sup>ol kar] andar bula di-ya*  
 Anjum.F=Erg Saddaf.F=Acc door.M.Sg.Nom open having inside call give-Perf.M.Sg  
 ‘Anjum, having opened the door, called to Saddaf to come in.’



### Let Type — Only one possible subject controller

- (20) **anjum=ne<sub>i</sub>** saddaf=ko<sub>j</sub> [\_\_\_\_<sub>i,\*j</sub> darvaza k<sup>h</sup>ol kar] saman=ko  
Anjum.F=Erg Saddaf.F=Dat door.M.Sg.Nom open having luggage.M=Acc  
andar rak<sup>h</sup>-ne di-ya  
inside put-Inf.Obl give-Perf.M.Sg  
'Anjum, having opened the door, let Saddaf put the luggage inside.'

In the final type of construction, on the other hand, the sentence is ambiguous. Both the 'teller' and the 'putter' in (21) below are possible controllers for the adverbial modifying clause.

### Tell Type — Two possible subject controllers

- (21) **anjum=ne<sub>i</sub>** **saddaf=ko<sub>j</sub>** [\_\_\_\_<sub>i,j</sub> darvaza k<sup>h</sup>ol kar] saman=ko  
Anjum.F=Erg Saddaf.F=Dat door.M.Nom open having luggage.M=Acc  
andar rak<sup>h</sup>-ne=ko kah-a  
inside put-Inf.Obl=Acc say-Perf.M.Sg  
'Anjum told Saddaf to put the luggage inside, after having opened the door.'

## 4.3 Anaphora

It can be shown in Hindi/Urdu that the reflexive *apn-* 'self' is subject oriented (Gurtu 1985, Mohanan 1994, Mahajan 1990). Once again, only two of the constructions (the 'result' and 'let' types) behave as if they have a single subject: in (22) and (23) respectively, there is only one possible antecedent for the reflexive.

### Result Type — Subject is Antecedent for the Reflexive

- (22) **anjum=ne<sub>i</sub>** saddaf=ko<sub>j</sub> **apn-e<sub>i,\*j</sub>** g<sup>h</sup>ar ke andar bula di-ya  
Anjum.F=Erg Saddaf.F=Acc self-Obl house.M.Gen.Obl inside call give-Perf.M.Sg  
'Anjum asked Saddaf into self's (Anjum's) house.'

### Let Type — Subject is Antecedent for the Reflexive

- (23) **anjum=ne<sub>i</sub>** adnan=ko<sub>j</sub> **apn-i<sub>i,\*j</sub>** ga<sup>r</sup>i cala-ne d-i  
Anjum.F=Erg Adnan.M=Dat self-F.Sg car.F.Sg.Nom drive-Inf.Obl give-Perf.F.Sg  
'Anjum let Adnan drive self's (Anjum's) car.'

In the 'tell' type, on the other hand, the 'driver' in (24) is a possible antecedent for the reflexive, making it look more like a subject of an embedded clause than the object of a simple clause.

### Tell Type — Object (embedded subject) is Antecedent for the Reflexive

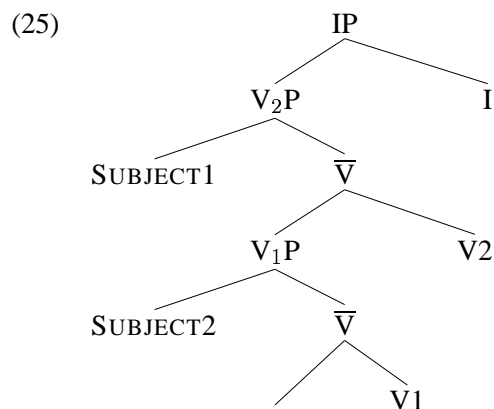
- (24) **anjum=ne<sub>i</sub>** **adnan=ko<sub>j</sub>** [**apn-i<sub>i,\*j</sub>** ga<sup>r</sup>i cala-ne]=ko kah-a  
Anjum.F=Erg Adnan.M=Dat self-F.Sg car.F.Sg.Nom drive-Inf.Obl=Acc say-Perf.M.Sg  
'Anjum told Adnan to drive self's (Adnan's) car.'

The three distinct diagnostics we have examined here provide clear and unambiguous evidence for the difference between our first two types (the 'result' and 'let' types) on the one hand, and the 'tell' type on the other. Light verb constructions of the former type are monoclausal from the point of view of agreement, control and anaphora; constructions of the latter type are biclausal according to all those diagnostics.

Thus, it seems clear that the ‘tell’ type must be treated as an instance of true subordination in which the V1 projects its own functionally complete (but nonfinite) phrase. This projection in turn then functions as the theta-marked argument of the higher verb V2. We remain agnostic here about the precise categorial nature of the V1 projection. As the projection of V1 is overtly case-marked, there is some reason to represent the projection as a DP. However, as the subordinate projection also determines its own complete functional complex and has the internal constitution of a verbal projection, a vP analysis would also be reasonable. We do not propose to resolve the naming problem with respect to this well-known issue in the treatment of gerunds/infinitives, but will stick to a vP label for concreteness.

A tree diagram for the biclausal construction is shown in (25) below (abstracting away from the decomposition of a Verb into v and V for the purposes of clarity).

#### Biclausal Analysis: The Tell Type



We will take it that the analysis of this biclausal complementation structure is relatively uncontroversial, and we will concentrate on the more problematic ‘result’ and ‘let’ constructions which do not fall neatly into either of our obvious preestablished categories. It is these constructions that challenge the neat division between biclausality and monoclausality.

#### 4.4 The Paradox of Complex Predicates

The central problem that this paper seeks to address, then, is the representation of complex predicates of the ‘result’ type and the ‘let’ type above. These two constructions can be shown to be neither simple auxiliary constructions nor biclausal complementation structures. Rather, both parts of the verbal complex seem to be implicated in the argument structure and case-marking possibilities of the construction, and both contribute to the overall aktionsart of the event. Given these facts, and given the close integrity of the two parts of the complex verb, it is tempting to classify them as purely ‘lexical’ constructions with no syntactic autonomy for the individual pieces. However, this view is clearly not correct. For both types of construction, the light verb may move away from the main verb under certain discourse conditions, in particular under topicalization, as shown in examples (26) and (27) (see Butt 1995 for more details).

- (26) lik<sup>h</sup> to nadya xat=ko l-e-g-i  
 write Top Nadya.F.Nom letter.M=Acc take-3.Sg-Fut-F.Sg  
 ‘As for writing, Nadya will be able to write a letter.’

- (27) lik<sup>h</sup>-ne to anjum=ne saddaf=ko ciṭṭ<sup>h</sup>i d-i  
 write-Inf.Obl Top Anjum.F=Erg Saddaf.F=Dat note.F.Sg.Nom give-Perf.F.Sg  
 ‘As for writing, Anjum let Saddaf write a note.’

Moreover, while there are certain selectional restrictions at work between the main and the light verb, the constructions are also productive, and have an underlying semantics that is regular and compositional: in the case of the ‘let’ type we consistently get the addition of a causer; in the case of the ‘result’ type, the addition of a telos. In our opinion, to ignore these regularities is to ignore an important generalization about the ways in which so-called ‘lexical’ meanings are built up. In what follows, we will argue that the different pieces of the complex predicates here are the instantiations of different heads within an kind of I-syntax (cf. Hale and Keyser 1993), or ‘first phase syntax’ (cf. Ramchand 2002) which is a syntax representing the finely articulated decomposition of the event structure and argument taking properties of predicational items. The paradox of complex predications of this type can be solved if we acknowledge that single lexical items in one language can be lexicalized as separate ‘pieces’ in another language; and that what we think of a lexical item with its argument structure is actually part of a combinatoric system of syntactic structure corresponding to an event structure decomposition.

We turn now to a description of the system and the set of assumptions we will be working with in our analysis of these constructions.

## 5 The Syntax and Semantics of Events

### 5.1 Background Assumptions

Under a neo-Davidsonian semantic representation (Davidson 1967, Higginbotham 1985, Parsons 1990), every verb contains an event position in its theta-grid, available for modification and theta-binding. Further, thematic roles are represented as separate relations connecting the event to an individual. See the representation of the simple sentence in (28).

- (28) Miriam drank 5 whiskies in the pub last night.  
 $\exists e[\text{drinking}(e; \text{‘Miriam’}, \text{‘5whiskies’}) \ \& \ \text{last-night}(e) \ \& \ \text{in-the-pub}(e) \ \& \ \text{Cul}(e)]$

Our approach will share the intuition of the neo-Davidsonian position that event variables are a crucial element in the logical representation of sentences. We will take this a little further, and assume that the event position classically taken to be associated with a single lexical item may actually be internally complex. In other words, we believe that certain complex events can be decomposed into subevents which are potentially events in their own right, but which can combine in a number of systematic ways to produce the more complex forms. The possibilities for event combination at this level are not simply mereological as in the lattice-theoretic approach of Link 1983, but correspond to two distinct types of event-event relation which we take to be part of the semantic ontology.

The first relation between events that we think is important is the relation of ‘causation’. This relation has already found favour in a number of recent approaches to event decomposition in the syntax (Hale and Keyser 1993, Ritter and Rosen 1998) and semantics (Dowty 1979, Jackendoff 1990, Levin and Rappaport Hovav 1995). The idea is that the event position corresponding to a transitive verb such as ‘build’ can be decomposed into two subevents related by causation where  $e_1$  is the causing or instigating force and  $e_2$  is the event of house-building (we follow Hale and Keyser’s notation in using  $\rightarrow$  to represent the relationship between the subevents in (29)).

- (29) build (e) *where*  $e = e_1 \rightarrow e_2$ : [cause-build( $e_1$ ) & process-build( $e_2$ )]

The reasons for this kind of decomposition in both the syntax and the semantics rest on actual linguistic generalizations concerning morphological relations and argument structure alternations, and this is not the place to rehearse them here. However, to the extent that the data from Hindi/Urdu fits neatly into this schema, it will provide additional empirical justification for the general approach.

The second important relation between events is that of telic augmentation. Once again, following much recent work (see Parsons 1990, Higginbotham 1999, and Levin and Rappaport Hovav 1998 for an analysis in terms of a differing kind of lexical decomposition) we assume that accomplishment predicates (in the Vendler 1967 sense) consist of two subevents of process and telos respectively in their representation. In (30) we show a representation of the subevents process ( $e_1$ ) and result state ( $e_2$ ) as based on proposals by Higginbotham 1999.<sup>12</sup>

(30) ‘cross the street’(e) *where*  $e = \langle e_1, e_2 \rangle$ : [process-cross( $e_1$ ) & result-of-crossing( $e_2$ )]

The event pair in angled brackets shown above can be called an ‘accomplishment event structure’, or a ‘telic pair’. We will follow the convention of using the angled brackets when we mean that the event positions in question are related in this very specific aspectual way.

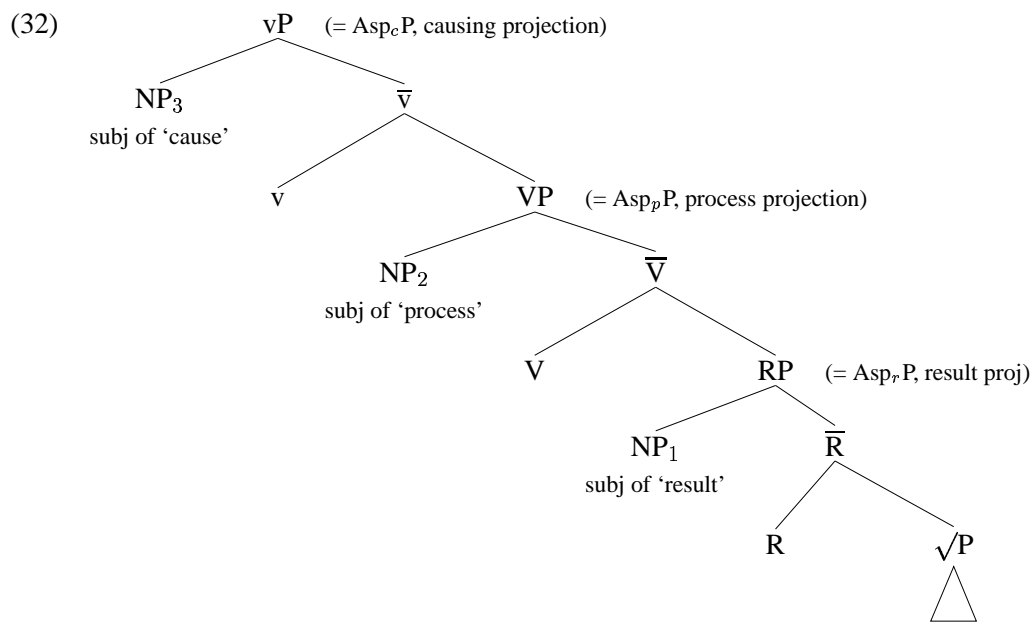
A number of further comments are in order. The two relations of causation and telic augmentation are the only primitives of the event combinatorial system which can be used to create complex events of the same logical type. Subevents themselves are not of a different ontological type from macro events—out of combination they are of the same order as simple processes or states. Consider something like an individual ‘apple’ which can have systematic and relevant subparts (skin, core seeds etc.) which could be labelled as individuals in their own right; this does not mean that ‘apple’ is anything other than an ordinary individual within the semantics. Similarly, the macro-event corresponding to a predication is just an event which happens to have sub-parts. For some linguistic purposes (anchoring to tense, adverbs and intersentential effects) this event is the only event variable manipulated or ‘seen’ by the logical relations. However, the evidence from aspectual semantics and internal morphology of verbs indicates that eventive sub-structure is linguistically real and follows certain strict syntactic and semantic generalizations.

It is also important to appreciate that unlike previous work in the literature, we are actually decomposing an event into a maximum of *three* potential subevents: causing event ( $e_1$ ), caused process ( $e_2$ ) and caused result state ( $e_3$ ). The full potential decomposition of a lexical accomplishment would thus look as in (31). (We assume in addition that a macro event position  $e$  exists which interacts with external processes of modification and tense interpretation and certain higher level adverbials.)

(31)  $e: e = e_1 \rightarrow \langle e_2, e_3 \rangle$

## 5.2 A First Phase Syntax

Many related proposals exist which seek to correlate the morphosyntax and the semantics of event structure in an intimate way (see Borer 1998, Diesing 1998, Ritter and Rosen 1998, Travis 1994, among others). The common idea behind these proposals is that the syntactic projection of arguments is based on event structure. We make a specific proposal here in proposing the event structure in (32)) where three event projections are necessary to represent all the possible components of the event structure building processes of natural languages:



As we see in (32), the verb phrase contains three different projections and each projection is an instantiation of a (possible) subpart of the whole event, corresponding to the semantic decomposition described above.

- vP introduces the causation event and licenses different types of external argument ('subject' of cause)
- VP specifies the nature of the change or process and licenses the entity undergoing change or process ('subject' of process)
- RP gives the 'telos' or 'result state' of the event and licenses the entity that comes to hold the result state ('subject' of result) .

For concreteness, we show here how we envisage the semantic interpretation of this structure being built up. Here we take particular nodes in the first phase syntax tree to denote relations between properties of events and properties of events, constructing more and more complex event descriptions. Under this more 'constructionist' view, neither events nor individual entities are arguments of the lexical item itself, but of the predicates introduced by the semantic interpretation of particular categorial nodes; however, like the neo-Davidsonian position, events and individuals are never all co-arguments of the same predicate, and they are discharged in different ways.

In what follows we lay out a kind of 'Post-Davidsonian' semantics which interprets the verbal heads of the I-syntax in a regular and systematic way. As discussed above, there are two primitive modes of sub-event composition to create complex events:

(33) Event Composition Rule I:

$e = e_1 \rightarrow e_2$  : e consists of two subevents,  $e_1$ ,  $e_2$  such that  $e_1$  leads to or causes  $e_2$   
(see Hale and Keyser 1993)

(34) Event Composition Rule II:

$e = \langle e_1, e_2 \rangle$  : e consists of two subevents,  $e_1$ ,  $e_2$ , such that  $e_1$  and  $e_2$  form an accomplishment event structure where  $e_1$  is the process portion and  $e_2$  is a state interpreted as the result state of the process. (see Parsons 1990, Higginbotham 1999)

There are a number of general primitive predicates over events corresponding to the basic subevent types:

- (35) a. State(e) : e is a state  
 b. Process(e): e is a process or transition  
 c. Causing(e): e is an initiational process or transition

Further, the objects of particular event types are interpreted according to the primitive role types defined as the relations between objects and events below:

- (36) a. Subject (x, e) and Causing(e) entails that x is the Initiator of e.  
 b. Subject (x, e) and Process(e) entails that x is the Undergoer of the process.  
 c. Subject (x, e) and State(e) entails that x is the Holder of the state.

The R head in the first phase syntax is interpreted as building a state description that has a particular 'holder' in its specifier position. Its semantic interpretation is given below:

- (37)  $[[ R ]] = \lambda P \lambda x \lambda e [P(e) \ \& \ \text{State}(e) \ \& \ \text{Subject}(x, e)]$

When the RP is selected by a process-introducing head, V, the Holder of the state is then the holder of a 'result'. We will label these special types of holders Resultees. The interpretation of the process-introducing head V, is given below. It takes an argument in its specifier position that is interpreted as the undergoer of the process, and a state description in its complement position that is interpreted as the result state:

- (38)  $[[ V ]] = \lambda P \lambda x \lambda e \exists e_1, e_2 [P(e_2) \ \& \ V'(e_1) \ \& \ \text{Process}(e_1) \ \& \ e = \langle e_1, e_2 \rangle \ \& \ \text{Subject}(x, e_1)]$

Finally, the highest verbal head v, is interpreted as an initiating event which leads to the (possibly complex) event constructed by the lower structure that it combines with. The specifier position of this projection is interpreted as the 'causer' or Initiator of the subevent:

- (39)  $[[ v ]] = \lambda P \lambda x \lambda e \exists e_1, e_2 [P(e_2) \ \& \ v'(e_1) \ \& \ \text{Causing}(e_1) \ \& \ e = e_1 \rightarrow e_2 \ \& \ \text{Subject}(x, e_1)]$

Given the semantics of these various heads, if the heads are not built up in the correct order, the derivation will at best converge as gibberish. Given the existence of this functional sequence, we will assume that the syntactic structures are freely built up by Merge, but that they have to be licensed by the presence of specific lexical items. One of the important features of this system is the way in which lexical items associate to this first phase syntax. Crucially, they do not *project* the first phase syntax, but simply associate their encyclopaedic lexical content with the semantic skeleton provided by the combinatoric system. There are dependencies in both directions: the syntactic structure needs to be licensed by explicit content to be interpretable at the interface; the lexical item can only associate with a node that matches the category features it is listed with. The category labels or 'tags' on lexical items are the only information we will find necessary to regulate their use, and moreover the minimal nature of the syntactically relevant information they have will be part of the solution to 'flexible' lexical use within a language.

While the details of the implementation are beyond the scope of this particular paper,<sup>13</sup> the main intuition is the following: if the lexical item is specified as having the particular category feature (v, V or R or some combination), the corresponding syntactic structure is licensed; nominal arguments are merged in the specifier positions of licensed projections and get the interpretation given by the union of the semantic compositional rules and the encyclopaedic information carried by the specific lexical item.

As we have seen, the specifier positions are interpreted systematically by the general semantic component as: Initiator, Undergoer and Resultee respectively. There are thus no thematic roles, only three

universal semantic rules triggered by syntactic structure. One major departure this proposal will make from other systems is that these specifier positions are not claimed to be mutually exclusive. In other words, it is possible for a single argument to be in more than one of these positions simultaneously (or have them linked together in an A-chain). This means that we are assuming that there is no  $\Theta$ -Criterion, and that the semantic interpretations of the positions so linked get unified. In principle, there is no incompatibility between the semantics of Initiator, Undergoer, Resultee, and so no violations will occur purely because of unification.

With respect to the particulars of the first phase syntax proposed, the elements of the ontology are those which have proved over the years to be minimally necessary to express the linguistically relevant argument structure and aspectual distinctions found in natural language. Thus, causation has been shown to be a relevant parameter in verbal differences and shows up very often as overt morphology within the verbal inventory of human languages (cf. Baker 1988, Hale and Keyser 1993, Ritter and Rosen 1998, Rappoport Hovav and Levin 2000). Telos or resultativity is also a component that has been shown to be isolable as a parameter in verbal meanings, and which has associated morphology and case marking reflexes in various languages (see for example Tenny 1994, Kiparsky 1998, van Hout 1996, Ritter and Rosen 1998, Borer 1998). The decomposition proposed here takes those generalizations seriously, and explicitly encodes subevents to represent each isolable component, each correlated with a functional projection in the ‘first phase syntax’. The projection VP, corresponding to the process component is the only one that we consider to be obligatory for all (non-stative) verbs since it represents the concept of change, a crucial component of any non-stative (in its most degenerate version can reduce to a single transition, but this for us still counts as change/process). The concept of change in this extremely general sense is a presupposed condition for the concepts both of initiation and result state.

We exploit these ideas of event structure decomposition and use the Hindi/Urdu V-V constructions as a test-bed for the formulation proposed here of the syntactic conditions on the ways that event building can occur in the grammar. We believe that causation and telic pair formation are the fundamental semantic combinatoric operations available in the grammars of natural language and that they are more primitive than other sorts of semantic relationships that can obtain between events. We believe further that the complex predicate data from Hindi/Urdu provides direct justification for the nature of the decomposition proposed here and its relationship to syntactic representation. The explicitly constructionalist view taken is also important because only such a view is able to make sense of the event structure flexibility of lexical items.

## 6 Analysis

### 6.1 The let Type: Light Verb as v

Recall that the ‘let’ type of construction showed syntactic evidence for monoclausality while still maintaining the two verbs as separable syntactic, semantic and prosodic elements. We therefore cannot assume a direct theta-marking relationship between the event introduced by V1 and that introduced by V2 for these constructions, since that would give rise to two distinct predicational domains. Further, the light verb cannot simply be a traditional kind of auxiliary because it has an effect on the argument structure and case marking properties of the clause.

In fact, if we inspect the relevant sentences closely, such as shown in (40), we can observe a number of interesting semantic characteristics.

- (40) a. nadya=ne    anjum=ko    nikal-ne    di-ya  
 Nadya.F=Erg Anjum.F=Dat emerge-Inf.Obl give-Perf.M.Sg  
 ‘Nadya let Anjum get out.’

- b. anjum=ne saddaf=ko xat lik<sup>h</sup>-ne di-ya  
 Anjum.F=Erg Saddaf.F=Dat letter.M.Nom write-Inf.Obl give-Perf.M.Sg  
 ‘Anjum let Saddaf write a letter.’

In all these cases, the arguments related to V1 include everything but the subject. The subject, on the other hand, is the external agent or causer of the whole V1 event. Moreover, the specific mode of causation (facilitation in the examples above) depends on the specific choice of V2.

Hindu/Urdu also possesses explicit morphemes (-*a/-va*) which indicate general causation. When the V1 verbs in the examples above are causativized using this morpheme, they can give rise to the same argument structure and case marking pattern as in the light verb constructions: compare (40a) with (41a) and (40b) with (41b).<sup>14</sup>

- (41) a. nadya=ne anjum=ko nikal-a  
 Nadya.F=Erg Anjum.F=Acc emerge.Caus-Perf.M.Sg  
 ‘Nadya pulled Anjum out.’
- b. anjum=ne saddaf=ko xat lik<sup>h</sup>-va-ya  
 Anjum.F=Erg Saddaf.F=Acc letter.M.Nom write-Caus-Perf.M.Sg  
 ‘Anjum had the letter written for Saddaf/taught Saddaf to write the letter.’

We believe it is no accident that causative semantics is associated with this type of light verb that displays the paradoxical properties we have outlined. If the light verb were actually part of the first phase syntax (or ‘lexical syntax’ in the Hale and Keyser sense) it would contribute the kind of meaning most commonly found within lexical items. It would show great integrity with the other portions of the first phase syntax, and affect the case marking and argument structure of a single ‘monoclauser’. Since it is part of the event structure decomposition of the *e* bound by tense, it will not show the properties of modifying auxiliaries or contribute to ‘external aspect’ (in the Verkuyl 1972 sense); rather, it will contribute to the aktionsart of the basic verbal event. We predict further that such an element would be distributionally and behaviourally distinct from heads that are external to the vP phase (auxiliaries). In addition, given the head-final typological character of this language, we find that the structure of the first phase syntax (proposed for independent semantic and linguistic reasons) predicts that a lexically instantiated little *v* head bearing causative semantics and determining the properties of the external argument, would *follow* a main verb that instantiated the V head.

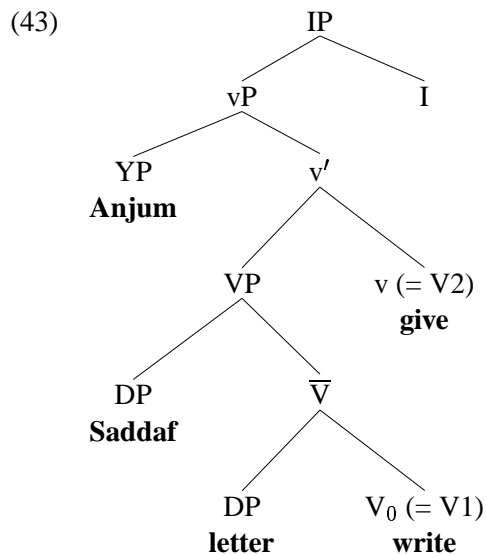
For these reasons, we assume that constructions of the ‘let’ type are complex lexical structures where the light verb (V2) is an overt instantiation of little *v* (see Diesing 1998 for a related proposal in which light verbs are situated in a special projection), and V1 is the main verbal predicate. Thus, the macro event ‘write-let’ actually represents two subevents, that of instigating an action (*e*<sub>2</sub>, the cause), which introduces an agent and implies the caused event *e*<sub>1</sub>, namely, the writing.<sup>15</sup>

In the representations that follow, we augment the argument structures of the individual pieces of the complex event to indicate the arguments that are associated with each subevent. We assume (following Ramchand 2002) that the verbs of the ‘write’ type do not obligatorily encode an RP (result phrase); the two arguments associated with ‘write’ are the specifier of the writing process (the entity doing the action) and the complement DP to that process head which describes the path of the writing event (the thing being written).<sup>16</sup>

- (42) V1=V=write(*e*; *y*, *z*) V2=*v*=Cause<sub>allow</sub>(*e*’; *x*, *e*’)  
 $\exists e: e = e_2 \rightarrow e_1$  [write(*e*<sub>1</sub>; ‘Saddaf’, ‘letter’) & Cause<sub>allow</sub>(*e*<sub>2</sub>; ‘Anjum’, *e*<sub>1</sub>)]  
 ‘Anjum is the causer/allower of a subevent of Saddaf writing a letter.’

As can be seen from the syntactic representation in (43), this analysis straightforwardly also accounts for the unmarked word order of the construction, and both the separability yet integrity of V1 and V2.





Another virtue of the analysis is that it can be immediately extended to account for some other constructions which show the same morphology as the ‘let’ construction shown above, but whose existence is not predictable under other approaches. In examples such as (44) below, we find two verbal heads but only one argument (as opposed to the construction above, where a causer argument was introduced).

- (44) nadya          ro-ne          lag-i  
 Nadya.F.Nom cry-Inf.Obl be.attached-Perf.F.Sg  
 ‘Nadya began to cry.’

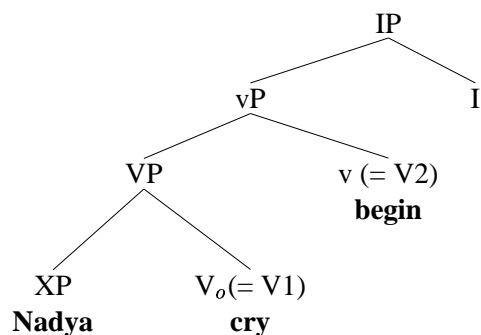
Because of the productive and essentially syntactic nature of our solution, we actually predict these examples to exist, once we allow for the possibility of a little *v* that is equivalent to a ‘raising’ head in specifically disallowing an external argument. The little *v* head in question (instantiated by the light verb *lag* ‘attach’) introduces the causing event, but introduces no explicit causer. In fact, these constructions end up having what has been called ‘inceptive’ semantics, where the main subevent simply comes into being with the external cause remaining unspecified.

Thus, there is some situation  $e_2$ , as expressed by the *v* head, which brings about the  $e_1$  event. The aspectual verb in *v* is still consistent with the general semantics of causation, but lexically provides a more specific semantics, that of inception.

- (45)  $V1=V=cry(e; x)$   $V2=v=Begin(e'; e'')$   
 $\exists e: e = e_2 \rightarrow e_1$  [crying( $e_1$ ; ‘Nadya’) & Begin( $e_2$ ;  $e_1$ )]  
 ‘Nadya begins to cry.’

Since the specifier of *vP* is not assigned, the argument of ‘cry’ eventually raises and is grammatically realized as the subject, presumably by being associated with some feature in the Inflectional domain.

(46)



We expect that due to Saussurean arbitrariness, there is nothing in principle which limits how specific the semantics of the light verb instantiating *v* can be. The only constraint is that it be some sort of mode of causation. The different light verbs we find in Hindi/Urdu which participate in the ‘let’ type construction (uniquely and independently identifiable by the morphology on the main verb) all have some flavour of initiational or causative semantics, although a detailed examination of all the different versions is precluded by considerations of space here.

## 6.2 The Result Type: Light verb as V

In this section we return to the question of the representation of the ‘result’ type of complex predicate. Recall that these V-V sequences also exhibited syntactic and semantic integrity with respect to our predicational diagnostics, which once again commits us to a monoclausal structure, even though these light verbs are clearly not auxiliaries. In addition, the ‘result’ type constructions seem to have accomplishment interpretations, regardless of the particular choice of light verb involved.<sup>17</sup> Semantically, then, this is an example of productive accomplishment formation.

Once again, we believe the apparent paradox of the behaviour of these constructions can be resolved if we see the meaning composition as being related to the event structure decomposition that takes place in a first phase syntax. We do not believe it is an accident that the creation of accomplishment semantics is associated with the paradoxical properties we have found. The first phase syntax motivated in the previous section, drawing on many empirical observations in the literature concerning argument structure alternations etc., isolates telic augmentation as one of the crucial modulations between related lexical items (either through productive morphological processes, or even ‘null’ derivation). Here we find that very same modulation, but this time mediated by the use of a light verb in a V-V construction. The collocation in question has properties that indicate integrity with respect to determining argument structure and event structure properties, just as one would expect from a single lexical item.

We take this as further confirmation of the linguistic reality of the decomposition of so-called ‘lexical’ meanings that we are calling first phase syntax. The test of the specific proposal lies in the very clear predictions it makes about the syntactic form of an accomplishment predicate if it were to be composed of distinct heads. Under the proposal being entertained here, the RP is the lowest down in the hierarchical ordering within the first phase syntax. We would therefore expect, in a descriptively head final language, that the individual piece of the structure that represents the final state attained would be linearly the first element of the construction. This indeed is what we find. In the ‘result’ type construction, the main verb V1 describes the final state achieved as a result of the event.

- (47) a. *nadya=ne xat lk<sup>h</sup> li-ya*  
Nadya.F=Erg letter.M.Nom write take-Perf.M.Sg  
‘Nadya wrote a letter (completely).’

- b. *nadya*            **gɪr ga-yi**  
 Nadya.F.Nom fall go-Perf.F.Sg  
 ‘Nadya fell (down).’

In (47a) a process occurs instigated by Nadya, as a result of which a letter comes to be written. In (47b) the result of the process here is that Nadya ends up ‘down’ or ‘fallen’. If we take the semantics seriously, ‘written’ in the first case, and ‘fallen’ in the second must end up under the R head in the first phase syntax since it describes the final state. In a closely related language, Bengali, the very same class of accomplishment complex predicates is found but in this language the morphology is clearer in that the V1 in the combination actually shows explicit perfect participle morphology ((48)), indicating the description of a result.

- (48) *ruma*            *ciṭʰi-ṭa*            **lik<sup>h</sup>-e**            **p<sup>h</sup>ello**  
 Ruma.Nom letter-Classifier write-PerfPart throw.3.Past  
 ‘Ruma wrote the letter completely.’

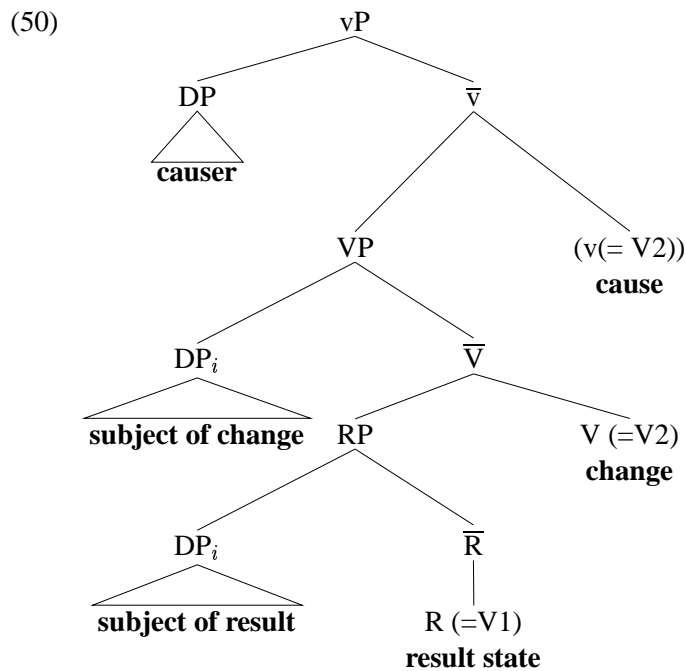
Note that analysing the V1 here as an R head is superficially at odds with the descriptive statement in the literature that the light verb in these constructions is what is responsible for adding the telicity (see Hook 1991, Singh 1994). However, the descriptive statement can easily be reconciled with the facts once we realize that it is the light verb that selects for an RP in this structure and thus in a way *is* responsible for the accomplishment reading, although the actual description of the final state achieved is V1. In fact, we can see that the crucial contribution of the V2 here is as the process descriptor, since it is this head that selects the RP. The existence of a little *v*, or causing component is not essential to this particular construction. In (46a) the complex predicate indicates a caused process that achieves a particular final state, but in (46b) there is no causer, just a process that is undergone and gives rise to a final state. In (46b), the light verb is an ‘unaccusative’ verb, which we take to mean that it does not identify a little *v* head at all.

If the V1 describes the final state achieved, then V2 must be responsible for instantiating the process head at least, and possibly the little *v* causal head as well in the case of light verbs derived from transitives. It is not unusual in itself for a single lexical item to identify both V and *v*, since under a decompositional account this is what main verbs do all the time. However, since the result of the process is V1, this forces the cause-process component of the meaning to be fairly abstract—in fact, light verbs like ‘take’, ‘give’ and ‘go’ found in this construction have fairly general meanings.

Thus, we propose that the schematic representation for a forms like (47a) would be as follows.

- (49)  $e: e = (e_1 \rightarrow) < e_2, e_3 >$

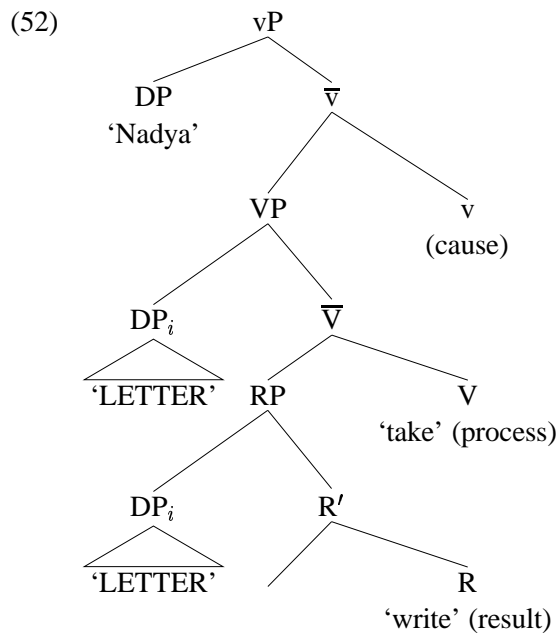
The contribution of the V2 is to provide the process part of the event (and also the *v* portion when it exists) while V1 represents the final state achieved.



A sample analysis of (47a) in terms of this notation is as in (51).

- (51)  $\exists e: e = e_1 \rightarrow \langle e_2 e_3 \rangle [ \text{CAUSE}_{take}(e_1; \text{'Nadya'}) \& \text{PROCESS}_{take}(e_2; \text{'letter'}) \& \text{RESULT}_{written}(e; \text{'letter'}) ]$   
 'Nadya instigates a process affecting a letter which has the result that the letter comes to be written.'

Another important thing about the semantics of this construction that can be noticed from the representation above, is that the argument that is said to undergo the change is the very same as the argument that achieves the final state, and that this identification is obligatory. We surmise that the identification of the specifier positions of RP and VP is a pre-condition for the semantic combinatoric operation of telic augmentation.



Under this view, the V2 verb *liya* ‘take’ is the spell-out of the head which is base generated in V and moves up to v, while the V1 verb *lik<sup>h</sup>* ‘write’ is base generated under R. Under the view of compositional event roles outlined in the previous section, the internal argument must be base generated in Spec, RP since it is the holder of the resulting state, but a copy is also merged in the specifier of VP, since it is the entity undergoing the change. The word order facts of the language make it impossible to show exactly where the DP in question is spelled out, since in principle either location would be consistent with preverbal order. In general terms, however, it is striking that the structure of the first phase syntax proposed makes exactly the right predictions for the order in which the subevents are instantiated, assuming head finality for this language.

### 6.3 Differences between the ‘let’ and ‘result’ types of Complex Predicate

Comparing the structures proposed for the ‘let’ type and the ‘result’ type, both constructions deserve the label of ‘complex predicate’, because in each type the two verbal heads are instantiations of heads within the first phase syntax. This gives them a privileged status in the constructing of the core event at the heart of the proposition and in the determination of argument structure and case marking. They demonstrate an internal integrity which is often found within single lexical items in more well known European languages.

There is a difference between the two types as well: in the ‘let’ construction, the light verb is simply the little v head and it determines its own ‘causer’ argument in Spec, vP; in the ‘result’ construction, the light verb instantiates the process head and the main verb the result head, but the argument in Spec, RP is the same as the argument in Spec, VP. Essentially, while in the ‘let’ construction it is possible to separate the contribution of the two parts of the complex predicate cleanly, each with its own arguments, in the ‘result’ construction, separating the light verb from the main verb would mean separating a verb from its direct argument.

There is in fact evidence for a difference in movement possibilities when the two constructions are compared closely with respect to scrambling. As we indicated before, both constructions can feed a topicalization structure where the light verb is fronted. However, in simple scrambling constructions, scrambling of main verb with its object away from the light verb is possible in the ‘let’ complex predicate (53), but not in the ‘result’ complex predicate (54).

- (53) a. anjum=ne saddaf=ko ciṭṭ<sup>h</sup>i [lik<sup>h</sup>-ne d-i]  
 Anjum.F=Erg Saddaf.F=Dat note.F.Sg.Nom write-Inf.Obl give-Perf.F.Sg  
 ‘Anjum let Saddaf write a note.’
- b. anjum=ne d-i saddaf=ko ciṭṭ<sup>h</sup>i lik<sup>h</sup>-ne
- c. anjum=ne ciṭṭ<sup>h</sup>i lik<sup>h</sup>-ne saddaf=ko d-i
- (54) a. nadya xat=ko lik<sup>h</sup> l-e-g-i  
 Nadya.F.Nom letter.M=Acc write take-3.Sg-Fut-F.Sg  
 ‘Nadya will be able to write a letter.’
- b. \*nadya lik<sup>h</sup> xat=ko l-e-g-i  
 Nadya.F.Nom write letter.M=Acc take-3.Sg-Fut-F.Sg  
 ‘Nadya will be able to write a letter.’

Although we do not have a specific syntactic analysis to offer here, we are confident that this pattern can be captured under an analysis where the direct object is licensed both by the light verb head and the main verb head in the ‘result’ complex predicate, but just by the main verb head in the ‘let’ complex predicate. The difference between topicalization and scrambling would be that the former, but not the latter ‘reconstructs’

(perhaps indicating that only the former is an actual movement process whereas the latter involves base generation).

Other differences between the two types of complex predicate seem to go suggestively in the same direction: the ‘result’ type shows more internal cohesion, while the ‘let’ type has more semantic and syntactic separability. Specifically, we find that modification by negation (and adverbials more generally), affects the two constructions differently, giving ambiguity in the ‘let’ case but not in the ‘result’ case.

The example below makes the point with negation, where only one reading for (55) is possible. The default placement of sentential negation is to the left of the verbal complex.

**Result Complex Predicates: Only Negation of the Verbal Complex possible**

- (55) a. nadya            xat            nahī lik<sup>h</sup> l-e-g-i  
 Nadya.F.Nom letter.M.Nom not write take-3.Sg-Fut-F.Sg  
 ‘Nadya will not be able to write a letter.’
- b. nadya            xat            lik<sup>h</sup> nahī l-e-g-i  
 Nadya.F.Nom letter.M.Nom write not take-3.Sg-Fut-F.Sg  
 ‘Nadya will not be able to write a letter.’

In the ‘let’ complex predicate negating the sentence gives rise to two different possible readings depending on whether V1 or V2 is interpreted as being negated. In (56a) and (56b) differing placement of the negative particle gives rise to different interpretations. The default placement of the negative as in (56a) gives rise to genuine ambiguity.

**The let Complex Predicate: Negation of each individual verb is possible**

- (56) a. anjum            saddaf=ko    har            nahī [bana-ne d-e-g-i]  
 Anjum.F.Nom Saddaf.F=Dat necklace.M.Nom not make-Inf.Obl give-3.Sg-Fut-F.Sg  
 ‘Anjum will not let Saddaf make a necklace.’  
 ‘Anjum will let Saddaf not make a necklace.’
- b. anjum            saddaf=ko    har            bana-ne    nahī d-e-g-i  
 Anjum.F.Nom Saddaf.F=Dat necklace.M.Nom make-Inf.Obl not give-3.Sg-Fut-F.Sg  
 ‘Anjum will not let Saddaf make a necklace.’
- c. anjum            har            nahī bana-ne    saddaf=ko    d-e-g-i  
 Anjum.F.Nom necklace.M.Nom not make-Inf.Obl Saddaf.F=Dat give-3.Sg-Fut-F.Sg  
 ‘Anjum will let Saddaf not make a necklace.’

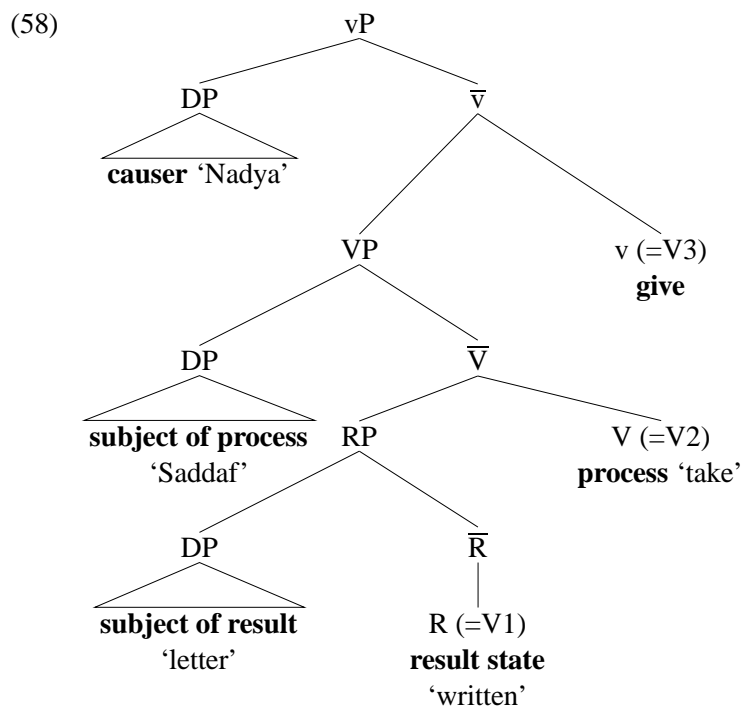
Again, we do not have a specific analysis of the syntax and semantics of negation, but one account of the difference between the two constructions would relate to the difference in constituency within the two vPs: in the ‘let’ case there are two separable subevents defined by the different verbal heads; in ‘result’ case the subevents licensed by the light verb and the subevent licensed by the main verb have an argument in common and are therefore not semantically separable in the relevant sense. The other possible account would simply be to say that negation (and other adverbials) can adjoin to vP and VP but not to RP. In any case it seems to be a general fact about lexical accomplishments that the process and the result are not separably modifiable (indeed these sorts of facts provided one of the most widely cited arguments against early generative semanticist decompositions of lexical items, and are used even now against them (cf. Fodor and Lepore 2002)). It is interesting that even in Hindi/Urdu, where the ‘accomplishment’ is being constructed

from separate lexical pieces, which can even be independently topicalized, ambiguity under adverbial modification is not found. This indicates (contra Fodor and Lepore) that the lack of ambiguity is due to some structural property of first phase syntax, rather than ‘integrity’ of a lexical item per se.

## 6.4 More Complex Embeddings

There is yet another obvious prediction that the specific syntax of the first phase makes. Given the existence of three heads in our first phase syntax decomposition, we predict that it should also be possible to fill all three heads explicitly with lexical items. This indeed turns out to be the case, with examples like (57) below. It is important to note that the prediction here is quite specific: the heads should combine in the linear order R, V v. In other words, in a three headed complex predicate V1 should take the bare form (being under R), V2 should be the inflected infinitive (being under V) and V3 should be the tensed causative verb v. This is exactly the combination that is attested, as shown in the example below.

- (57) nadya=ne      saddaf=ko      xat      **lk<sup>h</sup> le-ne**      **di-ya**  
 Nadya.F.Sg=Erg Saddaf.F.Sg=Dat letter.M.Nom write take-Inf.Obl give-Perf.M.Sg  
 ‘Nadya let Saddaf write a letter (completely).’



The opposite combination, where a ‘let’ type complex predicate is nested inside a ‘result’ type complex predicate is predicted to be ungrammatical because the ‘let’ light verb instantiates a v and thus “closes off” the functional complex. The result type light verb, on the other hand, only optionally instantiates v (but always instantiates V), so that it is possible to stack another light verb on top. To put it more concretely, while we would expect to find the ‘let’ light verb as the last predicative member of a verbal complex, we would not expect the opposite, i.e., a V1 in the oblique infinitive form, a V2 in the bare form followed by a tensed V3. Once again, this prediction is borne out and an example is shown in (59).<sup>18</sup>

- (59) \*/???nadya=ne      saddaf=ko      xat      **lk<sup>h</sup>ne**      **de di-ya**  
 Nadya.F.Sg=Erg Saddaf.F.Sg=Dat letter.M.Nom write-Inf.Obl give give-Perf.M.Sg  
 ‘Nadya completely let Saddaf write a letter.’

To summarize, we think that a constructional syntactic analysis of complex predicates is the most successful at dealing with the syntactic semantic and word order properties of these two types of V-V collocation. The special status of first phase syntax as the decomposition of the components within the core event structure of the clause accounts for its special properties in terms of the determination of argument structure, case marking and aktionsart, and also for the parallels to single lexical items across languages. The syntactic approach in addition, makes quite specific predictions about the interpretation, morphology and distributional properties of the individual lexical components that could be used to build up vPs in languages that have the appropriate lexical ingredients. Hindi/Urdu is such a language, and its complex predicates provide a wealth of data confirming many of those predictions.

## 7 Conclusion

In this paper, we have argued that there are three distinct types of V1-V2 constructions in Hindi/Urdu. Using the syntactic diagnostics made available by the language, we argued that one type, the ‘tell’ type, was a case of genuine syntactic and semantic subordination. The other two types are what we would call ‘complex predicates’ in the sense that V1 and V2 combine to form a single complete functional complex. In the ‘let’ type, we argued that V1 and V2 were lexical instantiations of V and v in the lexical structure respectively. In the ‘result’ type, we found that V1 and V2 instantiate R and V/(v) respectively, where R was the head of the projection representing the final state achieved by the direct object. We were able to account for the (sometimes surprising) aspectual readings within these complex predicates precisely because our view of event building allows us to posit a more complex interaction between parts of the syntax and the semantics.

If our analysis is correct, complex constructions in Hindi/Urdu are a test case which therefore offer striking syntactic, semantic and morphological evidence in favor of an event structure decomposition of the form proposed here ‘causation → < process, result >’ which can be seen to underlie verbal predication in natural language.

The ‘first phase’ syntax proposed here makes use of three basic components, or subevents, that are central to the analysis of these phenomena: the causing subevent vP; the process subevent, VP; and the result state subevent, RP. All of these components seem to be independently attested in the world’s languages, either within lexical items or across lexical items where they give rise to the kinds of paradoxes and clause union behavior we have found for Hindi/Urdu. We speculate that in addition to complex predicates in this and other languages, productive morphological causativisation, and resultatives can be profitably analysed using the same framework (see Folli and Ramchand 2002 for resultatives and goal of motion constructions in Italian and English; Dobnik 2002 for causative clause union constructions in Slovene; and Ramchand and Svenonius 2002 for an analysis of the Verb-particle construction in Germanic and Scottish Gaelic; Butt and Scott 2002 for an analysis of complex predicates in Chinese). The first phase syntax decomposition we propose and justify here makes quite specific predictions concerning the types of productive and compositional complex predications possible in natural languages, and the way in which they will be manifested syntactically. We leave extensions and modifications of this framework to further research.

One important corollary of this approach is that the notion of the lexicon and lexical information has been decomposed. We think that this more constructionalist view of the lexicon is justified in the light of the complex predicate data found in this and other languages.



## Endnotes

<sup>1</sup>A version of this paper was presented at the LAGB in Durham, September 2000, at the Workshop on Syntax and Predication in Berlin at the ZAS, and at the Workshop on the Syntax of Aspect, held at Beer Sheva. We would particularly like to thank the organizers of this latter workshop, Nomi Erteschik-Shir and Tova Rapoport, for presenting us with an opportunity to begin this collaboration and for putting together a volume of papers that arose out of that workshop. We would further like to thank the members of the various audiences for detailed feedback and questions. Individuals who discussed the issues at hand with us in quite some detail were David Adger, Raffaella Folli, Willi Geuder, Shin-Sook Kim, Chris Piñón, Biljana Scott and Peter Svenonius. We would like to thank them for their feedback and criticisms, which we have tried to take to heart. Most of Miriam Butt's contribution to this paper was made possible by the financial support obtained from the DFG (Deutsche Forschungsgesellschaft) via the SFB 471 at the University of Konstanz.

<sup>2</sup>See Hook 1974 for a detailed description, Butt and Geuder 2001 for a detailed examination of the range of uses of the light verb 'give', Bashir 1993 for a crosslinguistic perspective on the subtle ranges of meanings.

<sup>3</sup>The South Asian languages Urdu and Hindi are closely related. Both are among the 16 official languages of India and are spoken primarily in the north of India. Urdu is the national language of Pakistan. The data presented in this paper are drawn primarily from the dialect of Urdu spoken in Lahore, Pakistan, as well as from examples cited in the literature on both Urdu and Hindi.

<sup>4</sup>Case markers in Urdu are clitics. The clitic *ko* fulfills both dative and accusative functions. The phonologically null case is consistently glossed as nominative. For a detailed discussion of the case system of Urdu see Butt and King (2000a,b).

<sup>5</sup>Note that the 'force do' is actually a N-V complex predicate, but this fact does not make a difference for the purposes of this discussion (see Mohanan 1994 for an analysis of N-V complex predication in Hindi).

<sup>6</sup>The infinitive also functions as a verbal noun (Butt 1993, Butt 1995).

<sup>7</sup>Much of the material in this section duplicates argumentation in Butt and Geuder 2001.

<sup>8</sup>Modals are ignored for the purposes of this discussion, as they function more like main verbs.

<sup>9</sup>Mahajan 2001 points out some exceptional cases where the light verb alone does not determine the possibility of ergative case marking, but rather, the transitivity of the resulting form. (In the general case, the transitivity of the resulting V-V structure is determined by the light verb so that the two proposals are indistinguishable.) Mahajan's data do not cast doubt on our claim that the light verb is crucially implicated in argument structure and case licensing, but they do highlight the fact that it is the *combination* of the two verbal pieces that is important, and that the combinations are not trivially calculable on the basis of lexical notations. This idea is very much in the spirit of the proposals to be made in this paper—we are attempting to give a precise account of the way in which verbal heads combine and the syntax that underlies the argument structure properties that we find.

<sup>10</sup>Mohanan 1994 works in a framework which shares features with LFG (Lexical-Functional Grammar). Within LFG, this constraint is stated in terms of the SUBJ > OBJ grammatical function hierarchy, but the same generalization would be expressed in a Principles and Parameters framework in terms of the c-command relations in the base-generation of arguments. Also recall that nominative in this context refers to the phonologically null case used for subject and object arguments in the language.

<sup>11</sup>So-called Long Distance Agreement is possible in Urdu/Hindi, however, this phenomenon is not relevant here (see Butt 1993, 1995 and Bhatt 2002 for some discussion and further references).

<sup>12</sup>Note that we follow Bach 1986 in considering states a subtype of eventualities.

<sup>13</sup>But see Folli and Ramchand 2002 for a detailed syntactic implementation of lexical selection.

<sup>14</sup>With the *-va* causative it is also possible to have an optional instrumental marked argument, either in addition to the *-ko* marked argument, as in (ii) below, or instead of it as in (i). This instrumental can be

interpreted as a demoted agent.

(i) nadya=ne (anjum=se) xat lik<sup>h</sup>-va-ya  
Nadya.F=Erg (Anjum.F=Inst) letter.M.Nom write-Caus-Perf.M.Sg  
'Nadya had the letter written (by Anjum).'

(ii) nadya=ne anjum=ko (yassin=se) xat lik<sup>h</sup>-va-ya  
Nadya.F=Erg Anjum.F=Acc (Yassin.M=Inst) letter.M.Nom write-Caus-Perf.M.Sg  
'Nadya had the letter written for Anjum/taught Anjum to write the letter (by Yassin).'

We have nothing to say about these constructions here, beyond noting that the case marking patterns which parallel the complex predicate can also be found with causatives. See Butt (1998, 2002) and Saksena (1980, 1982) for a more detailed discussion of causativization patterns in Hindi/Urdu.

<sup>15</sup>Using an LFG linking approach, Butt 1998 explicitly argues for a three-place causative predicate, following Alsina 1996. Given the radically constrained coding of argument structure followed here, the three-place causative predicate cannot translate into anything but what is shown in (61).

<sup>16</sup>See Ramchand 2002 for a more detailed description of how different types of verb are represented in a system of first phase syntax. The only details that are relevant to our analysis here are the separation of the external argument and the little *v* head from the rest of the event structure decomposition.

<sup>17</sup>As mentioned, light verbs in 'result' complex predicates contribute many other semantic dimensions (e.g., benefaction, forcefulness, suddenness) to the predication. Butt and Geuder 2001 treat the contribution of this additional information as a type of adverbial modification, an approach that is compatible with the approach taken in this paper. However, we do not specify a treatment of these extra semantic dimensions here as our focus is on the mechanisms of event building.

<sup>18</sup>We would like to thank Rajesh Bhatt for confirmatory judgements in this matter.

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