

# **HINDI COMPLEX PREDICATES AT THE SYNTAX-SEMANTICS INTERFACE**

by

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# Abstract

The goal of this dissertation is to explore Hindi verbal complex predicates at the syntax/semantics interface using the lexicalist framework of HPSG. The enduring theoretical interest in complex predicates is undoubtedly due to the fact that in some aspects they pattern with prototypical words, whereas in other aspects they pattern with prototypical phrases. Complex predicates exhibit word-like properties in terms of argument structure, and in sometimes having lexicalized meanings. This dissertation focuses on verbal complex predicate constructions in Hindi, which are defined in terms of the combination of multiple verbs' argument structure and result in a single set of grammatical functions.

The discussion in this dissertation is focused on the relationship between the syntactic and semantic properties of Hindi complex predicate constructions. This work describes in detail two types of *aspectual complex predicate constructions*: the standard construction where the main verb precedes the light verb and the reverse construction where the main verb follows the light verb. The aspectual complex predicate construction is then compared with the *permissive construction*.

Empirical data is offered on the the various combinations of auxiliaries with both

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main verbs and complex predicates as well as on the various possible combinations of aspectual complex predicates. It has been argued that complex predicate formation takes place at the argument structure level and not at the phrase structure level (Butt, 1994). While this view correctly captures complex predicate formation for the standard complex predicate construction, taking phrase structure into account makes it possible to determine whether or not there is complex predicate formation. This is because not all complex predicate formation is equivalent. For example, in the case of the reverse construction, the complex predicate formation does not have the same properties of monoclausality and argument composition that the standard construction displays. Similarly, when the permissive verb selects for a VP-complement instead of a V-complement, it does not form a complex predicate construction. These facts argue for a partial dissociation of phrase structure and argument structure, and are represented here via a formal analysis within HPSG.

From a semantic perspective, this work shows that the various semantic notions assigned to light verbs are in fact pragmatic inferences. With respect to its aspectual content, light verbs are used in order to convey the notion of boundedness. Additionally, the meaning encoded by the light verbs is affectedness, defined either the *result* or the *consequence* of the event denoted by the main verb. By identifying the core semantic characteristics of Hindi light verbs, we see that not all light verbs encode the same semantics.

# Contents

<b>List of Figures</b>	<b>x</b>
<b>List of Tables</b>	<b>xi</b>
<b>1 Introduction</b>	<b>1</b>
<b>2 Verbal System</b>	<b>8</b>
2.1 Morphological Alternation . . . . .	9
2.1.1 Derivational Patterns . . . . .	9
2.1.2 Inflectional Patterns . . . . .	12
2.2 Verbal Affixes . . . . .	15
2.2.1 Imperfective . . . . .	15
2.2.2 Perfective . . . . .	17
2.2.3 Verbal Affixes and Case . . . . .	20
2.2.3.1 Ergative Case in Transitive Clauses . . . . .	24
2.2.3.2 Ergative Case in Intransitive Clauses . . . . .	27
2.3 Defining Verbal Categories . . . . .	32
2.3.1 Word Order . . . . .	35
2.3.2 Verb Selection . . . . .	38
2.3.3 Reduplication . . . . .	39
2.4 Permissive and Deontic LV . . . . .	41
2.4.1 Permissive . . . . .	41
2.4.2 Deontic . . . . .	42
2.5 Auxiliaries . . . . .	43
2.5.1 Non-Modal Auxiliaries . . . . .	44
2.5.1.1 Passive . . . . .	44
2.5.1.2 Progressive . . . . .	45
2.5.1.3 Tense/Perfect . . . . .	46
2.5.2 Modal Auxiliaries . . . . .	47

2.5.2.1	Potential . . . . .	48
2.5.2.2	Goal attainment . . . . .	48
2.5.2.3	Volition . . . . .	49
2.5.3	“Aspectual” Auxiliaries . . . . .	49
2.5.3.1	Inceptive . . . . .	50
2.5.3.2	Terminative . . . . .	51
2.5.3.3	Interim Summary . . . . .	52
2.6	Combinations of Verbs and Auxiliaries . . . . .	53
2.6.1	Main Verbs and Auxiliaries . . . . .	53
2.6.1.1	Main Verb + LV-Like Verbs + Non-Modals . . . . .	55
2.6.1.2	Main Verb + LV-Like Verbs + Modals . . . . .	56
2.6.1.3	Main Verb + Non-Modals + Modals . . . . .	58
2.6.1.4	Main Verb + LV-like Verbs + Non-modals + Modals . . . . .	62
2.6.1.5	Interim Summary . . . . .	65
2.6.2	Complex Predicates and Auxiliaries . . . . .	66
2.6.2.1	Main Verb + Light Verb + Auxiliaries . . . . .	66
2.6.2.2	Main Verb + Light Verb + LV-like Verbs + Non-modal Auxiliaries . . . . .	68
2.6.2.3	Main Verb + Light Verb + LV-like Verbs + Modal Auxiliaries . . . . .	69
2.6.2.4	Main Verb + Light Verb + Non-modal + Modal Auxiliaries . . . . .	70
2.6.2.5	Main Verb + Light Verb + LV-like Verbs + Non-modal + Modal Auxiliaries . . . . .	72
2.6.2.6	Other Acceptable Combinations Involving Complex Predicate Constructs . . . . .	73
2.6.2.7	Interim Summary . . . . .	74
2.6.3	Main Verbs and Light Verbs . . . . .	74
2.7	Mood . . . . .	81
2.8	Theoretical Implications . . . . .	81
2.8.1	Finiteness and Agreement . . . . .	82
2.8.2	Word Order . . . . .	83
2.9	Summary . . . . .	84
<b>3</b>	<b>Syntax of Complex Predicate Constructions</b>	<b>86</b>
3.1	Introduction . . . . .	86
3.2	Constituency of Aspectual Complex Predicate Constructs . . . . .	88
3.2.1	Movement . . . . .	91

3.2.2	Adverbial Modification . . . . .	93
3.2.3	Coordination . . . . .	94
3.2.4	Insertion . . . . .	97
3.2.4.1	Negation . . . . .	97
3.2.4.2	Discourse Clitics . . . . .	98
3.2.5	Range of Auxiliaries . . . . .	100
3.2.6	Summary . . . . .	101
3.3	Constituency of Permissive Complex Predicate . . . . .	102
3.3.1	Agreement . . . . .	103
3.3.2	Movement . . . . .	104
3.3.3	Coordination . . . . .	105
3.3.4	Insertion . . . . .	107
3.3.4.1	Negation . . . . .	107
3.3.5	Summary . . . . .	108
3.4	Headedness in Complex Predicates . . . . .	109
3.4.1	Defining headedness . . . . .	110
3.4.2	Argument-Verb Agreement . . . . .	111
3.4.3	Ergative Case and Complex Predicates . . . . .	113
3.4.4	Ergative Case and Auxiliaries . . . . .	119
3.5	Phrase Structure Representations . . . . .	121
3.5.1	Aspectual Complex Predicates . . . . .	123
3.5.1.1	Topicalization . . . . .	125
3.5.1.2	Coordination . . . . .	126
3.5.2	Permissive . . . . .	129
3.6	Theoretical Implications . . . . .	131
<b>4</b>	<b>Formal Syntactic Analysis</b>	<b>133</b>
4.1	Introducing HPSG . . . . .	135
4.2	Modeling Ergative Case Assignment . . . . .	137
4.3	Modeling Constituency Structure . . . . .	145
4.4	Modeling Complex Predicate Constructions . . . . .	150
4.4.1	Argument Composition . . . . .	151
4.4.1.1	HPSG vs. LFG . . . . .	151
4.4.1.2	Standard construction . . . . .	154
4.4.1.3	Permissive construction . . . . .	158
4.4.2	Reverse construction . . . . .	166
4.4.2.1	Head-modifier analysis . . . . .	166
4.4.2.2	Head-functor analysis . . . . .	169

4.4.2.3	Type-raising analysis . . . . .	171
4.4.3	Complex Predicates within Minimalism . . . . .	173
4.5	Summary . . . . .	174
<b>5</b>	<b>Semantic Contribution of Hindi Light Verbs</b>	<b>176</b>
5.1	Introduction . . . . .	176
5.2	Previous Analyses . . . . .	178
5.2.1	Diachronic Perspective: Aspectogenesis . . . . .	179
5.2.2	Synchronic Perspective: Inception/Completion . . . . .	180
5.2.3	Synchronic Perspective: Underspecification . . . . .	182
5.3	Theoretical Background . . . . .	184
5.3.1	Event-Argument Homomorphism . . . . .	184
5.3.2	Event to Scale Homomorphism . . . . .	186
5.4	Hindi Verbs and Telicity . . . . .	188
5.4.1	Main Verbs and Incompleteness Effect . . . . .	188
5.5	Light Verbs and Affectedness . . . . .	199
5.5.1	Subject-oriented “benefactive” light verbs . . . . .	202
5.5.1.1	Analysis of <i>le<sub>lv</sub></i> ‘take’ . . . . .	206
5.5.1.1.1	Self-affectedness . . . . .	207
5.5.1.1.2	Affectedness from the result of the action . . . . .	208
5.5.1.1.3	Affectedness from the consequence of the ac- tion . . . . .	209
5.5.1.2	Analysis of <i>de<sub>lv</sub></i> ‘give’ . . . . .	210
5.5.1.2.1	Non-self Affectedness . . . . .	211
5.5.1.2.2	Affectedness from the result of the action . . . . .	213
5.5.1.3	Identifying Discourse Referents . . . . .	215
5.5.1.4	Interim Summary . . . . .	216
5.5.2	Object-oriented “unexpected” light verb . . . . .	216
5.5.2.1	Analysis for <i>daal<sub>lv</sub></i> ‘put’ . . . . .	218
5.5.2.1.1	Affectedness from the result of action . . . . .	219
5.5.2.1.2	Affectedness from the consequence of the ac- tion . . . . .	223
5.5.2.2	Interim Summary . . . . .	225
5.6	Event-centered light verbs . . . . .	225
5.6.0.3	Negative Consequence . . . . .	225
5.6.0.4	Analysis of <i>baith<sub>lv</sub></i> ‘sit’ . . . . .	226
5.6.1	Sudden Consequence . . . . .	231
5.6.1.1	Analysis of <i>uth<sub>lv</sub></i> ‘rise’ . . . . .	232

5.6.1.2	Analysis of <i>paḍ<sub>lv</sub></i> ‘fall’ . . . . .	236
5.7	Light Verbs and Deixis . . . . .	239
5.7.1	Analysis of <i>jaa<sub>lv</sub></i> ‘go’ and <i>aa<sub>lv</sub></i> ‘come’ . . . . .	239
5.7.2	Analysis of <i>nikal<sub>lv</sub></i> ‘exit’ . . . . .	242
5.7.3	Analysis of <i>nikaal<sub>lv</sub></i> ‘remove’ . . . . .	244
5.8	Summary . . . . .	246
<b>6</b>	<b>Conclusion</b>	<b>247</b>
6.1	Addressing Question 1 . . . . .	250
6.2	Addressing Question 2 . . . . .	252
6.2.1	Indo-Aryan . . . . .	252
6.2.2	Dravidian . . . . .	255
6.3	Addressing Question 3 . . . . .	256
6.3.1	Dravidian . . . . .	256
	<b>References</b>	<b>259</b>

# List of Figures

2.1	Histogram: Number of MVs that an LV subcategorizes for in the Nep- spital dataset . . . . .	76
3.1	Two possible structures for the standard CP construction . . . . .	124
3.2	Two possible structures for the reverse CP construction . . . . .	124
4.1	Hindi Case Ontology . . . . .	138
4.2	Unacceptable element insertion . . . . .	149
4.3	Acceptable element insertion . . . . .	149
4.4	MV-LV in Standard Construction (Argument composition) . . . . .	155
4.5	MV-LV-Aux in Standard Construction (Argument composition) . . .	156
4.6	LV-MV in Reverse Construction (No argument composition) . . . . .	167
4.7	Reverse Construction: Head-modifier structure . . . . .	168
4.8	Double headed structure within Minimalism for the standard construc- tion . . . . .	174
5.1	Classification of Hindi verbs, adapted from Singh (1998) . . . . .	192

# List of Tables

1.1	Aspectual Light Verbs . . . . .	4
2.1	Future tense inflection for the verb <i>chal</i> (walk) . . . . .	13
2.2	Copula <i>ho</i> (be): present tense . . . . .	14
2.3	Copula <i>ho</i> (be): past tense . . . . .	14
2.4	The verb <i>chal</i> (walk) in the imperfective aspect . . . . .	16
2.5	Hindi case clitics . . . . .	21
2.6	Hindi case assignment: Transitive in Finite Clauses . . . . .	26
2.7	Examples of bodily function verbs . . . . .	29
2.8	Word order of Hindi verbs . . . . .	34
2.9	Syntactic tests for distinguishing auxiliaries and light verbs . . . . .	37
2.10	Word order of Hindi verbs . . . . .	54
2.11	<i>Main verbs in the dataset that appear with only one light verb (n=352)</i>	75
2.12	<i>Type frequency of main verbs that the light verbs select for in the Ne-</i> <i>spital dataset</i> . . . . .	77
2.13	Overlap of selected main verbs between different light verbs in type frequency . . . . .	79

## LIST OF TABLES

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2.14	Overlap of main verb selection between different light verbs in percentage	80
3.1	Subject case assignment in standard and reverse CP constructions . .	118
3.2	Comparing the three complex predicates constructions . . . . .	122
5.1	Classification of verbal predicates. Singh (1998:198) . . . . .	194

# Chapter 1

## Introduction

Tense and aspect markers encode concepts that are basic to human experience and are largely culturally independent in that they tend to be conceived of in a similar way across linguistic and ethnic boundaries. This dissertation focuses on such aspect markers, the Hindi light verbs and focuses on the kinds of complex predicate constructions that they form.

Defining complex predicates is not straightforward. In an important work on complex predicates, Alsina (1997) published a collection of papers covering a range of complex predicate constructions including resultatives, V-V compounds, preverb + V combinations, Noun + light verb constructions, noun incorporation, and the way-construction in English, among others. Complex predicates are defined as ‘predicates which are multi-headed; they are composed of more than one grammatical element (either morphemes or words), each of which contributes part of the information ordinarily associated with a head’. In a more recent collection by Amberber et al. (2010),

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the term complex predicate is used for a wide variety of constructions including, periphrastic causatives (*‘Mary made him go to the shop’*), verb particle combinations (*‘the child picked it up’*), resultatives (*‘they hammered the iron flat’*), consider + predicate combinations (*‘she considers him (to be) intelligent.’*). Part of the reason for the diversity of constructions that can make up complex predicates is that they have proven problematic for linguistic theory, particularly for typical distinctions between the lexicon, morphology, and syntax.

This dissertation focuses on constructions composed solely of verbs. In particular, I focus on verbal complex predicates, defined in terms of the combination of multiple verbs’ argument structure, resulting in a single set of grammatical functions i.e., they have one subject, one object, etc.<sup>1</sup> In depth, I describe the Hindi light verbs, markers that modify the complex predicates’s meaning and form a *complex predicate construction*. The set of Hindi light verbs is closed, and the most common of them are listed in Table 1.1. Some examples are shown in (1.1)-(1.7).

- (1.1) *main rasoi mein duud<sup>h</sup> kaaḍh aa-yii hun*  
 1SG kitchen in milk thicken:MV come-F.SG:LV be-PAST.1F  
 “I have left the milk to thicken in the kitchen (and moved on to other activity)”. (Nespital 1997:228, #1)

- (1.2) *naukrani ghar jaa-ne se pehle duud<sup>h</sup> kaaḍh ga-yii thii*  
 servant.F home go-INF INST before milk thicken:MV go-F.SG:LV  
 be-PAST.3.SG.F  
 “The (female) servant thickened the milk before leaving for home.” (Nespital 1997:228, #5)

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<sup>1</sup>I ignore other types of complex predicates that include nominals (cf. Mohanan (1994)).

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- (1.3) *mai=ne k<sup>h</sup>iir banaa-ne ke liye duud<sup>h</sup> kaadh di-yaa*  
 1SG=ERG pudding make-INF for milk thicken:MV give-M.SG:LV  
 “I thickened the milk in order to make pudding.” (Nespital 1997:228, #7)
- (1.4) *custard banaa-ne ke liye leela=ne thodaa-sa duud<sup>h</sup> kaadh li-yaa*  
 custard make-INF for Leela=ERG little milk thicken:MV  
 take-M.SG:LV  
 “Leela thickened a little milk to make custard (for herself, for a special purpose).” (Nespital 1997:228, #10)
- (1.5) *be-khayaali mein vah itnaa jyaadaa duud<sup>h</sup> kaadh baith-ii ki rabdii ban ga-yii*  
 without-thought in 3SG this much milk thicken:MV  
 sit-F.SG:LV that rabdii make:MV go-F.SG:LV  
 “Without thinking she thickened the milk so much that it became custard. (regrettably).” (Nespital 1997:228, #8)
- (1.6) *mehmaanoon ke liye custard banaa-ne ke liye mai=ne frij mein pad-aa saaraa duud<sup>h</sup> kaadh daal-aa*  
 guests for custard make-INF for 1SG=ERG fridge in  
 fall-M.SG all milk thicken:MV fall-M.SG:LV  
 “To make custard for the guests, I thickened all the milk in the fridge (a fairly large quantity).” (Nespital 1997:228, #6)
- (1.7) *duud<sup>h</sup> k<sup>h</sup>araab na ho jaae, is K<sup>h</sup>ayaaal=se mai=ne bachaa hua saaraa duud<sup>h</sup> kaadh chod-aa t<sup>h</sup>-aa*  
 milk bad NEG be go, this thought=INST 1SG=ERG remaining  
 be all milk thicken:MV leave-M.SG:LV be-PAST.M.SG  
 “So that the milk doesn’t go bad, I had thickened all the leftover milk (as a precaution).” (Nespital 1997:228, #4)

The point of the above examples is to show the wide range of light verbs available in Hindi. Light verbs contribute some aspectual notion as well as other subtle se-

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mantic notions. As this dissertation will show, boundedness is the aspectual notion that these light verbs convey.

Additionally, these light verbs are syntactically distinct from auxiliaries. This dissertation discusses the various types of possible interactions between the light verbs and auxiliaries in Hindi, and it is shown in Chapter 2 that some of these interactions take on a templatic format.

Transitive light verbs	Intransitive light verbs
<i>de</i> ‘give’	<i>aa</i> ‘come’
<i>le</i> ‘take’	<i>jaa</i> ‘go’
<i>ḍaal</i> ‘put’	<i>paḍ</i> ‘fall’
<i>nikaal</i> ‘remove’	<i>nikal</i> ‘leave’
<i>maār</i> ‘hit’	<i>uth</i> ‘rise’
	<i>baith</i> ‘sit’

**Table 1.1:** Aspectual Light Verbs

In addition to the templatic format of the light verbs and auxiliaries, Hindi also has multiple other types of complex predicate constructions. Aspectual complex predicates (ACP) can be formed by a light verb following a main verb, as shown in the the above set of examples or in (1.8). Aspectual complex predicates are also formed when a light verb precedes a main verb, as shown below in (1.9).

- (1.8) *raam=ne Leela=ko tamaachaa maar di-yaa*  
 Ram=ERG Leela=DAT slap.M.SG hit:MV give-M.SG:LV  
 ‘Ram slapped Leela (hit Leela with a slap).’ (constructed)

- (1.9) *raam=ne Leela=ko tamaachaa de maar-aa*  
 Ram=ERG Leela slap.M.SG give:LV hit-M.SG:MV  
 ‘Ram slapped Leela (hit Leela with a slap).’ (constructed)

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I call the construction where the main verb is followed by a light verb a *standard aspectual complex predicate construction* (1.8), as this structure is not only more common in Hindi (Butt, 1994), it is also standard for a head-final language where the head verb is expected to appear at the end. When the order of the main and light verbs is reversed, the finite light verb precedes the non-finite main verb (1.9), and therefore the construction that is formed is a *reverse aspectual complex predicate construction*. Although the syntactic structure of the standard complex predicate construction has been well-studied since Hook (1975), the reverse complex predicate construction has been largely ignored, partly due to the fact that the reverse complex predicate construction occurs much less frequently than the standard complex predicate construction.<sup>1</sup>

Finding examples with the reverse construction is more difficult because certain selectional restrictions apply with respect to the types of verbs that can appear in the reverse construction. Fewer light verbs can appear in the reverse construction than in the standard construction. And with respect to main verbs, Hook (1975) shows that typically verbs of running, throwing, hitting and breaking are all able to form a reverse complex predicate and verbs that do not fall into these categories do not form a reverse construction.

- (1.10) a. *us=ne*                      *gilaas*                      *toḍ*                      *di-yaa*  
              PRON.3.SG=ERG   glass.M.SG   break:MV   give-M.SG:LV  
              ‘He broke the glass.’

- b. *us=ne*                      *gilaas*                      *de*                      *toṛ-aa*  
              PRON.3.SG=ERG   glass.M.SG   give:LV   break-M.SG:MV

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<sup>1</sup>It will be shown later that the reverse construction does not form a ‘complex predicate’ in the same way as the standard ACP and the permissive construction.

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‘He broke the glass.’

- (1.11) a. *us=ne*                      *gilaas*                      *banaa*                      *di-yaa*  
PRON.3.SG=ERG    glass.M.SG    make:MV    give-PERFV.M.SG:LV  
‘He made the glass.’
- b. \**us=ne*                      *gilaas*                      *de*                      *banaa-yaa*  
PRON.3.SG=ERG    glass.M.SG    give:LV    make-M.SG:LV  
‘He made the glass.’

As the above examples show, it is possible to say that the glass was broken by using both standard (1.10a) and reverse (1.10b) complex predicate constructions, but to say that the glass was made, we can only use a standard (1.11a) but not a reverse construction (1.11b).

The aspectual complex predicate constructions are different from other types of complex predicate constructions in Hindi. For instance, the permissive complex predicate construction is formed by a special usage of the verb *de* ‘give’ where it induces the notion that the agent permits the patient to do something, as illustrated below.

- (1.12) *raam=ne*    *leela=ko*    *xat*                      *likh-ne*                      *di-yaa*  
Ram=ERG    Leela=DAT    letter.F.SG    write-INF:MV    let-M.SG  
‘Ram let Leela write a letter.’ (constructed)

Using data from such constructions, I look at the relationship between the syntax and semantics of Hindi complex predicates. My goal is to answer the following questions:

- (1.13) 1. Is there any evidence for treating light verbs as a separate syntactic class from other functional elements, such as auxiliaries, in Hindi?

- 
2. Is there variation in the syntactic and semantic headedness in the various complex predicate constructions and can this variation be predicted (on the basis of semantics or other factors)?
  3. What are the semantic contributions of light verbs?

The first question is discussed in Chapter 2. It is shown that light verbs differ from auxiliaries in terms of verbs that they can combine with as well as word order. I additionally compare combinations of auxiliaries with main verbs, and combinations of auxiliaries and complex predicates. I show that combinations of main verbs with auxiliaries are less restricted than combinations of complex predicates and auxiliaries. That is, fewer auxiliaries appear with complex predicate constructions than with just main verbs.

The second question is discussed in Chapter 3 where I discuss the standard and the reverse complex aspectual predicate constructions, as well as the permissive. I show that the combination of the main verb and light verb is not a morphological operation. While the standard construction adheres to the “standard” word order of Hindi, in that the light verb follows the main verb, the reverse construction “reverse” it. I compare the three constructions with respect to factors that determines syntactic headedness, in particular agreement and case assignment. The variation in headedness that emerges between the standard and the reverse construction is modeled via a formal analysis within HPSG in Chapter 4. Specifically, I propose a lexically-induced argument composition for the standard aspectual complex predicate construction. Finally, the semantic contributions of the individual light verbs are discussed at length in Chapter 5.

# Chapter 2

## Verbal System

In this chapter, I describe the derivational and inflectional patterns in the Hindi verbal system in §2.1. The verbal system is defined here in terms of the various functional elements which fulfill temporal, aspectual and modal functions in Hindi. The relevant functional elements may be realized *synthetically*, i.e., as an affix on the main verb, or *periphrastically* i.e., by two or more co-occurring syntactic atoms, adapting the terminology from Ackerman and Stump (2004) (also see Ackerman et al. (2006)). For instance, as this chapter will show, modals and other auxiliaries are realized as independent lexical items whereas the future tense is marked by an affix. I describe the various verbal affixes with which the Hindi verb root can combine in §2.2. The purpose of this chapter is to determine whether such functional elements have a marked morphosyntactic behavior that distinguishes them from light verbs. I outline the criteria for defining verbal categories in §2.3 and discuss the individual verbal categories in §2.4 and §2.5. I propose that main verbs, light verbs, and auxil-

## 2.1 Morphological Alternation

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iaries, which have the same lexical forms, are distinguishable from a morphosyntactic perspective primarily in terms of word order and to a lesser degree via the type of verbs they select. Other criteria, such as the finiteness of the main verb that the auxiliary combines with do not appear to be useful in terms of distinguishing between these categories.

While discussing the Hindi verbal system, the general tendency is to treat the complex predicate constructions as equal in all syntactic terms to the main verb (Hook, 1975; Butt, 1994). However, I show in this chapter that the complex predicate construction is more restrictive with respect to auxiliary combinations. The various combinations of main verbs with auxiliaries are described and contrasted to the combinations of complex predicates and auxiliaries in §2.6. It is shown that complex predicates combinations are more restrictive. Additionally, the various combinations of main verbs and light verbs are also investigated and it is shown that different light verbs vary in terms of the type and token frequency of the main verbs they combine with. Finally, I describe the theoretical implications of word order constraints and predicate selection in §2.8.

## 2.1 Morphological Alternation

### 2.1.1 Derivational Patterns

In the Hindi verbal system, transitive verbs are derived from intransitive verbs. This is done typically by lengthening the root vowel. Some examples are listed below. The transitive-intransitive alternation in Hindi is encoded in terms of vowel

## 2.1 Morphological Alternation

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alternations, making Hindi a typically “causative” language within Haspelmath’s (1993) classification. In fact, Montaut (2004:85-87) shows that 22 out of the 30 basic verb items listed in Haspelmath’s 1993 list of causative derivations are present in Hindi.

(2.1) Hindi root derivational pattern: vowel lengthening

<b>Intransitive</b>	<b>Transitive</b>
<i>mar</i> ‘die’	<i>maar</i> ‘hit/kill’
<i>k<sup>h</sup>ul</i> ‘open’	<i>k<sup>h</sup>ol</i> ‘open’
<i>mud</i> ‘turn’	<i>mod</i> ‘turn’

In addition to vowel lengthening, transitive verbs are also derived by vowel strengthening, specifically by suffixing the intransitive verb root with *-aa*.

(2.2) Hindi root derivational pattern: vowel strengthening

<b>Intransitive</b>	<b>Transitive</b>
<i>hil</i> ‘move’	<i>hilaa</i> ‘move’
<i>ur</i> ‘fly’	<i>uraa</i> ‘fly’
<i>bac</i> ‘escape’	<i>baaa</i> ‘save’

Both alternations increase the number of arguments of the predicate. They not only derive two-place predicates (transitives) from one-place predicates (intransitive), but also three-place predicates (ditransitive) from two-place predicates. An example of a two- versus three- place predicate is illustrated in (2.3-2.4, adapted from Montaut (2004:86)), with *parh* ‘learn/read’ versus *parhaa* ‘teach’ respectively.

(2.3)	<i>bacce</i>	<i>hindi</i>	<i>parh-te</i>		<i>hai</i>
	children	Hindi	learn/learn.CAUS-HAB.PL		be-PRES.3.PL

## 2.1 Morphological Alternation

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‘Children learn/read Hindi.’

- (2.4) *adhyaapak baccō=ko hindi paṛhaa-t-aa hai*  
teacher children=DAT Hindi teach-HAB-M.SG be-PRES.3.SG  
‘The teacher teaches Hindi to the children.’

In addition to the apophony illustrated above, a handful of verbs exhibit irregular formation; for instance, the causative form of *k<sup>h</sup>aa* ‘eat’ is *k<sup>h</sup>ilaa* ‘cause to eat’. See Montaut (2004:87) for a comprehensive list.

Causative and non-causative forms are also derived in Hindi by adding an affix. The *-aa* morpheme attaches to the intransitive verb *sīk<sup>h</sup>* ‘learn’ (2.5) to derive a transitive form involving ‘direct’ causation (2.6). The *-vaa* morpheme attaches to the same intransitive root to derive a transitive form (2.7) that embodies an indirect causation.

- (2.5) *lakṛii jal-ii*  
wood.F burnINTR-F.SG  
‘Wood burned.’

- (2.6) *raam=ne lakṛii jalaa-yii*  
Ram=ERG wood.F burnTR-F.SG  
‘Ram burned the wood.’

- (2.7) *raam=ne lakṛii jal-vaa-yii*  
Ram=ERG wood.F burn-CAUS-F.SG  
‘Ram caused the wood to burn.’

The suffixes *-aa* and *-vaa* do not show a difference in distribution and attach essentially to the same root.

### 2.1.2 Inflectional Patterns

All Hindi verbs (except the copula, which is separately discussed below) inflect for the number and gender of the highest unmarked (nominative) argument, in terms of grammatical relations, in the clause. The finite verb agrees with the subject if it is unmarked (2.8). If the subject is marked for case, then agreement shifts to the verb and the object. The verb agrees with the object if it is unmarked, as shown in (2.9) and (2.10). When there is no unmarked argument in the clause, the verb receives a default masculine singular inflection, as shown in (2.11).

- (2.8) *leelaa g<sup>h</sup>ar aa-ii*  
 Leela.F home.M.SG come-PRES-F.SG  
 ‘Leela came home.’

- (2.9) *leelaa=ne g<sup>h</sup>ar k<sup>h</sup>ariid-aa*  
 Leela.F=ERG house.M.SG buy-M.SG  
 ‘Leela bought a house.’

- (2.10) *leelaa=ne gaarii k<sup>h</sup>ariid-ii*  
 Leela.F=ERG vehicle.F.SG buy-F.SG  
 ‘Leela bought a vehicle.’

- (2.11) *leelaa=ne gaarii=ko beech-aa*  
 Leela.F=ERG vehicle.F.SG=DAT sell-M.SG  
 ‘Leela sold the vehicle.’

The verb *aa* ‘come’ in (2.8) agrees with the unmarked subject.<sup>1</sup> But when the subject is marked, as in the case of (2.9)-(2.11), then verb agreement shifts to the

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<sup>1</sup>See Mohanan (1994:120-138) for a discussion on the status of grammatical subjecthood in Hindi.

## 2.1 Morphological Alternation

next highest argument. In (2.9), the verb inflects for masculine gender because the direct object *g<sup>h</sup>ar* ‘house’ is masculine, and similarly in (2.10), the verb inflects for feminine gender. By default, if all arguments are marked, then the verb inflects for masculine gender, as in the case of (2.11).

	<b>SG</b>	<b>PL</b>	<b>FORMAL</b>	<b>INFORMAL</b>
	<b>M/F</b>	<b>M/F</b>	<b>M/F</b>	<b>M/F</b>
<b>1ST</b>	chal-ũgaa/ii	chal-ẽge/ii	–	–
<b>2ND</b>	chal-egaa/ii		chal-ũgaa/ii	chal-oge/ii
<b>3RD</b>	chal-ũgaa/ii	chal-ẽge/ii	–	–

**Table 2.1:** Future tense inflection for the verb *chal* (walk)

This pattern is followed by all Hindi verbs with two exceptions. The first exception concerns the future tense, which is marked by the suffix *-g* on the base verb. This suffix originates from the Sanskrit verb *gam* ‘go’ and inflects for person, number, as well as gender. The inflectional pattern is exemplified in Table 2.1 for the verb *chal* ‘walk’.

The second exception is the Hindi copula, which is used to code a perfect construction. The copula follows a different inflectional pattern for historical reasons (Butt and Lahiri, 2003). Tables (2.2) and (2.3) show the various forms of the present and past tenses of the copula respectively. In the present tense, the copula inflects for person and number of the highest unmarked argument (Table 2.2). In the past tense, the copula has a suppletive paradigm (*t<sup>h</sup>-*) and inflects for number and gender (Table 2.3).<sup>1</sup> The paradigm is defective: for instance, there is no 2<sup>nd</sup> person plural form of the copula.

<sup>1</sup>The past tense is derived from a former past participle in Sanskrit.

## 2.1 Morphological Alternation

	SG	PL	FORMAL	INFORMAL
<b>1ST</b>	hũ	hãĩ	–	–
<b>2ND</b>	hai	–	hãĩ	ho
<b>3RD</b>	hai	hãĩ	–	–

**Table 2.2:** Copula *ho* (be): present tense

	SG	PL
	M/F	M/F
<b>1ST</b>	t <sup>h</sup> -aa/ii	t <sup>h</sup> -e/ĩ
<b>2ND</b>	t <sup>h</sup> -aa/ii	–
<b>3RD</b>	–	t <sup>h</sup> -e/ĩ

**Table 2.3:** Copula *ho* (be): past tense

Agreement patterns for the copula in the present and past tense is the same as for other Hindi verbs i.e., the highest unmarked argument agrees with both the main verb and the copula. There is a difference, however, with respect to what is marked on each verb. While the main verb inflects for number and gender, the copula inflects for person and number. This is illustrated in (2.12 and 2.13) respectively.

- (2.12) *laṛki-yãã bazaar gaa-yĩ hãĩ*  
 girls.F-**PL** bazaar go-**F.PL** be.PRES.**3.PL**  
 ‘The girls have gone to the bazaar.’

- (2.13) *laṛki-yãã bazaar gaa-yĩ t<sup>h</sup>-ĩ*  
 girls.F-**PL** bazaar go-**F.PL** be.PST-**3.PL**  
 ‘The girls had gone to the bazaar.’

The above examples illustrate that the copula inflects for person and number in the present and past tense, which in this case is 3.PL. I will return to the tense

copula in the context of auxiliaries later. I now turn to affixes that can be included in finite Hindi verbs, particularly in the context of aspect.

## 2.2 Verbal Affixes

The above discussion has focused on the verb root. I now turn to the various suffixes with which the Hindi verb root can combine. The lexeme in its base infinitive form can combine with the *-naa* suffix to form a *to*-infinitive e.g., *kah* ‘say’ → *kah-naa* ‘to say’. The suffix can inflect for gender and number. In its finite form, Hindi verbs are assigned affixes that have traditionally been described in terms of an aspectual opposition. The verb root can either combine with the so-called perfective suffix *-(y)aa/ii*, or with the habitual suffix *-t*.

The above list of verbal affixes is relatively straightforward. However, it is complicated by the fact that the perfective suffix does not necessarily appear to be perfective. In fact, I suggest that the *-(y)aa/ii* suffix appears to function as an agreement marker. The classification of aspectual oppositions described in Comrie (1976:25) distinguishes between *imperfective* and *perfective*, and is based under the assumption that all languages that grammaticalize aspect distinguish between at least these two classes.

### 2.2.1 Imperfective

Imperfective markers code an “explicit reference to the internal temporal structure of a situation” (Comrie 1976:23). Imperfective markers are further subdivided into

*habitual*, and *continuous*; the latter is further subdivided into *progressive* or *non-progressive*. While the habitual category can be described as a way to describe situations that last an extended period of time, continuous is defined as “imperfectivity that is not occasioned by habituality” (1976:33) and progressive is “continuousness combined with non-stative meaning” (1976:35).<sup>1</sup> From a cross-linguistic perspective, data from work by both Dahl (1985) and Bybee et al.(1994:139) indicates that while it is possible to define progressives as a cross-linguistically recurrent and possibly widespread category with at least a shared prototype, the same cannot be said of continuous morphemes.

For Indo-Aryan languages, including Hindi, the imperfective category has been split into two distinct paradigms, namely the habitual and the progressive (Masica 1991:274). The verbal paradigm representing imperfective aspect in Hindi is illustrated in Table 2.4 for the verb *chal* (walk).

	<b>habitual</b>	<b>progressive</b>
	<b>m/f</b>	<b>m/f</b>
<b>sg</b>	chal-t-aa/-t-ii	chal rah-aa/rah-ii
<b>pl</b>	chal-t-e/-t-ii	chal rah-e/rah-ii

**Table 2.4:** The verb *chal* (walk) in the imperfective aspect

The habitual is encoded by adding the suffix *-t* to the verbal base (2.14-2.15), and the progressive is signaled by the verb *rah* ‘stay’ and denotes continuous action (2.16).

- (2.14) *Leela*     *g<sup>h</sup>ar*             *aa-t-ii*  
           Leela.F   home.M.SG   come-HAB-F.SG

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<sup>1</sup>Comrie does not define non-progressive at all.

‘Leela used to/would come home.’

- (2.15) *Leela g<sup>h</sup>ar aa-t-ii hai*  
 Leela.F home.M.SG come-HAB-F.SG be.PRES.3.SG  
 ‘Leela comes home.’

- (2.16) *Leela g<sup>h</sup>ar aa rah-ii hai*  
 Leela.F come home.M.SG stay.PROG:F.SG be.PRES.3.SG  
 ‘Leela is coming home.’

I now discuss the perfective aspect ascribed to some Hindi verbal affixes.

### 2.2.2 Perfective

As noted before, finite Hindi verbs appear with the suffix  $-(y)aa/ii$ . This suffix has been considered the simple past, perfective (Hook 1974), neutral perfective (Singh 1990, 1998), and aorist (Montaut 2004).<sup>1</sup> In what follows, I demonstrate that the  $-(y)aa/ii$  suffix marks only agreement. The aspectual perspective that is associated with the finite verb’s clause is computed in accordance with principles of Gricean pragmatics (cf. Bohenmeyer and Swift (2004) for a similar analysis of German, Inuktitut, and Russian).

In terms of distribution, the  $-(y)aa/ii$  suffix can appear with every verb in Hindi but is not used in the infinitive or imperative – a characteristic present in languages that have a perfective/imperfective opposition, e.g., in the Slavonic languages. The

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<sup>1</sup>The  $-(y)aa/ii$  suffix is similar to the inflection carried by nominals and adjectives in the language. By default, all nouns and adjectives in Hindi are assigned gender:  $-aa$  for masculine, and  $-ii$  for feminine e.g., *laṛkaa* (boy) or *laṛkii* (girl). They are also inflected for number (singular by default, plural by nasalizing the masculine or feminine inflection) e.g., *laṛkō* (boys) or *laṛkiyā* (girls). See Kachru (1980) or Montaut (2004) for additional descriptions.

distribution of  $-(y)aa/ii$  has been the primary reason for considering this suffix a perfective marker (Hook, 1975). However, this suffix can appear with the *verb constellation* (main verb and its arguments, as defined by Smith (1991a)) inducing a telic reading, but also with the finite verb form of the progressive auxiliary *rah* ‘stay’, which induces an atelic reading. This is illustrated in the contrast between (2.17) and (2.18).

(2.17) *Leela chal-ii*  
 Leela walk-F.SG  
 ‘Leela walked.’

(2.18) *Leela chal rah-ii t<sup>h</sup>-ii*  
 Leela walk stay.Impfv-F.SG be-PST.SG  
 ‘Leela was walking.’

While both the examples above take place in the past, the presence of the progressive in (2.18) triggers an imperfective reading. This indicates that with the progressive, which induces an atelic reading, the  $-(y)aa/ii$  suffix does not denote perfectivity and instead only marks agreement.

Another possibility to consider with respect to this suffix is that it simply marks past tense. However, this suffix is not restricted to descriptions of events occurring in the past but can also for events in the present or states that hold such as the following.

(2.19) *aap tahre zamiindaar, ham tahre gariib*  
 you stay landlord, we stay poor  
 ‘You are a landlord, we are poor.’

Additionally, the  $-(y)aa/ii$  suffix can also be used in statements describing future events which Montaut argues “rather than being an exceptional pragmatic use of the past, relies on the fundamental aoristic (not a specifically past one) meaning of the simple [finite verb]” (2004:106). Consider the following example which suggests that the event can be continued at an undetermined future time.

- (2.20) *mãẽ=ne aaḡ apnaa kek khaa-**yaa** aur baakii bad meĩ*  
 1.SG=ERG today mine cake eat-**m.sg** and remaining later 1.SG  
*khaaũũ-g-**aa***  
 eat-FUT-**M.SG**  
 ‘I ate my cake today and I will eat the remaining part later.’ (adapted from Singh 1998:172)

The above example indicates that a portion of cake has been eaten and the remainder of the event of cake-eating can still be continued in the future. That is, it is not necessary that the entire cake must have been eaten for the  $-(y)aa/ii$  suffix to be used. However, the semantics of other induced state change stems display a similar effect, in that the event described by the verb constellation need not be completed but must simply have passed a certain threshold of completion. Consider the following examples of writing a letter, or peeling an orange.

- (2.21) *leela=ne ek ciṭṭhii lik<sup>h</sup>-**ii** aur us-i (ciṭṭhii)=ko*  
 Leela=ERG one letter write-**F.SG** and it-GEN.F (letter)=DAT  
*lik<sup>h</sup>-t-**ii** rah-**ii***  
 write-HAB.-**F.SG** stay-IMPV-**F.SG**  
 ‘Leela wrote a letter and kept writing the same letter.’

- (2.22) *miiraa=ne santaraa chiil-aa par puuraa nahĩ chiil-aa*  
 Mira=ERG orange peel-M.SG but completely NEG peel-M.SG  
 ‘Mira peeled an orange but did not peel it completely.’ (Singh 1998:194)

Although the writing of an entire letter need not have taken place for (2.21) to felicitously apply, the writing needs to be significant enough. For instance, a couple of sentences on the paper would not satisfy the semantic requirement that is imposed by the verb constellation. Similarly, in (2.22), Mira is to have peeled the orange to a certain degree. Such data reinforces the point that the  $-(y)aa/ii$  suffix does not encode perfectivity and it only denotes a stopping point. As the glosses so far have illustrated, this suffix does mark agreement.

While the notion that finite Hindi verbs do not encode perfectivity is not novel to this dissertation, the fact that the suffix only marks agreement and encodes the notion of a stopping point is a novel contribution. Moreover, the above data illustrates that sentences whose English translations typically denote quantized changes of state (à la Krifka (1998)) can felicitously apply to situations in Hindi where the change of state seems to not be quantized, an issue that will be taken up in the Chapter 5. I now demonstrate the influence of a verb's tense/aspect as well as its semantics on argument structure related phenomena such as case assignment.

### 2.2.3 Verbal Affixes and Case

This section describes the interaction of tense and aspect with case in Hindi, in particular with respect to ergative case. An inventory of Hindi case clitics is provided in Table 2.5. The Hindi case markers function as clitics. Nominals can be coordinated only when they are identically case marked; moreover, the case may only be marked on the last conjunct as exemplified below (Kachru, 1980; Mohanan, 1994).

- (2.23) *ramesh [dilli aur haiderabaad]=se gahne k<sup>h</sup>ariid la-yaa*  
 ramesh [Delhi and Hyderabad]=Inst jewelry buy bring  
*hai*  
 be.PRES.3.SG  
 ‘Ramesh has bought and brought jewelery from (both) Delhi and Hyderabad.’  
 (adapted from Mohanan 1994)

Case Clitic	Function
∅	Unmarked/Nominative
ne	Ergative
ko	Dative
se	Instrumental
kaa/kii/ke	Genitive
mē	Locative
par	Locative (in, at)
tak	Locative (toward)

**Table 2.5:** Hindi case clitics

Hindi case markers can appear in several scenarios (cf. Mohanan (1994)).

- (2.24) *ravii kelaa k<sup>h</sup>aa rah-aa t<sup>h</sup>-aa*  
 Ravi banana.M eat:MV stay.IMPV-M.SG be.PAST-M.SG  
 ‘Ravi was eating a banana.’
- (2.25) *ravii=ne kelaa k<sup>h</sup>aa-yaa*  
 Ravi=ERG banana.M eat-M.SG:MV  
 ‘Ravi ate the banana.’
- (2.26) *ravii=ko kelaa k<sup>h</sup>aa-naa t<sup>h</sup>-aa*  
 Ravi=DAT banana.M eat-INF.M.SG be.PAST-M.SG  
 ‘Ravi was obliged to/needed to eat the banana.’
- (2.27) *ravii-se kelaa k<sup>h</sup>aa-yaa nahĩĩ ga-yaa*  
 Ravi-INST banana.M eat-M.SG NEG go-M.SG  
 ‘Ravi could not eat the banana.’

- (2.28) *ravii-ke caar bacce t<sup>h</sup>-e*  
 Ravi-GEN four children be-PL  
 ‘Ravi had four children.’

- (2.29) *ravii=MÊ bilkul dayaa nahĩĩ t<sup>h</sup>-ii*  
 Ravi=LOC at all mercy.F NEG be.PAST-F.SG  
 ‘Ravi had no mercy at all.’

The semantics responsible for case alternations include well-known factors such as animacy, definiteness/specificity, the person hierarchy, tense/aspect, but also encompass phenomena that are less well understood (Butt and Ahmed, 2010). A complete description of all Hindi case markers is beyond the scope of this dissertation, and the interested reader is referred to Mohanan (1994). As the current goal is to show the influence of a verb’s tense/aspect and other semantic factors on case assignment, the focus, for reasons of space, is placed only on the ergative and the nominative/unmarked case.

What is generally considered the Hindi nominative is indicated by the lack of a case marker. In most discussions, it is referred to as nominative (eg. Kachru (1980); Butt and King (2005); Malchukov (2008)), and not as an absolutive. The reason for this is that the distribution of unmarked NPs does not conform to the Absolutive pattern, which is assigned to the subject of intransitive verbs and to the direct object of transitive verbs. The subject of intransitive verbs is unmarked (2.30). Additionally, the direct object of transitive verbs can be unmarked (2.31).

- (2.30) *raam nahaa-yaa*  
 Ram bath-M.SG  
 ‘Ram bathed.’

- (2.31) *raam=ne    k<sup>h</sup>aanaa    k<sup>h</sup>aa-yaa*  
 Ram=ERG food eat-M.SG  
 ‘Ram ate food.’

The subject of the transitive verb *nahaa* ‘bathe’ is unmarked. Similarly, the direct object of a transitive verb can be unmarked, as illustrated in (2.31) for *nahaa* ‘bathe’ and *k<sup>h</sup>aa* ‘eat’ respectively. Additionally, Hindi transitive verbs in the imperfective aspect also select for an unmarked subject, as demonstrated previously in §2.2.1, and illustrated in (2.32). This pattern is not typical of the canonical Absolutive or Nominative case Dixon (1994).

- (2.32) *raam    k<sup>h</sup>aanaa    k<sup>h</sup>aa-t-aa    hai*  
 Ram food eat-HAB-M.SG be.PRES.3.SG  
 ‘Ram eats food.’

Regardless of whether an Absolutive or a Nominative pattern is followed, what is crucial is that case is not overtly marked. In other words, given the lack of case marking, it is not possible to determine whether the case on the unmarked subject in (2.30) or (2.32) is the same case on the objects in (2.31). Therefore, it is unclear that the absence of case marking ought to be considered as indicating nominative in Hindi. For this reason, I refer to the phonological null case as unmarked in this dissertation.

I now describe the Hindi ergative case. The dominant view on the origin of ergativity in Indo-Aryan languages is that it is a case of passive-to-ergative reanalysis (Hock, 1984; Hook, 1992; Dixon, 1994; Deo and Sharma, 2006). The original construction that gave rise to ergative case marking in the New Indo-Aryan languages

(1000CE-) was, in Old Indo-Aryan (1200BC-600BC), a passive periphrastic perfect construction that involved the use of a non-finite form of the verb, which was "a deverbal stative participle marking perfect aspect" (Deo and Sharma, 2006, p.372). Deo and Sharma (2006) show that this construction The loss of the inflectional tense-aspect system between Old and Middle Indo-Aryan (600BC-1100CE) led to the frequent usage of the periphrastic construction to describe events occurring in the past, which in turn led to the unmarking of the passive voice of the construction, and subsequently led to an active, ergative clause in late Middle Indo-Aryan. Accordingly, the morphological ergativity in New Indo-Aryan languages e.g., Hindi, Kashmiri, Nepali, Rajasthani is based on an aspectual split.

From a synchronic perspective, generally, if a split is conditioned by tense or aspect, ergative marking is always found either in the past tense or in perfective aspect (Dixon, 1994, p.99). This is what we find in Hindi. The rest of this section focuses on describing the ergative case from this perspective.

### 2.2.3.1 Ergative Case in Transitive Clauses

The subject of a finite clause can bear ergative case only in the past perfective in Hindi as illustrated in examples (2.33) and (2.34) for transitive clauses.

- (2.33) *shyaam=ne g<sup>h</sup>ar=ko banaa-yaa*  
 Shyam=**ERG** house=Dat make-M.SG  
 ‘Shyam made the house.’ (constructed)

- (2.34) *shyaam=ne g<sup>h</sup>ar banaa-yaa*  
 Shyam=**ERG** house make-M.SG  
 ‘Shyam made a house.’ (constructed)

In the imperfective i.e. either in the habitual aspect (2.35-2.36), or the future (2.37-2.38), the subject cannot bear ergative case and is unmarked.

(2.35) *shyaam(\*=ne) gh ar=ko banaa-taa hai*  
 Shyam(=ERG) house=DAT make-HAB-M.SG be  
 ‘Shyam makes the house.’ (constructed)

(2.36) *shyaam(\*=ne) gh ar banaa-taa hai*  
 Shyam(=ERG) house make-HAB-M.SG be  
 ‘Shyam makes a house.’ (constructed)

(2.37) *shyaam(\*=ne) gh ar=ko banaa-yeg-aa*  
 Shyam(=ERG) house=DAT make-FUT-M.SG  
 ‘Shyam will make the house.’ (constructed)

(2.38) *shyaam(\*=ne) gh ar banaa-yeg-aa*  
 Shyam(=ERG) house make-FUT-M.SG  
 ‘Shyam will make a house.’ (constructed)

The above set of examples also illustrate object case assignment in Hindi. Dative case is assigned to the direct object of a transitive or ditransitive verb when it is definite (2.33, 2.35, 2.37), but by default, the object is left unmarked for case (2.34, 2.36, 2.38). The ergative subject case assignment in *transitive* or *ditransitive* verbs is summarized in Table 2.6.<sup>1</sup>

The one truly exceptional verb is the transitive *laa* ‘bring’ where, as shown in (2.39), the subject selects for an unmarked case instead of the ergative case in finite

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<sup>1</sup>I do not discuss a particular dialect of Urdu from Lahore where even in infinitive clauses, the subject can alternately be assigned either the dative or ergative case, as it does not affect the present argumentation with respect to the semantics of ergative case. See Butt and King (2005) for additional information.

	Subj Case	Example
Perfective	ERG	2.33-2.34
Imperfective	Ø	2.35-2.38

**Table 2.6:** Hindi case assignment: Transitive in Finite Clauses

clauses. The impossibility for ergative marked subjects would have to be stipulated in the lexical entry for this verb.

- (2.39) *shyaam*(\*=*ne*) *kitaab* *laa-yaa*  
 Shyam(=ERG) book bring  
 ‘Shyam brought a book.’ (constructed)

The only semantic restriction with respect to the assignment of ergative case to the subject of transitive verbs in Hindi is therefore aspectual. The issue of interest then is how is perfectivity, which is required in the presence of an ergative case in finite clauses, coded. As the previous section shows, it does not come from the *-yaa/ii* suffix, which, instead serves as an agreement marker. Moreover, the event described by the verb in the perfective aspect in Hindi need not be completed, but it must simply have a stopping point. Consider the following example which suggests that the event is being stopped and then continued at an undetermined future time.

- (2.40) *māẽ=ne aaj apnaa kek k<sup>h</sup>aa-yaa aur baakii bad meĩ*  
 I=ERG today self.M cake eat-M.SG and remaining later on  
*k<sup>h</sup>aaũĩ-g-aa*  
 eat-FUT-M.SG  
 ‘I ate my cake today and I will eat the remaining part later on.’ (Singh 1998:172)

The above example indicates that even though the cake has been partially eaten, the event can still be continued in the future. Other semantic factors, such as volition, which is said to play a role in ergative case assignment Dixon (1994), does not play a role in subject case assignment in Hindi transitive verbs. This is demonstrate by the fact that even non-volitional verbs such as *bhool* ‘forget’, *k<sup>h</sup>o* ‘lose’, or *jaan* ‘know’ select ergative subjects (Kachru, 1980, p.52). As we will see in the following section, the optional assignment of ergative case to the subjects of a select set of intransitive verbs depends on further semantic restrictions.

### 2.2.3.2 Ergative Case in Intransitive Clauses

The assignment of ergative case to the subjects of *intransitive* verbs is restricted to a small set of verbs and is based on semantic constraints in addition to perfective aspect. The subject of intransitive verbs are unmarked for case, as indicated for the verb *fisal* ‘slip’ (2.41); even verbs like *bhaag* ‘run’ or *chaal* ‘walk’, *uchal* ‘jump’ or *baith* ‘sit’, where the agent must employ some volition, can take only an unmarked and not an ergative subject (2.42). However, a subset of intransitive verbs can optionally select for either an ergative or an unmarked subject, as (2.43) illustrates.

- (2.41) *shyaam*(\*=*ne*)     *fisl-aa*  
           Shyam.M(=ERG) slip-M.SG  
           ‘Shyam slipped.’ (constructed)

- (2.42) *shyaam*(\*=*ne*)     *B<sup>h</sup>aag-aa/chaal-aa*  
           Shyam.M(=ERG) run-M.SG/walk-M.SG  
           ‘Shyam ran/walked.’ (constructed)

- (2.43) *shyaam(=ne) k<sup>h</sup>ããs-aa*  
 Shyam(=ERG) cough-M.SG  
 ‘Shyam coughed.’ (constructed)

The range of intransitive verbs that can optionally select for an ergative subject has typically claimed to be all unergative verbs (Butt and King, 2005; Butt, 2006; De Hoop and Narasimhan, 2008). This claim is based on the notion that ergative subject is selected by verbs where the (single) argument is an agent and the subject is therefore more ‘active’. In fact, the intransitive verbs that can optionally select for an ergative subject in Hindi are primarily bodily function verbs.<sup>1</sup> As the partial list of verbs in Table 2.7 illustrates, this class includes verbs of bodily emission as well as verbs of sound emission or animal sounds.<sup>2</sup> Moreover, a similar split among intransitive verbs has also been documented for Nepali, another Indo-Aryan language, where subjects of bodily function verbs alone appear to be able to receive ergative case marking in the perfective (Li, 2007). The fact that those intransitive verbs that can select an ergative subject are also unergative therefore appears to be a matter of correlation rather than causation. That is, it is not the case that unergative verbs select for an ergative subject, but rather that the subset of intransitive verbs that optionally select an ergative subject are unergative.

In addition to bodily and sound emission verbs, the verb *nahaa* ‘bathe’, one of the few intransitive Hindi verbs denoting grooming actions (most other grooming actions are expressed via a N+light verb), can also take an ergative subject, as the

<sup>1</sup>This was also suggested by De Hoop and Narasimhan (2008). The verb *pasiij* ‘sweat’ appears to be an exception as it cannot take an optionally ergative-marked subject.

<sup>2</sup>It is not clear why this particular class of intransitive verbs can select for an ergative case. The fact that ergative case assignment in Hindi can be impacted by the semantics of verb classes has been noted since Panini and most recently, to our knowledge, by Hock (1984).

Bodily emission: *khããs* ‘cough’, *chũkh* ‘sneeze’, *muut* ‘urinate’,  
*thũuk* ‘spit’, *ugal* ‘vomit’  
 Sound emission: *ciik* ‘scream’, *cillaa* ‘yell’, *Dakaar* ‘belch’, *karaah* ‘groan’  
 Animal sound Emission: *bhãũk* ‘bark’  
 Grooming verb(s): *nahaa* ‘bathe’

**Table 2.7:** Examples of bodily function verbs

examples in (2.44)-(2.45) show.

(2.44) *kisi=ne nahaa-yaa nahũ th-aa*  
 any=ERG bathe-M.SG NEG be.PAST-3.SG  
 ‘Nobody had bathed.’ (constructed)

(2.45) *ghar aa-kar nal=ke niichee saabun=se malmal-kar*  
 home come-do tap=GEN below soap=INST scrub.scrub-do  
*ek-ek=ne nahaa-yaa*  
 one-one=ERG bathe-M.SG  
 ‘Upon coming home, each one bathed under the tap by scrubbing (hard) with soap.’ (constructed)

The alternation between ergative and unmarked case marking on the subject of Hindi intransitive verbs has typically been defined in terms of control, following Mohanan (1994). Under this analysis, ergative case indicates that the subject’s referent exerts conscious control or choice over the action. Several attested corpus examples (cross-checked with consultants) suggest that the semantic contribution of the ergative case is not control. The analysis undertaken in this dissertation posits that the ergative case on the subject of a bodily function verb serves to indicate that the property expressed by the rest of the sentence is *counter to expectation* for the subject’s denotation. Consider the following example, where it is very doubtful that

the dog made a conscious choice not to bark. Rather, the ergative subject indicates that the dog not barking (in a room full of people) is contrary to expected behavior.

- (2.46) *court mein bahut log moujuud th-ee phir bhii kiisii par*  
 court in many people present be-PAST.3.PL still any on  
*bhii kuttee=ne b<sup>h</sup>aũũk-aa tak nahĩĩ*  
 also **dog=ERG** bark-M.SG even NEG  
 ‘Many people were present in court but still the dog did not even bark at anyone.’ (web)

Similarly, in (2.44) and (2.45) the selection of an ergative subject suggests that it is counter to expectation that nobody bathed (2.44), or that everyone bathed under the tap (2.45). The specific reason is derived from context or world knowledge, as illustrated by the following example.

- (2.47) *taansen=ne bas gungunaa-yaa aur baris<sup>h</sup> s<sup>h</sup>uru ho gay-ii*  
**Tansen=ERG** just hum-M.SG and rain start be go-F.SG  
 ‘Tansen (famous 15th century singer) just hummed and it started raining.’ (web)

The listener would have to know that the singer Tansen was said to possess the ability to make it rain by singing, not by just humming. Similarly, what is unexpected in (2.48) is not that anybody urinated, but that everybody did.

- (2.48) *kiisii ek=ne nahĩĩ sab=ne muut-aa*  
 any one=ERG NEG **all=ERG** urinate-M.SG  
 ‘Not just one (person) but everyone urinated.’

Examples (2.47-2.48) above suggest that assigning ergative case to the subject of an intransitive verb requires that the conversational background supports the proposition that the bodily function is counter-to-expectation for the subject’s referent.

The notion of counter-to-expectation that we posit is similar, but more precise, to what Malchukov (2008) considers *focal ergativity* in order to indicate that ergative marking in several languages appear on emphatic, new, or contrastive subject.<sup>1</sup>

To summarize, in Hindi, subjects of both transitive verbs (in the imperfective aspect) and intransitive verbs (always) can be unmarked, thereby making a subject being unmarked the more generalized pattern. Therefore, in my formal analysis, the subject being unmarked is a default. The default constraint can be overridden if an intransitive verb denotes a bodily function. The presence of the ergative makes a semantic contribution, namely that the action is counter to the expectation with respect to the subject's referent. On the other hand, as noted before, ergative case for the subjects of transitive perfective verbs is obligatory, unless lexically stipulated otherwise (see §2.2.3.1).

Based on the above facts, ergative case assignment in Hindi can be captured by the following constraints:

(2.49) *Default Unmarked Constraint*: By default, the subject is unmarked.

(2.50) *Contrary to Expectation Constraint*: If the verb is intransitive and perfective, denotes a bodily function and the subject is assigned ergative case,

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<sup>1</sup>The aspectual split, of ergative case being assigned only in the perfective, is fairly consistent among Indo-Aryan languages. However, the precise semantics of the ergative case marker differs in different Indo-Aryan languages. For instance, in Sinhala, an Indo-Aryan language spoken in Sri Lanka, the ergative case marker is assigned just one meaning in the lexicon but allows for different readings of happenstantial modality based on the context. The ergative case marking can have either volitional or non-volitional subjects, while other subjects (dative, accusative, instrumental) are more restrictive. The assignment of ergative case in Sinhala is interpreted by Inman (1994) as an *Inference of Intentionality*: Assume that agents are volitional (i.e. intentional) agents (in the absence of any information to the contrary). Ergative subjects can be either intentional or unintentional (as opposed to instrumental subjects which must be intentional, p.180).

then the action is unexpected given the actor.

- (2.51) *Transitive Perfective Constraint*: If the verb is transitive and perfective, then the subject is assigned ergative case.

Having examined morphological alternation and tense and aspect markers, I now turn to the Hindi verb phrase. This discussion will in turn make it feasible to compare between light verbs and auxiliaries from a syntactic and semantic perspective.

## 2.3 Defining Verbal Categories

Categorizing verbs in Hindi is complicated by the fact that Hindi verbs can have multiple usages – as light verbs, main verbs, modals, or auxiliaries. With the exception of the modal auxiliary *sak* ‘able’, all other verbs that function as modals, light verbs, or auxiliaries also have a main verb usage. In such cases the verb shares only its phonological form and not its meaning between the different usages. The different usages are the same lexeme of the verb, but semantically they are different. I propose that when a verb form is being utilized in multiple categories, it can be disambiguated in terms of its differing syntactic structures. Specifically, the different usages of a verb form can be distinguished using word order. However, the pattern of argument selection is not consistent across the different subcategories – for instance, not all the modals select for an infinitival main verb complement – and so it cannot be used as a characteristic to create subcategories of auxiliaries or modals. Therefore, the only reliable property to ascertain what category a verb falls under is word order. Even though Hindi generally has free word order at the causal level,

## 2.3 Defining Verbal Categories

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phrase-internally, the ordering of constituents in Hindi is quite restricted. As a result, word order within a verb phrase is used to disambiguate semantic functions in Hindi. This in turn impacts how criteria such as case assignment and agreement are applied to determine headedness. The canonical order of the Hindi verb complex (main verb followed by light or auxiliary verbs) is as follows:

(2.52) Main Verb (Aspectual Light Verb) (Permissive/Deontic) (Passive) (Modal)  
(Progressive) (Tense/Perfect)

Note that all verbs except the main verb are optional, and not all of these verbs can actually co-occur together. Table 2.8 presents a list of the various Hindi verbs that fall into the categories listed in (2.52), and each of these will be discussed in further detail below. The verbs in the table are categorized on the basis of word order, the main verb (COL. 1) precedes aspectual light verbs (COL. 2) which precedes the intermediate, expository category of LV-like verbs, namely the permissive light verb and the deontic modal (COL. 3), which are similar to aspectual light verbs in terms of argument composition but similar to auxiliaries in terms of their semantics. These verbs can then be followed by the non-modals (COL. 4 and 6) and modal auxiliaries (COL. 5) respectively. Within the non-modal auxiliaries, the passive precedes the modals while the progressive follows them. The tense auxiliary always comes last (COL. 7).

	1	2	3	3	4	5	6	7
			Light Verbs	Auxiliaries				
	MV	Aspectual LV	Permissive	Deontic	Non-modals	Modals	Non-modals	Perfect/Tense
a.				<i>pad</i> 'fall' (HAVE)		<i>paā</i> 'can [+NEG]'	<i>rah</i> (PROG)	<i>ho</i> 'be'
b.					<i>jāā</i> (PASSIVE)	<i>sak</i> 'able'		
c.						<i>cah</i> 'volition'		

Table 2.8: Word order of Hindi verbs

From a syntactic perspective, Hindi verbs can be classified into main verbs, light verbs, and auxiliaries, on the basis of how they affect the argument structure. Therefore, the term auxiliaries is used for expository purposes.

Previous analyses, focusing on light verbs and auxiliaries, have argued that the two form separate syntactic categories (Butt and Geuder, 2001; Butt and Lahiri, 2003; Butt and King, 2005). This claim was based on word order, i.e., that the light verb always precedes the auxiliary, and that “Hindi auxiliaries place no restrictions on the kind of verb they combine with, whereas light verbs do” (Butt and Geuder, 2001). It is also claimed that Hindi verbs show distinct syntactic behaviors with regard to “case marking, word order, reduplication, and topicalization” (Butt 2002:11-12). I now evaluate these claims and show that word order is the only reliable syntactic difference between light verbs and auxiliaries.

### 2.3.1 Word Order

In spite of its relatively free word order, Hindi, in the presence of auxiliaries, has a tendency to have verbal constructions in sentence-final positions. As Table 2.8 suggests, instead of competing for the same positional slot, auxiliaries always follow light verbs. The example in (2.53) follows the order outlined in (2.54).

- (2.53) *shyam ghar beech de-ne jaa rah-aa hai*  
 Shyam house.M sell:MV give-INF:LV go-M.SG:PASSIVE PROG-M.SG be  
 ‘Shyam is going to be selling (his) home.’ (constructed)

- (2.54) Main Verb (Light Verb) (Passive) (Progressive) (Tense/Perfect)

## 2.3 Defining Verbal Categories

The light verb precedes the passive auxiliary, which is followed by the progressive *rah* ‘stay.IMPFV’ and the tense copula *ho* ‘be’. A similar example is offered below with modal auxiliary which also follows a light verb.

- (2.55) *shyam ghar beech di-yaa jaa sak-t-aa*  
 Shyam house.M sell:MV give-M.SG:LV go-M.SG:PASSIVE able-HAB-M.SG  
*hai*  
 be  
 ‘Shyam’s house can be sold.’ (constructed)

In the above example, the modal verb *sak* ‘able’ follows the light verb *de* ‘give’ and the passive. Whether a verb is a main verb or an auxiliary depends on its position in the phrase, i.e., whether it precedes or follows other verbs. This is illustrated with the following attested corpus examples.

- (2.56) *use ap=ne muk<sup>h</sup> par aanguulii rak<sup>h</sup>-e rah-naa*  
 3SG self=ERG mouth on finger keep-PL:MV stay/continue:MV  
*pad-aa hai*  
 fall.-M.SG:HAD be.PRES.3.SG  
 ‘He **had to keep** a figure on his mouth.’ (*lit.* must continue to keep quiet)  
 (web)

- (2.57) *badii ajiib baat hai ki mujhe bacat par javaab*  
 quite weird matter be.PRES.3.SG that PRON.1 savings on response  
*de-naa pad rah-aa hai*  
 give-INF.M.SG fall.:HAD stay.IMPFV-M.SG be.PRES.3.SG  
 ‘It is quite weird that I am **having** to respond on savings.’ (web)

As indicated in Table 2.8, the deontic modal *pad* ‘fall’ precedes the progressive auxiliary *rah* ‘stay/continue’. Therefore, aside from the translation itself, the fact that *rah* ‘stay/continue’ appears **before** *pad* ‘fall’ in (2.56) suggests that it is being

## 2.3 Defining Verbal Categories

VERB	FINITNESS OF MAIN VERB	REDUPLICATION
LIGHT VERBS	base infinitive	
LV-LIKE VERBS		
<i>pad</i> ‘fall’ MUST)	- <i>naa</i> infinitive	no
<i>de</i> ‘give’ (LET)	- <i>naa</i> infinitive	no
NON-MODAL AUXILIARIES		
<i>rah</i> ‘stay’ (PROG)	finite, base infinitive	no?
<i>jaa</i> ‘go’ (PASSIVE)	finite	yes
MODAL AUXILIARIES		
<i>sak</i> ‘able’	base infinitive	no
<i>paa</i> ‘can [+NEG]’	base infinitive	no
<i>cah</i> ‘want/like’	- <i>naa</i> infinitive	no
ASPECTUAL AUXILIARIES		
<i>lag</i> ‘begin’	- <i>naa</i> infinitive	no
<i>cuk</i> ‘terminate’	base infinitive	no

**Table 2.9:** Syntactic tests for distinguishing auxiliaries and light verbs

used as a main verb. This is further validated by the translation which indicates that *rah* ‘stay’ is being used as a main verb in (2.56). On the other hand, when the verb *rah* ‘stay’ **follows** *pad* ‘fall’, *rah* ‘stay’ is being used as a progressive auxiliary. In (2.57), the progressive auxiliary subcategorizes for a VP such as the deontic modal *pad*, which in turn subcategorizes for the noun+main verb combination *javaab de* ‘give response’.

In all the examples above, the main verb precedes the light verb, which precedes the auxiliary. This word order is strict in Hindi. In fact, the light verb must always precede auxiliaries. Word order, therefore, is a useful criteria to determine the function of the verb when multiple verbs form part of a single verb phrase. For the reader’s convenience, a summary of the data that will be presented below with

respect to verb selection and reduplication is illustrated in Table 2.9.

### 2.3.2 Verb Selection

Generally, a verb that can be both a light verb and an auxiliary selects different forms of the main verb, depending on whether it is used as a light verb or an auxiliary. In a finite clause, the main verb that precedes an auxiliary inflects for agreement, whereas a main verb that precedes a light verb does not. That is, while a light verb co-occurs with a non-finite main verb, an auxiliary co-occurs with a finite main verb. This is exemplified below with the verb *jaa* ‘go’ when it functions as the passive auxiliary (2.58) and the light verb (2.59).

- (2.58) *Ram=ko giraa-yaa ga-yaa*  
           Ram=DAT fall.CAUS-M.SG:MV go-M.SG:PASSIVE  
           ‘Ram was caused to fall.’ (constructed)

- (2.59) *Ram gir ga-yaa*  
           Ram fall:MV go-M.SG:LV  
           ‘Ram fell.’ (constructed)

As exemplified above, the main verb that combines with the passive auxiliary *jaa* ‘go’ in (2.58) inflects for gender and number (*giraa-yaa* ‘CAUS-M.SG’), and the main verb that combines with the light verb *jaa* ‘go’ in (2.59) is non-finite (*gir* ‘fall’). This shows that when the same verb is used as a passive and auxiliary it selects a different kind of verb form. However, this test only suffices to determine whether an individual verb form is being used as a light verb or an auxiliary. The argumentation cannot be generalized to imply that *all* auxiliaries select a finite main verb. For instance, the modal auxiliary *paa* ‘can [+NEG]’ selects a non-finite main verb.

## 2.3 Defining Verbal Categories

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- (2.60) *mai samay par nahĩĩ aa paa-yaa*  
1SG time on NEG come:MV can-M.SG:MODAL  
'I **could** not reach on time.' (Montaut 2004:129)

In the above example, the modal auxiliary *paa* 'can [+NEG]' appears with the non-finite main verb *aa* 'come', in a pattern similar to the main verb-light verb combination in (2.59). What this means is that one cannot infer that light verbs and auxiliaries fall into distinct verbal categories on the basis of the type of predicates that they select.

### 2.3.3 Reduplication

A final putative argument for considering light verbs and auxiliaries distinct syntactic categories is the claim by (Butt and Lahiri, 2003) that in certain Hindi/Urdu dialects, light verbs can be reduplicated whereas auxiliaries cannot. Reduplication is generally not considered possible for Hindi verbs (Abbi, 1992). The example cited by Butt and Lahiri (2003) is one where the morpheme *jaa* 'go' is reduplicated to the *vaa*. This is exemplified in (2.61). In contrast, the auxiliary *rah* 'stay' cannot be reduplicated, as shown in (2.62).

- (2.61) *vo so jaa-t-ii vaa-t-ii t<sup>h</sup>-ii*  
3SG sleep go-HAB-F.SG:LV go.REDUP be.PAST-3.SG  
'She used to keep going to sleep (at inopportune times).' Butt and Lahiri (2003)

- (2.62) *\*vo so jaa rahi-ii vah-ii t<sup>h</sup>-ii*  
3SG sleep go stay-HAB-F.SG:LV go.REDUP be.PAST-3.SG  
*Intended*: 'She was sleeping.' Butt and Lahiri (2003)

## 2.3 Defining Verbal Categories

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On the basis of the above examples, Butt and Lahiri (2003) claim that only light verbs, but not auxiliaries, reduplicate. However, there are various problems with this claim. First, since *jaa* ‘go’ can be used as a main verb as well as an auxiliary, the above example does not show this for certain. Second, verb reduplication in Hindi is quite restricted not only in geographical distribution of the Hindi language (only those dialects of Hindi that are in contact with Punjabi can reduplicate), but also with respect to the light verbs both in terms of form and type. Specifically, the reduplicated form appears only in the habitual, and cannot be extended to other forms as shown below. Example (2.61) contrasts with (2.63) only in that the former does not depict a habit but the latter does. Reduplicating the light verb in a non-habitual context renders the sentence ungrammatical.

- (2.63) *\*vo so ga-yii va-yii t<sup>h</sup>-ii*  
 3SG sleep go-HAB-F.SG:LV go.REDUP be.PAST-3.SG  
*Intended:* ‘She keeps going to sleep.’

Third, using a different light verb, instead of the high-frequency verb *jaa* ‘go’, also renders the sentence ungrammatical, as indicated in (2.64).

- (2.64) *\*vo so baith-t-ii vaith-t-ii t<sup>h</sup>-ii*  
 PRON.3.SG sleep sit-HAB-F.SG:LV sit.REDUP be.PAST-3.SG  
*Intended:* ‘She fell asleep.’

Reduplication, therefore, is not a reliable test. To summarize, the primary criterion for distinguishing light verbs and auxiliaries is word order. Other tests are insufficient: the kinds of predicates selected by light verbs versus auxiliaries do not always differ, and the data on reduplication is too restricted.

I now present data on each of the auxiliaries with respect to their syntactic and semantic structures. The various combination of main verbs, light verbs and auxiliaries are subsequently examined in order to determine whether the selectional restrictions are the same with respect to auxiliaries in a single versus a complex predicate construction.

## 2.4 Permissive and Deontic LV

This section refers to the permissive light verb and the deontic modal, which follow the aspectual light verb, but precede auxiliaries. The two verbs in this category modify the case assigned to the subject, and the permissive also adds an external argument.<sup>1</sup>

### 2.4.1 Permissive

The verb *de* ‘give’ can function as a main verb, light verb, as well as a permissive. The permissive construction has been classified, as both a separate type of complex predicate construction (Butt, 1994), and as a ‘modal’ (Montaut, 2004). The permissive use of *de* ‘give’ adds an additional argument, i.e., the ergative subject, in (2.65).

- (2.65) *leela=ne shyam=ko k<sup>h</sup>aanaa k<sup>h</sup>aa-ne di-yaa*  
           leela=ERG shyam=DAT food eat-INF give-M.SG:LET  
           ‘Leela let Shyam eat food.’ (constructed)

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<sup>1</sup>The primary motivation for including the deontic modal with the permissive is due to the fact that they occupy a similar position in the clause.

While *Leela* is the argument of permissive *de* ‘give’, *Shyam* and *k<sup>h</sup>anaa* ‘food’ are arguments of *k<sup>h</sup>aa* ‘eat’. Additionally, the subject is assigned ergative case by the permissive; contrast (2.65) to (2.66).

- (2.66) *shyam=ko k<sup>h</sup>anaa k<sup>h</sup>aa-naa hai*  
           shyam=DAT food eat-INF be-PRES.3.SG  
           ‘Shyam has to eat food.’ (constructed)

The reason that the permissive is considered a modal by Montaut (2004) is that from a strictly semantic perspective, the permissive contrasts with the modal auxiliary *sak* ‘able’. While *sak* ‘able’ indicates potential (2.67), the permissive conveys the suggestion of an externally granted possibility (2.68).

- (2.67) *ve baahar jaa sak-e*  
           3PL out go able-PL  
           ‘They could go out.’ (constructed)

- (2.68) *unhe baahar jaa-ne di-yaa*  
           3PL out go-INF give-M.SG:LET  
           ‘They were **permitted** to go out.’ (Montaut 2004:131)

The fact that the permissive maps non-causation into a type of causative suggests that it functions more like aspectual light verbs, which contribute to the situation type, than like auxiliaries.

### 2.4.2 Deontic

The verb *paḍ* ‘fall’ can also function as a main verb, a light verb, and an auxiliary. The usage described here is where the verb *paḍ* ‘fall’ requires the preceding infinitive

to be inflected and adds the deontic meaning of the action being done without any choice. This is exemplified in (2.69) and (2.70).

- (2.69) *galba=ko      vaapas   lout-naa      paḍ-aa*  
          galba.M=DAT   back      return-INF.M.SG   fall-M.SG  
          ‘Galba had to return back.’ (EMILLE Corpus:879)

- (2.70) *unhe   apne   vivahit   jeevan=ko   alvidaa   kah-naa      paḍ-aa*  
          3.PL   self   married   life=DAT   goodbye   say-INF.M.SG   fall-M.SG  
          ‘They had to say goodbye to their married life.’ (EMILLE Corpus:417)

In the above examples, *paḍ* ‘fall’ assigns dative case to the subject. Consider (2.69) without the deontic *paḍ* ‘fall’.

- (2.71) *galba(\*=ko)      vaapas   lout-aa*  
          galba.M(\*=DAT)   back      return-M.SG  
          Galba returned back.’ (Nespital, 1997)

The above example indicates that the verb *lout* ‘return’ cannot take a dative subject without the presence of the deontic *paḍ*. I now turn to other auxiliaries.

## 2.5 Auxiliaries

As indicated previously, the term auxiliaries is used for expository purposes. For ease of reading, this section is divided into modal and non-modal auxiliaries. For each of these verbs, I show the difference between their main verb and modal usage, and indicate their selectional restrictions in their auxiliary usage, if any. While most of these auxiliaries can appear in a complex predicate construction, there are some

exceptions. I also include aspectual auxiliaries, which cannot combine with light verbs at all.

### 2.5.1 Non-Modal Auxiliaries

There are three non-modal auxiliaries in Hindi: the passive, the progressive and the tense auxiliaries. The passive and progressive auxiliary always follow the light verbs and precede the modal auxiliaries. When they appear together, the passive follows the progressive. The tense auxiliary, as indicated previously, appears last.

#### 2.5.1.1 Passive

The verb *jaa* ‘go’ can function as a main verb, a light verb, or as a passive-marking auxiliary. As illustrated previously in §2.3.2, when *jaa* is used as a passive marker, the inflection must be carried by the main verb also, as shown in (2.72).

- (2.72) *Shyam=kaa haat kaṭ-aa ga-yaa*  
           Shyam=GEN hand.M.SG cut-M.SG go-M.SG  
           ‘Shyam’s hand was cut (by a covert agent).’ (constructed)

The main verb inflection in (2.72) reveals that the verb *jaa* ‘go’ is a passive auxiliary; recall that when *jaa* ‘go’ functions as a light verb, the main verb does not inflect. Beyond this morphological difference, native speakers understand there to be suggestion of a covert agent semantically. The property of backgrounding the agent is not restricted to transitive verbs; intransitive activity verbs can passivize too and the main verb is marked with default masculine agreement (Montaut 2004:132-133).

- (2.73) *daur-aa jaa-e*  
run-M.SG go-PL?  
‘Shall (we) run?’ (web)

The above example also serves to illustrate that the passive intransitive can convey modal meaning. In (2.73), the auxiliary indicates a polite request. Other modal meanings that can be triggered by the passive, as suggested by Montaut (2004:132) are “prescription in the general agentless present or imperfect” (2.74) and “the inability or incapacity in negative contexts with instrumental agent” (2.75).

- (2.74) *aise ro-yaa nahĩ jaa-t-aa*  
like.this cry-M.SG NEG go-HAB-M.SG  
‘One does not cry like this.’ (web)

- (2.75) *mujh=se daur-aa nahĩ ga-yaa*  
1S=INST run-RUN-M.SG NEG go-M.SG  
‘I could not run.’ (web)

I now turn to the progressive auxiliary.

### 2.5.1.2 Progressive

As indicated previously, the progressive is denoted by the verb *rah* ‘stay/continue’. This verb can combine with both finite and non-finite main verbs as illustrated in (2.77) and (2.76) with the verbs *kah-t-ii* ‘say-HAB-F.SG’ and *aa* ‘come’ respectively. Additionally, the tense auxiliary is obligatory with the progressive.

- (2.76) *sããs bahu=ko nagiin kah-t-ii*  
mother-in-law daughter-in-law=DAT snake say-HAB-F.SG  
*rah-t-ii hai*  
stay.IMPV-HAB-F.SG be.PRES.3.SG

‘The mother-in-law (keeps) calling her daughter-in-law a snake.’ (web)

- (2.77) *leelaa g<sup>h</sup>ar aa rah-ii hai*  
 Leela.F come home.M.SG stay.PROG:F.SG be.PRES.3.SG  
 ‘Leela is coming home.’ (constructed)

When the verbs *jaa* ‘go’ and *rah* ‘stay’ appear together, whichever verb follows the other is the auxiliary. This is exemplified below.

- (2.78) *maa lakshmi=kii puujaa sone=ke binaa adhuurii*  
 mother lakshmi=GEN.F worship gold=GEN.PL without incomplete  
*rah jaaye-g-ii*  
 stay:MV go-FUT-SG:PASSIVE  
 ‘Mother Lakshmi’s worship will **stay** incomplete without gold.’ (web)

- (2.79) *agast 2011 mein sonaa aur chaandii upar jaa rah-e*  
 august 2011 in gold and silver up go:MV stay.IMPFV-PL  
*t<sup>h</sup>-e*  
 BE.PAST-PL  
 ‘In August 2011, gold and silver (’s prices) were **going up**.’ (web)

In (2.78), *rah* ‘stay’ is the main verb and *jaa* ‘go’ is the passive auxiliary, as indicated by the translation. Similarly, in (2.79) the main verb *jaa* ‘go’ precedes the progressive verb *rah* ‘stay’.

### 2.5.1.3 Tense/Perfect

The auxiliary use of the verb *ho* ‘be’ functions as a perfect. The perfect is often characterized as introducing a state holding at reference time (“now” for present perfects). The auxiliary *ho* ‘be’ can be used to indicate the absence of a person at

the time of utterance, as shown in (2.80), or to denote an experiential meaning, as shown in (2.81).

- (2.80) *vah bazaar ga-yaa hai*  
 3SG bazaar go-M.SG be.PRES.3.SG  
 ‘He has gone to the bazaar.’ (Montaut 2004:104)

- (2.81) *vah kai baar america ga-yii hai*  
 3SG many times america go-M.SG be.PRES.3.SG  
 ‘She has gone to America many times.’ (Montaut 2004:104)

With the addition of the progressive, the tense/perfect can also be used to indicate the present tense.

- (2.82) *mein chitr nahĩ bhej paa rah-aa hũ*  
 PRON.1.SG picture NEG send can stay-M.SG:IMPFV be.PRES.2  
 ‘I am unable (lit. *cannot*) send the picture.’ (web)

In the above example, the combination of the progressive and the copula with the ability modal indicates that the event of sending the picture could not be completed in the present.

I now turn to modal auxiliaries.

### 2.5.2 Modal Auxiliaries

The difference between modal and non-modal auxiliaries is not syntactic but semantic. This section includes modal verbs that describes potential (2.5.2.1), volition (2.5.2.3), and lack of goal achievement (2.5.2.2).

### 2.5.2.1 Potential

The only verb in Hindi that functions as a modal and does not occur as a main verb is *sak* ‘able’. This verb expresses ability and general possibility, as shown in (2.83).

- (2.83) *baccaa bol sak-aa*  
 child speak able-M.SG  
 ‘The child was **able** to talk.’ (web)

Montaut (2004:128) claims that this verb cannot appear with either the progressive or a light verb. However, I find evidence to the contrary, as described later in sections §2.6.1.3 and §2.6.1.4.

### 2.5.2.2 Goal attainment

As a main verb, *paa* ‘receive/obtain/find’ entails goal attainment.

- (2.84) *us=ne saarii duniyaa paa li-i*  
 3SG=ERG all world obtain:MV take-F.SG  
 ‘He obtained all the world.’ (web)

As a modal, *paa* ‘can [+NEG]’ occurs only in negative (2.60) repeated below or irrealis contexts (2.86) and indicates that one cannot succeed or achieve something.

- (2.85) *mai samay par nahĩ aa paa-yaa*  
 1SG time on NEG come can-M.SG:MODAL  
 ‘I **could** not reach on time.’ (Montaut 2004:129)

- (2.86) *us=kii samajh mein yah nahĩ aa paa*  
 3SG=DAT.F comprehension this NEG come can:MODAL PROG-M.SG  
*rah-aa t<sup>h</sup>-aa*  
 BE-M.SG

‘He was unable to understand that.’ (*lit.* ‘It **could** not enter his mind.’)  
(Montaut 2004:129)

In both examples above, the modal usage of *paa* ‘can [+NEG]’ indicates that the goal could not be attained.

### 2.5.2.3 Volition

Volition is expressed by the verb *cah* ‘want/like’, which expresses desire when it is preceded by the *-naa* infinitive main verb.

- (2.87) *mai jaa-naa cah-t-aa hũ*  
 1SG go-INF.M.SG want-HAB-M.SG:MODAL be.PRES.PL  
 ‘I want to go.’ (web)

As a main verb *cah* ‘want’ denotes desire.

- (2.88) *mai cah-t-aa hũ kii aap mere g<sup>h</sup>ar aa-yẽẽ*  
 1SG want-HAB-M.SG:MV be that you.FORMAL my home come-PL  
 ‘I want that you come to my home.’ (web)

### 2.5.3 “Aspectual” Auxiliaries

I now describe two main verbs that also display auxiliary usages. Since neither of these auxiliaries can appear with light verbs, the present dissertation will not discuss them much.

### 2.5.3.1 Inceptive

The phasal verb *lag* ‘begin’ (related to the main verb *lag* ‘touch/reach/come in contact/feel’) can appear with the infinitival form of a main verb and convey the phasal meaning of entering a process or state, as illustrated below.

- (2.89) *laṛkii gaa-ne lag-ii*  
 girl sing-INF BEGIN-F.SG  
 ‘The girl started singing.’ (constructed)

As the above example indicates, this auxiliary marks the initial phase of the process of singing. Additionally, the auxiliary form of this verb can occur with the main verb *lag*.

- (2.90) *use buraa lag-ne<sub>i</sub> lag-aa<sub>j</sub>*  
 3SG bad feel-INF.OBL BEGIN-M.SG  
 ‘He/she started<sub>j</sub> feeling<sub>i</sub> bad.’ (constructed)

While the main verb *lag* can combine with light verbs, the auxiliary usage of the verb cannot. This is illustrated below.

- (2.91) *\*use buraa lag de-ne lag-aa*  
 3SG bad feel:MV give-INF.OBL:LV BEGIN-F.SG  
*Intended:* ‘He/she started feeling bad.’

The above example, in which the phasal verb follows the light verb, is ungrammatical. In addition to light verbs, Montaut (2004:122) points out that the auxiliary form of this verb is also not compatible with “negation, progressive, durative, frequentatives”, or when a construction requires an ergative subject. The following auxiliary shows a similar restriction.

### 2.5.3.2 Terminative

The auxiliary verb *cuk* ‘terminate’, which is form-identical to the main verb *cuk* ‘to adjust/finish/settle’ conveys a sense of completion of the process or exit out of the process. In the perfect, this verb indicates that the process has already taken place and may take on an experiential meaning (Montaut 2004:123).

- (2.92) *vah baat kar cuk-aa t<sup>h</sup>-aa*  
 3SG matter do TERMINATE be-M.SG  
 ‘*Resultative*: He had already spoken.’ (terminated speaking)  
 ‘*Experiential*: He had finished speaking.’

The above example indicates that in the presence of the tense copula (i.e., the perfect), the auxiliary can either indicate that the process of speaking has been completed in either the resultative or experiential sense. Like with the phasal verb, this auxiliary “does not co-occur with negation, progressive, duratives or [light verbs]” (Montaut 2004:123).

Due to the semantics that the inceptive and terminative verbs convey, they have been considered as an auxiliary by some (Kachru 1980, Montaut 2004) and a light verb by others (Nespital 1998). It is possible that these two verbs do not appear with other light verbs in Hindi because they themselves function as a light verb. However, these auxiliaries differ from the light verbs in the terms of how they embed the event structure.

### 2.5.3.3 Interim Summary

This section has shown that the semantic groupings of the auxiliaries do not match the syntactic restrictions that are placed by the auxiliaries on the verb that it combines with. Although all auxiliaries, except for the passive, select for an infinitival main verb, they seem to differ with respect to the type of infinitival verb itself. The permissive and the deontic modal both select for a *-naa* infinitive verb. However, as the next Chapter will show, even the permissive can take either a V or a VP complement. The remaining auxiliaries do not form a general pattern in terms of the main verb that they combine with. Different modal and aspectual auxiliaries seems to select for different verb types. Furthermore, the progressive can select for either a finite verb or a base infinitive verb, making it the only auxiliary that has multiple subcategorization options.

The data suggest that the finiteness of the main verbs that the light verbs and auxiliaries combine with is insufficient to categorize them as distinct syntactic categories. In addition to verb selection, as mentioned before, the only verb that reduplicates is the passive. Therefore, neither of these tests are useful in terms of deciding whether light verbs and auxiliaries ought to be separate syntactic categories. As indicated before, what is more useful in terms of disambiguating between main, light, and auxiliary usages of a verb is word order. For instance, word order demonstrates that the permissive and the deontic pattern more closely with light verbs instead of other auxiliaries in that they precede the passive auxiliary instead of following it; this is demonstrated in the following section where I present the various combinatorial possibilities in a Hindi verb complex.

## 2.6 Combinations of Verbs and Auxiliaries

### 2.6.1 Main Verbs and Auxiliaries

Given the complexity of the Hindi verb complex, and considering that a single verb form can have multiple usages that is generally disambiguated only on the basis of word order, the question to consider is whether there are any restrictions on the combinatorial possibilities of various verbs within the verb complex. Recall from Table 2.8, repeated below, the word order of verb complexes. Based on the discussion so far, it must be evident to the reader that the main verbs (COL. 1) can combine with individual verbs from each of the other columns. In this section, I explore the various other combinatorial possibilities of main verbs, light verbs, and the different kinds of auxiliaries. The various possible combinations are described below. To the extent possible, attested examples were obtained via Google<sup>1</sup>, the EMILLE corpus<sup>2</sup>, and Nespital (1997).

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<sup>1</sup><http://www.google.com>

<sup>2</sup>[www.ling.lancs.ac.uk/corplang/emille/](http://www.ling.lancs.ac.uk/corplang/emille/)

## 2.6 Combinations of Verbs and Auxiliaries

	1	2	3	3	4	5	6	7
			Light Verbs	Auxiliaries				
	MV	Aspectual LV	Permissive	Deontic <i>pad</i> 'fall' (HAVE)	Non-modals <i>jaa</i> (PASSIVE)	Modals <i>paa</i> 'can [+NEG]' <i>sak</i> 'able' <i>cah</i> 'volition'	Non-modals <i>rah</i> (PROG)	Perfect/Tense <i>ho</i> 'be'
a.								
b.								
c.								

**Table 2.10:** Word order of Hindi verbs

### 2.6.1.1 Main verbs + LV-Like Verbs + Non-Modals (Cols. 1+3+4)

This section looks at the combination of the main verb with either the permissive or the deontic modal and whether they can appear in the progressive and can be passivized. As the examples will show, both the deontic modal (3a) and the permissive (3b) can appear with either the passive (4) or the progressive (6), but not with both. In example (2.93), the progressive follows the deontic modal. In (2.94), the passive is modifying the entire construction. Similarly, in (2.95), the progressive follows the permissive.

#### (2.93) 1 + 3a + 6

*baḍii ajiib baat hai ki muj<sup>h</sup>e bacat par javaab*  
 quite weird matter be.PRES.3.SG that PRON.1 savings on response  
*de-naa paḍ rah-aa hai*  
 give-INF.M.SG fall.HAD stayIMPFV.-M.SG be.PRES.3.SG  
 ‘It is quite weird that I am having to respond on savings.’ (web)

#### (2.94) 1 + 3a + 4

*sarkaar=ko is sucii mein hui gadbadii=kii*  
 government=DAT matter in happen made mess=GEN.F  
*jaanc<sup>h</sup>=kaa aadesh de-naa paḍ ga-yaa*  
 examine=GEN.M order give-INF.M.SG fall.HAD go-M.SG  
 ‘Government had to give an order to examine the mess (that) happened in this matter.’ (web)

#### (2.95) 1 + 3b + 6

*hasan alii [...] jaanc<sup>h</sup>=ko aage nahĩñ baḍ<sup>h</sup>-ne de*  
 hasan ali [...] investigation=DAT ahead NEG grow-INF give:LET  
*rah-aa hai*  
 stay.IMPFV-M.SG be.PRES.3.SG  
 ‘Hasan Ali is not letting the investigation go ahead.’ (web)

## 2.6 Combinations of Verbs and Auxiliaries

(2.96) **1+3b+4**

*saddaf=ko citta<sup>h</sup>ii lik<sup>h</sup>-ne di-yaa ga-yaa*  
 saddaf=DAT letter write-INF give-M.SG:LET go-M.SG:PASSIVE  
 ‘Saddaf was permitted to write a letter.’ (web)

What the above examples show is that the passive and the progressive follow the deontic modal and the permissive. In the examples above, the auxiliaries maintain their selectional restrictions in terms of finiteness: the permissive and the deontic modal select only for infinitival main verbs, and the passive only selects for verbs in the base infinitive. The progressive, which can appear with finite and infinitive main verbs, only combines with non-finite verbs in the presence of multiple auxiliaries above.

### 2.6.1.2 Main Verbs + LV-Like Verbs + Modals (Cols. 1+3+5)

This section describes the combination of the deontic modal (3a) and the permissive (3b) with the modal auxiliaries *paa* ‘can [+NEG]’ (5a), *sak* ‘able’ (5b), and *cah* ‘want’ (6c). While the permissive/deontic verbs can combine with non-modal auxiliaries, their combination with modal auxiliaries is more restricted. As the following examples indicate, the deontic modal can combine only with the modal *sak* ‘able’ (2.98).

(2.97) **1 + 3a + 5a**: Unattested

(2.98) **1 + 3a + 5b**

*bharatiyaa c<sup>h</sup>aatroõn=ko chod-naa pad sak-t-aa*  
 indian students=DAT leave-INF.M.SG fall:DEONTIC able-HAB-M.SG  
*hai america*  
 be america

‘Indian students might have to leave America.’ (web)

(2.99) **1 + 3a + 5c**: Unattested

The incompatibility of the deontic modal and the modal *paa* ‘can [+NEG]’ in (2.97) is semantically based. The modal *paa* ‘can [+NEG]’ requires that an agent be unable to do a task. This is incompatible with the requirement of the deontic modal that an action be able to change the world. But a similar argument cannot be made for the incompatibility of the deontic modal with the modal *cah* ‘want/like’ in (2.99). Such a combination is illustrated below.

(2.100) **1+3a+5c:possible**

<i>*bharatiyaa</i>	<i>c<sup>h</sup>aatr</i>	<i>choḍ</i>	<i>paḍ-naa</i>	<i>cah-t-e</i>	<i>hai</i>	<i>america</i>
indian	students	leave	fall:DEONTIC	want-HAB-PL	be	america

*Intended*: ‘Indian students want to have to leave America.’ (constructed)

While the above statement is semantically cogent, it is ungrammatical in Hindi. I currently do not have an explanation for the absence of their combination.

The permissive, on the other hand, can combine with each of the modals, as indicated in (2.101) for *paa* ‘can [+NEG]’, in (2.102) for *sak* ‘able’, and in *cah* ‘want/like’ (2.103).

(2.101) **1 + 3b + 5a**:

<i>mai</i>	<i>aap=ko</i>	<i>nahĩ</i>	<i>jaa-ne</i>	<i>de</i>	<i>paa-yaa</i>
PRON.1.SG	you=DAT	NEG	go-INF	give:LET	can-HAB-M.SG

‘I could not let you go.’ (web)

## 2.6 Combinations of Verbs and Auxiliaries

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(2.102) **1 + 3b + 5b:**

*mai aap=ko nahĩ jaa-ne de sak-aa*  
PRON.1.SG you=DAT NEG go-INF give:LET able-HAB-M.SG  
'I was not able to let you go.' (adapted from web)

(2.103) **1 + 3b + 5c**

*loktantra mein sab=ko apnii baat kah-ne*  
democracy in everyone=DAT self opinion say-INF  
*de-naa cah-iiyee*  
give-INF.M.SG:LET shall-PL  
'In a democracy, everyone should be allowed to speak (*lit.* let speak) their opinion.' (web)

Examples (2.101) and (2.102) describe similar semantic notions. From a strictly physical sense, the way the two differ is that the modal *sak* 'able' in (2.101) suggests the agent's lack of ability to release someone, but the modal *paa* 'can [+NEG]' does not refer to any such lack of ability. With regards to selectional requirements above, the modal *paa* 'can [+NEG]' selects for a base infinitive verb (2.101), the modal *sak* 'able' selects for a base infinitive verb in (2.98) and (2.102), and the modal *cah* 'want/like' on the other hand selects for *-naa* infinitive.

### 2.6.1.3 Main Verbs + Non-Modals + Modals (Cols. 1+4+5)

This section looks at the combinations of main verbs with non-modal (4,6) and modal (5a-c) auxiliaries. A noteworthy difference between the two non-modal auxiliaries is that the passive must precede the modals while the progressive auxiliary must follow them. The following examples show that when the verb *rah* 'stay' precedes the modal auxiliaries, it functions as a main verb.

## 2.6 Combinations of Verbs and Auxiliaries

(2.104) 1 + **stay**<sub>mv</sub> + 5a

*st<sup>h</sup>iir svaast<sup>h</sup>yaa tab hii ban-aa rah paa-t-aa*  
 steady health then EMPH make-M.SG stay can-HAB-M.SG  
*hai jab aaveeg niyantrit hõ*  
 be.pres.3 when craving control be.PRES.3.PL  
 ‘Steady health will be maintained (*lit. stay made*) when cravings will be controlled.’ (web)

(2.105) 1 + **stay**<sub>mv</sub> + 5b

*aane vatee dinõõ mein st<sup>h</sup>aaniya bazaarõõ par dabaav ban-aa*  
 coming days in local market.PL on pressure make-M.SG  
*rah sak-t-aa hai*  
 stay.IMPV able-HAB-M.SG be.PRES.3.SG  
 ‘In the coming days, pressure might be **staying** on local markets.’ (web)

(2.106) 1 + **stay**<sub>mv</sub> + 5c

*newton=ke prat<sup>h</sup>am gatiiniyaam=ke anusaar koi b<sup>h</sup>ii*  
 newton=GEN first law of motion==GEN according any EMPH  
*piind jis avast<sup>h</sup>aa mein rah-t-aa hai usii mein*  
 object which state in stay-HAB-M.SG be.PRES.3.SG that in  
*ban-aa rah-naa cah-t-aa hai*  
 make-M.SG stay.IMPV=INF.M.SG want-HAB-M.SG be.PRES.3.SG  
 ‘According to Newton’s first law of motion, any object that **stays** in a certain state wants to remain in the same state.’ (web)

The above examples show that the main verb *rah* ‘stay’ combining with the modals *paa* ‘can [+NEG]’ in (2.104), *sak* ‘able’ (2.105), and *cah* ‘want’ (2.106) respectively. The verb *ban* ‘make’ combines with the verb *rah* ‘stay’ in each of the examples in (2.104-2.106). In each of the cases, as the translation indicates the verb *rah* is being used as a main verb in combination with the verb *ban* ‘make’.<sup>1</sup>

<sup>1</sup>Whether such combination forms a serial verb construction or a complex predicate construction is a discussion for another venue.

## 2.6 Combinations of Verbs and Auxiliaries

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When the verb *rah* ‘stay’ follows the modals, it functions as a progressive. This is illustrated by the following examples for the modals *paa* ‘can [+NEG]’, *sak* ‘able’ and *cah* ‘want/like’ respectively.

(2.107) **1 + 5a + 6**

*mein chitr nahĩ bhej paa rah-aa hũ*  
 PRON.1.SG picture NEG send can stay-M.SG:IMPFV be.PRES.2  
 ‘I am unable (lit. *cannot*) send the picture.’ (web)

(2.108) **1 + 5b + 6**

*mein dek<sup>h</sup> sak rah-aa hũ*  
 PRON.1.SG see able stay-M.SG:IMPFV be.PRES.2  
 ‘I am able to see.’ (web)

(2.109) **1 + 5c + 6**

*bhaarat aa-naa cah rah-aa hai daud ibrahim*  
 india come-INF.M.SG want stay-M.SG:IMPFV be.PRES.3 daud ibrahim  
 ‘Daud Ibrahim wants to come to India.’ (web)

As indicated previously, different modal auxiliaries select for different types of verbs, and these restrictions apply not just when they combine with main verbs but also when they combine with other auxiliaries as well. So while both *paa* ‘can [+NEG]’ and *sak* ‘able’ expect the verb that precedes them to be base infinitive, *cah* ‘want/like’ expects a *-naa* infinitive. This is exactly what we see. The main verbs that precede the modals *paa* ‘can [+NEG]’ and *sak* ‘able’ **must** appear in the base infinitive in (2.107-2.108). Likewise, the main verb **aa** ‘come’ appears in the *-naa* infinitive form with the modal *cah* ‘want/like’ in (2.109). The same holds true for the passive auxiliary as well, which must, as noted before, precede the modals.

## 2.6 Combinations of Verbs and Auxiliaries

(2.110) 1 + 4 + 5a

*cancer mein uttarparivartit protein=ko liye madhume=ke liye*  
 cancer in develop.NOUN protein=DAT take diabetes=GEN for  
**jor-aa jaa paa-yaa**  
 join-M.SG:MV go:PASSIVE can:M.SG  
 ‘The protein developed for cancer was taken to be joined (together?) for diabetes.’ (web)

(2.111) 1 + 4 + 5b

*prem=ko keval nazrōō=kii b<sup>h</sup>as<sup>h</sup>aa=se b<sup>h</sup>ii par-aa*  
 love=DAT only looks=GEN.F language=INST EMPH read-M.SG  
**jaa sak-t-aa hai**  
 PASSIVE able-HAB-M.SG be.PRES.3.SG  
 ‘Love can be read even with only eyes.’ (web)

(2.112) 1 + 4 + 5c

*pratiiband jaise sazaa purii jaanch=ke baad hii*  
 prohibition like punishment full examination=GEN later EMPH  
**di-i jaa-nii cah-iye**  
 give-F.SG go-INF.F.SG:PASSIVE shall-IMP  
 ‘A punishment like prohibition should be given only after a complete (*lit.* full) examination.’ (web)

The above examples show that the passive auxiliary *jaa* ‘go’ can appear with all modals in Hindi and like the progressive it appears in the base infinitive when preceding the modals *paa* ‘can [+NEG]’ (2.110) and *sak* ‘able’ (2.111) and in the *-naa* infinitive when appearing with the modal *cah* ‘want/like’ (2.112).

Interestingly, there exists a marginally grammatical passive in which the modal does appear in participial form. This is in the marked instance in which the order of the modal and passive auxiliary is reversed.

## 2.6 Combinations of Verbs and Auxiliaries

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- (2.113) *??us=ke jaa-ne=se pahle baat kar sak-ii*  
PRON.3.SG=GEN go-INF=INST before talk.F do can-F.SG  
*ga-yii*  
go-F.SG:PASSIVE  
‘Before he left, talking could be done.’ (based on Hook 1979:88)

In (2.113), the order of elements in the verbal string has changed, and this has in turn affected where morphological components appear. The modal precedes the passive auxiliary, and the modal is suffixed with passive morphology, not the main verb *kar* ‘do’, as would normally be the case.

I now arrive at the final set of combinations for the Hindi verb complex.

### 2.6.1.4 Main Verbs + LV-like Verbs + Non-modals + Modals (Cols. 1+3+4+5)

This section considers the possibility of combining a main verb with the LV-like permissive (3a) or the deontic (3b), the modal (6-c) as well as the non-modal (5a-c) auxiliaries together. Most of these combinations are ungrammatical. These combinations appear to be quite restricted.

(2.114) **1 + 3a + 5a + 6**: Unattested

(2.115) **1 + 3a + 5b + 6**: Unattested

(2.116) **1 + 3a + 5c + 6** : Unattested

While the deontic modal and the progressive can combine together (2.93) and the progressive and the modal *paa* ‘can [+NEG]’ can combine together (2.107), the deontic modal and the the modal *paa* ‘can [+NEG]’ cannot. Therefore, the combination of

## 2.6 Combinations of Verbs and Auxiliaries

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the deontic modal, the progressive, and *paa* ‘can [+NEG]’ is also ungrammatical. A similar explanation can be offered for (2.116) on the basis of the ungrammaticality of the combination of the deontic modal and *paa* ‘can [+NEG]’ (2.99).

It is curious that, as (2.115) indicates the deontic modal, the progressive and the modal *sak* ‘able’ cannot combine together. This seems to stand in contradiction with the fact that each of these verbs can combine with one another (see 2.93, 2.98, 2.109). On its own, this datum does not have an explanation; however, it is possible that the progressive intervening between two different modals renders the sentence ungrammatical. With the permissive and the progressive, however, the modals *sak* ‘able’ and *cah* ‘want/like’ combine felicitously, while the modal *paa* ‘can [+NEG]’ does not.

(2.117) **1 + 3b + 5a + 6**: Unattested

(2.118) **1 + 3b + 5b + 6**:

*apnii shrishtii=ko der tak diin durdashaagrast st<sup>h</sup>itii mein paḍ-aa*  
 self world=DAT long for wrecked state in fall-M.SG  
*nahĩ rah-ne de sak-t-aa*  
 NEG stay-INF:PROG give:LET able-HAB-M.SG  
 ‘I cannot let the state of my world be fallen (lit. *stay* fallen) in a wrecked state.’ (web)

(2.119) **1 + 3b + 5c + 6**:

*sistem mein kuch galat ho rah-aa hai,*  
 system in something wrong be stay-M.SG:IMPFV be.PRES.3.SG,  
*aisa lag-t-e hue b<sup>h</sup>ii ve ise chupchaap*  
 this seem-hab-pl happen tscemph PRON.3.PL this quietly  
*chal-t-e rah-ne de-naa cah-t-ii*  
 walk-HAB-PL:MV stay-INF:IMPFV give-INF.M.SG:LET want-HAB-F.PL

## 2.6 Combinations of Verbs and Auxiliaries

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*hai*

be.PRES.3.PL

‘Even though it seems there is something wrong in the system, they want to quietly keep it running (*lit.* stay walking).’ (web)

The progressive follows the main verb and the permissive combines felicitously with the modal auxiliaries. In (2.117), the progressive **rah** ‘stay’ follows the main verb *pad* ‘fall’ as a progressive and is followed by the permissive or the modal *sak* ‘able’. Similarly, in (2.119), the progressive modifies the main verb *chal* ‘walk’ and the *-naa* infinitive permissive follows it.

As the following list indicates, only the modal *sak* ‘able’ can combine with the deontic modal with the passive and the modals. In contrast to the progressive, the passive precedes the modals.

(2.120) **1 + 3a + 4 + 5a**: Unattested

(2.121) **1 + 3a + 4 + 5b**

*hum mein=se kiisii=ko naa jaa-ne kab jaa-naa pad jaa*

3.PL in=INST any=DAT who knows when go-INF.M.SG DEONTIC go

**sak-t-aa** *hai*

able-HAB-M.SG be.PRES.3.SG

‘Who knows when one among us might have to go (i.e., die).’ (web)

(2.122) **1 + 3a + 4 + 5c**: Unattested

The deontic modal is clearly quite restricted in terms of the modals that it can combine with in the presence of the passive or the progressive. I now look at the combination of the permissive with the modals. With the exception of *paa* ‘can [+NEG]’, the other two modals can combine with the permissive and the passive as illustrated below.

## 2.6 Combinations of Verbs and Auxiliaries

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(2.123) **1 + 3b + 4 + 5a**: Unattested

(2.124) **1 + 3b + 4 + 5b**

*aak<sup>h</sup>ir*   *pahnaave=ko*   *mahilaaõ=ke*   *prati*   *kiisii*   *apraad<sup>h</sup>=kaa*  
after-all   fashion=DAT   women=GEN.PL   towards   any   crime=GEN.M  
*bahaanaa*   *kaise*   ***ban-ne***   ***di-yaa***   ***jaa sak-t-aa***  
excuse   how   become-INF   give-M.SG   go   able-HAB-M.SG  
*hai*  
be.PRES.3.SG  
‘After all, how can fashion be allowed to become a crime towards women?’  
(web)

(2.125) **1 + 3b + 4 + 5c**

*sānsadiya*   *samiti=ko*   *acc<sup>h</sup>aa*   *kaam*   ***kar-ne***   ***di-yaa***  
parliamentary   committee=DAT   good   work   do-INF   give-M.SG:LET  
***jaa-naa***   ***cahiy-e***  
go-INF.M.SG   want-PL  
‘The parliamentary committee should be allowed to do good work.’   (web)

The permissive can therefore not combine with the modal *paa* ‘can [+NEG]’ in the presence of either the passive or the progressive, but it can appear with the other two modals felicitously. Once again, note that the selectional restrictions imposed by each verb in terms of the finiteness of the preceding verb is adhered to.

### 2.6.1.5 Interim Summary

The above data shows that the Hindi verb complex adheres to a fixed word order in which the main verb can combine with various types of auxiliaries; for instance, the permissive and the deontic modal combine with various modal and non-modal auxiliaries. The deontic modal does not share the same positional slot as other

modals since it must precede the passive unlike other modals. Yet, the deontic modal cannot appear with modal auxiliaries. This suggests that the semantics of the auxiliaries bears a role in terms of combinatorial possibilities. I now turn to complex predicates and auxiliaries combination.

### 2.6.2 Complex Predicates and Auxiliaries

The previous section described the combinations of main verbs with auxiliaries. This section compares that data with combinations of complex predicates (main verb-light verb) and auxiliaries.<sup>1</sup> It is shown that a complex predicate construction cannot combine with all combinations that a main verb can. In particular, I find strong restrictions on its combination with the modal *paa* ‘can [+NEG]’.

#### 2.6.2.1 Main verb + Light verb + Auxiliaries (COLS. 1+2+{3-6})

This section discusses the combinations of complex predicates with individual auxiliaries. In examples (2.126-2.131), a complex predicate construction can combine with all auxiliaries except the modal *paa* ‘can [+NEG]’ and the progressive *stay* ‘rah’.

(2.126) **1 + 2 + 3a**

*lihaajaa vib<sup>h</sup>aag=ko unhẽ alvidaa kah de-naa*  
 hence department=DAT them goodbye say:MV give-INF.M.SG:LV  
*pad-aa*  
 fall-M.SG:MODAL

‘Hence the department had to say goodbye to them.’ (web)

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<sup>1</sup>Note that in this section when I discuss complex predicate constructions, I am referring only to the standard aspectual complex predicate construction where the main verb precedes the light verb.

## 2.6 Combinations of Verbs and Auxiliaries

(2.127) 1 + 2 + 3b

*use B<sup>h</sup>aunk le-ne do*  
 3.SG bark:MV take-INF:LV give:LET  
 ‘Let him bark.’

(web)

(2.128) 1 + 2 + 4

*samudr mein kariib 15 kilometer duur tak bah ga-yee ek*  
 sea in almost 15 kilometer far about float go-PL one  
*sak<sup>h</sup>s=ko bacaa li-yaa ga-yaa hai*  
 person=DAT save:MV take-M.SG:LV go-M.SG:PASSIVE be.PRES.3.SG  
 ‘The person who floated about 15 kilometres into the sea has been saved.’  
 (web)

(2.129) 1 + 2 + 5a: Unattested

(2.130) 1 + 2 + 5b

*sonaa is diwali nayee rang dik<sup>h</sup>-aa de sak-t-aa*  
 gold this diwali new color show-M.SG:MV give able-HAB-M.SG  
*hai*  
 be.PRES.3.SG  
 ‘Gold might show new color this Diwali.’

(web)

(2.131) 1 + 2 + 5c

*rajnitik chintakōō=ko apne chas<sup>h</sup>mōō=se dhuul pōōnc<sup>h</sup>*  
 government worriers=DAT self glasses.F=INST mud wipe  
*le-nii cah-iiye*  
 take-INF.F.SG should-F.SG  
 ‘Those worrying about the government (*lit.* government worriers) should wipe the mud off their glasses.’

(web)

(2.132) 1 + 2 + 6: Unattested

As the above examples suggest, auxiliaries can modify a complex predicate in the same way as they modify a main verb. It is tempting to explain the inability of the progressive to appear with complex predicates on semantic grounds. However, as we will see later in §2.6.2.6, the progressive can appear with the complex predicate in the presence of the passive.

### 2.6.2.2 Main Verb + Light Verb + LV-like Verbs + Non-modal Auxiliaries (COLS. 1+2+3+4/6)

This section looks at whether complex predicates can combine with the permissive and the deontic modal as well as non-modal auxiliaries. As the following examples indicate, in a complex predicate construction, the deontic modal and the permissive can be followed by a passive (2.133-2.134), but they cannot appear with the progressive (2.135-2.136).

(2.133) 1 + 2 + 3a + 4

<i>baal</i>	<i>ugravaadiyõ=ko</i>	<i>b<sup>h</sup>ii</i>	<i>maar</i>	<i>ḍaal-naa</i>	<i>paḍ</i>
child	terrorist.PL=DAT	EMPH	hit:MV	put-INF.M.SG:LV	fall:MODAL
<i>ga-yaa</i>					
go-M.SG:PASSIVE					
‘Child terrorists also had to be killed.’					
					(constructed)

(2.134) 1 + 2 + 3b + 4

<i>hum</i>	<i>logõ=ko</i>	<i>saamne=ki</i>	<i>panktii</i>	<i>mein</i>	<i>baith</i>	<i>jaa-ne</i>
we	all=DAT	front=GEN	seat	in	sit:MV	go-INF:LV
<i>di-yaa</i>		<i>ga-yaa</i>				
give-M.SG:LET		go-M.SG:PASSIVE				
‘All of us ( <i>lit.</i> we all) were allowed to sit in the front seat.’						
					(web)	

(2.135) **1 + 2 + 3a + 6:** Unattested

(2.136) **1 + 2 + 3b + 6:** Unattested

In (2.133), the light verb *daal* combines with the deontic modal and the passive. Example (2.134) includes both the light verb and auxiliary usage of the verb *jaa* ‘go’. The light verb *jaa* precedes the permissive *de* ‘give’ and the passive *jaa* follows it. The use of the deontic modal with the progressive is found to be infelicitous. Therefore, once again, the progressive does not appear with complex predicate constructs in the presence of LV-like verbs.

### 2.6.2.3 Main Verb + Light Verb + LV-like Verbs + Modal Auxiliaries (COLS. 1+2+3+5)

The combination of a complex predicate with the permissive or deontic and the modal auxiliaries appears to be quite restricted. In fact, it seems that a complex predicate can only appear with the modal *sak* ‘able’ as shown in (2.138).

(2.137) **1 + 2 + 3a + 5a:** Unattested

(2.138) **1 + 2 + 3a + 5b:** Yes

*guundō=se bach-ne ke liye mujhe adalat mein jhuṭī gavaahīi*  
 thugs=INST escape-INF for me court in false witness.F  
***de daal-nīi pad sak-t-īī hai***  
 give:MV put-INF:F.SG fall able-HAB-F.SG be.PRES.3  
 ‘To escape from thugs, I might have to bear false witness in court.’  
 (constructed)

(2.139) **1 + 2 + 3a + 5c:** Unattested

(2.140) **1 + 2 + 3b + 5a**: Unattested

(2.141) **1 + 2 + 3b + 5b**: Unattested

(2.142) **1 + 2 + 3b + 5c**: Unattested

Although several of the above combinations are incompatible with a main verb as well, the auxiliaries's combination with complex predicates is even more restricted.

### 2.6.2.4 Main Verb + Light Verb + Non-modal Auxiliaries + Modal Auxiliaries (COLS. 1+2+4/6+5)

This section lists combinations of complex predicates with non modal and modal auxiliaries. While no corpus examples were found, for the following combinations, modifying the main verb examples in (2.110-2.112) leads to felicitous examples, as indicated below. The presence of the tense auxiliary appears to be obligatory when the modals are preceded by the passive auxiliary in a complex predicate construction.

(2.143) **1 + 2 + 4 + 5a**

*cancer mein uttarparivartit protein=ko liye madhumeh=ke liye*  
cancer in develop.NOUN protein=DAT take diabetes=GEN for  
**jor di-yaa jaa paa-yaa hai**  
join:MV give-M.SG:LV go:PASSIVE can:M.SG be.PRES.3.SG  
‘The protein developed for cancer was taken to be joined (together?) for diabetes.’ (web)

(2.144) **1 + 2 + 4 + 5c**

*pratiiband jaise sazaa purii jaanch=ke baad hii*  
prohibition like punishment full examination=GEN later EMPH  
**di-i jaa-nii cah-iye**  
give-F.SG go-INF.F.SG:PASSIVE shall-IMP

## 2.6 Combinations of Verbs and Auxiliaries

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‘A punishment like prohibition should be given only after a complete (*lit.*  
full) examination.’ (constructed)

(2.145) **1 + 2 + 4 + 5b**

*prem=ko keval nazrõõ=kii b<sup>h</sup>as<sup>h</sup>aa=se b<sup>h</sup>ii par*  
 love=DAT only looks=GEN.F language=INST EMPH read:MV  
*li-yaa jaa sak-t-aa hai*  
 take-M.SG:LV go:PASSIVE able-HAB-M.SG be.PRES.3.SG  
 ‘Love can be read even with only eyes.’ (web)

While the passive can combine with a complex predicate in the presence of a modal, the progressive cannot. Adding a light verb to the following examples, modified from (2.107-2.109) renders the corresponding sentences ungrammatical.

(2.146) **1 + 2 + 5a + 6**

*\*mein chitr nahĩ bhej de paa rah-aa*  
 PRON.1.SG picture NEG send:MV give:LV can stay-M.SG:IMPFV  
*hũ*  
 be.PRES.2  
*Intended:* ‘I am unable (*lit. cannot*) send the picture.’

(2.147) **1 + 2 + 5b + 6**

*\*mein dek<sup>h</sup> le sak rah-aa hũ*  
 PRON.1.SG see:MV take:LV able stay-M.SG:IMPFV be.PRES.2  
*Intended:* ‘I am able to see.’

(2.148) **1 + 2 + 5c + 6**

*\*bhaarat aa de-naa cah rah-aa hai*  
 india come:MV give-INF.M.SG:LV want stay-M.SG:IMPFV be.PRES.3  
*daud ibrahim*  
 daud ibrahim  
*Intended:* ‘Daud Ibrahim wants to come to India.’

The above examples indicate once again that the progressive cannot appear in the complex predicate construction. It is possible that verbs like the modals are not semantically compatible with the progressive.

### 2.6.2.5 Main Verb + Light Verb + Non-modal Auxiliaries + Modal Auxiliaries (COLS. 1+2+3+4/6+5)

Given that most of the combinations of the complex predicates with modal and non-modal auxiliaries are ungrammatical, it is not surprising that no combinations of a complex predicate with the entire set of auxiliaries could be found within the corpora that were searched.

(2.149) 1 + 2 + 3a + 4 + 5a: Unattested

(2.150) 1 + 2 + 3a + 4 + 5b: Unattested

(2.151) 1 + 2 + 3a + 4 + 5c: Unattested

(2.152) 1 + 2 + 3b + 4 + 5a: Unattested

(2.153) 1 + 2 + 3b + 4 + 5b: Unattested

(2.154) 1 + 2 + 3b + 4 + 5c: Unattested

(2.155) 1 + 2 + 3a + 5a + 6: Unattested

(2.156) 1 + 2 + 3a + 5b + 6: Unattested

(2.157) 1 + 2 + 3a + 5c + 6: Unattested

(2.158) **1 + 2 + 3b + 5a + 6:** Unattested

(2.159) **1 + 2 + 3b + 5b + 6:** Unattested

(2.160) **1 + 2 + 3b + 5c + 6:** Unattested

The above data indicates that no combinations of modals and auxiliaries are feasible. I now show that the complex predicate construction requires special combinations of auxiliaries in order for the progressive or the modal to be able to combine with them.

### 2.6.2.6 Other Acceptable Combinations Involving Complex Predicate Constructs

The previous sections show that many of the complex predicates and auxiliary combinations are quite restricted. It should be noted that the progressive, which cannot appear on its own, can appear with the passive, as illustrated below. In such cases, the tense auxiliary is found to be obligatory.

(2.161) *Shyam=ka ghar beech di-yaa jaa rah-aa*  
 Shyam.MGEN house.M.SG sell:MV give-M.SG:LV **go** stay.IMPV-M.SG  
*hai*  
 be.PRES.3.SG  
 ‘Shyam’s house is being sold off.’ (constructed)

The above example illustrates that passivization allows the progressive to appear together with a complex predicate construction. The passive and the progressive maintain their selectional restrictions i.e., the passive selects for a finite verb and the progressive selects for a base infinitive verb.

### 2.6.2.7 Interim Summary

This section has shown that the combination of complex predicates with auxiliaries is more restricted than that of main verbs and auxiliaries. While all the auxiliaries can appear individually with a complex predicate construct, it is more difficult to have multiple auxiliaries appear together. In particular, the progressive or the modal auxiliaries cannot appear with a complex predicate construct without the presence of the passive. The above discussion has centered on combinations of main verbs/complex predicates with auxiliaries. I now turn to the main verb-light verb combination itself.

### 2.6.3 Main Verbs and Light Verbs

So far, the discussion in this chapter has centered around the Hindi verbal complex. This section examines complex predicate combinations in more detail. The questions that I address are: a) how frequent Hindi light verbs are and b) what factors contribute to main verb-light verb combinations. In order to answer these questions from an empirical perspective, I obtained data from Nespital (1997) , a dictionary of Hindi verbs designed to account for all possible main verb-light verb combinations in Hindi. The list of Hindi main verbs as well as their corresponding combinations with light verbs in Nespital's dictionary were gathered from various sources that included dictionaries, written texts and elicitation from six monolingual native speakers. Using this process, 1272 monomorphemic Hindi main verbs were obtained from Nespital's dictionary. While the number of Hindi verbs might seem low in comparison with the total number of verbs in other languages (Koenig et al (2002) place the number of monomorphemic English verbs known by native college

## 2.6 Combinations of Verbs and Auxiliaries

educated speakers at around 4000), a comparison with the Hindi Wordnet suggests that this is not the case. The Hindi Wordnet includes 3894 verbs, of which only 2054 are monomorphemic verbs. Nespital’s dictionary, therefore, appears to contain slightly over 60% of Hindi verbs, which can be considered a representative sample of Hindi verbs.<sup>1</sup> In the present dissertation, some of the main verbs in Nespital’s dictionary were omitted if no examples were included, or if they were considered the same as another main verb, which is the case in rare occasions with certain transitive and corresponding causative verbs. In order to distinguish between Nespital’s dictionary and these minor modifications, I will refer to the data used in this dissertation as the *Nespital dataset*. Of the 1272 main verbs in the Nespital dataset, nearly two-thirds (n=780) are transitive and the remaining (n=492) intransitive. Moreover, almost a fifth of the transitive verbs are derived causative verbs (n=139).

Light verb	Frequency
<i>jaa</i> ‘go’	209
<i>de</i> ‘give’	71
<i>le</i> ‘take’	43
<i>pad</i> ‘fall’	2
<i>daal</i> ‘put’	1
<i>aa</i> ‘come’	1

**Table 2.11:** *Main verbs in the dataset that appear with only one light verb (n=352)*

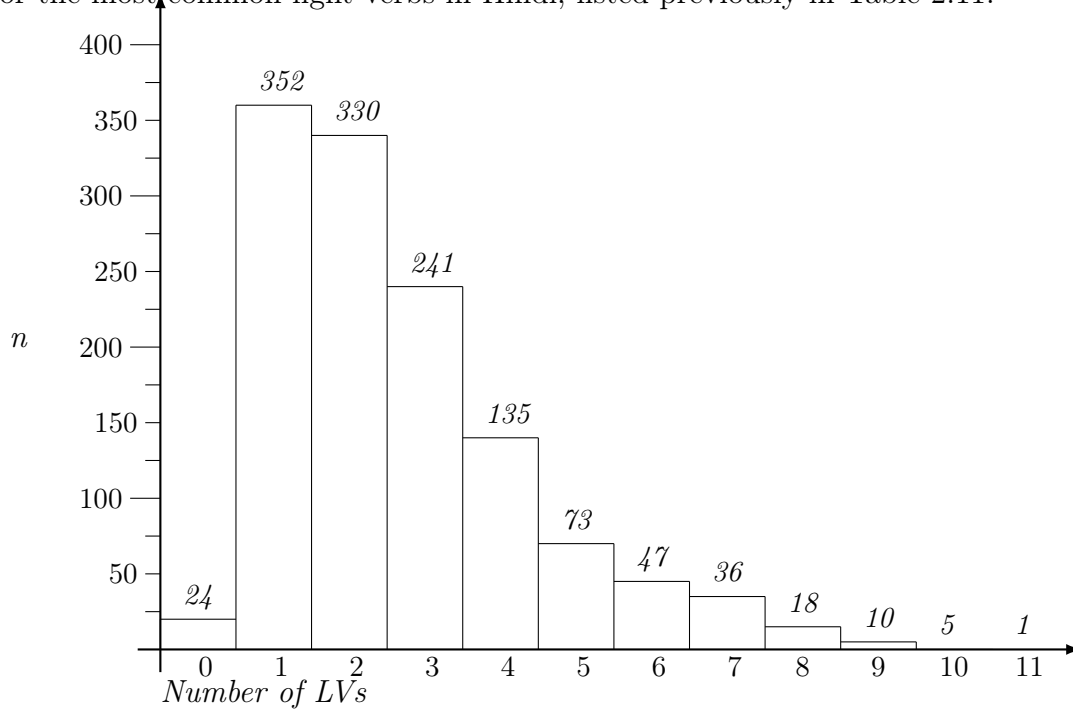
The most common light verbs in Hindi are indicated in Table 2.11. Not all main verbs can appear with all light verbs. The type frequency of main verb-light verb combination in the Nespital dataset is 3469, i.e., an average of 2.7 light verbs per main verbs. In other words, the Nespital dataset suggests that a given main verb

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<sup>1</sup>No effort has been made to determine whether the verbs listed in the two resources i.e., the Hindi Wordnet and the Nespital dataset are equivalent.

## 2.6 Combinations of Verbs and Auxiliaries

can appear with 2-3 light verbs. Figure 2.1 offers more details on the type frequency of the number of main verbs that a light verb subcategorizes for. Slightly more than four-fifths ( $n=1058$ , 83.17%) of Hindi main verbs appear with only one to four light verbs. In fact, half of the main verbs ( $n=682$ , 53.6%) combine with only one or two light verbs. The main verbs that appear at the tail end of Figure 2.1 tend to select for the most common light verbs in Hindi, listed previously in Table 2.11.



**Figure 2.1:** Histogram: Number of MVs that an LV subcategorizes for in the Nespital dataset

One of the factors that appears to play a role in terms of main verb-light verb combination is transitivity. This is shown in Table 2.12, which presents a breakdown of the Hindi light verbs that are discussed in this dissertation based on the transitivity of the main verbs that the light verb selects for.

Ordered by transitivity of the light verb (transitive followed by intransitive) and

## 2.6 Combinations of Verbs and Auxiliaries

percentage of transitive/intransitive main verb combinations, Table 2.12 illustrates that most light verbs prefer to combine with main verbs that share with it its transitivity.<sup>1</sup> All transitive light verbs show a strong preference for combining with transitive main verbs. Similarly, with the exceptions of *aa* ‘come’ and *baith* ‘sit’, intransitive light verbs also show a preference for combining with intransitive main verbs. However, taking into account the fact that there are more transitive than intransitive verbs, if there were no selections restrictions, we would expect that there would be a 2/3 skewing towards transitive verbs. This would make a verb like *aa* ‘come’ relatively unbiased in its selectional restrictions.

LV	Trans.	MV <sub>intransitive</sub>		MV <sub>transitive</sub>		Total		Preferred combination
		%	n	%	n	%	n	
<i>nikaal</i> ‘remove’	T			<b>100%</b>	9	100%	9	TT
<i>daal</i> ‘put’	T	2%	7	<b>98%</b>	427	100%	434	TT
<i>de</i> ‘give’	T	3%	22	<b>97%</b>	658	100%	680	TT
<i>maar</i> ‘hit’	T	5%	2	<b>95%</b>	37	100%	39	TT
<i>le</i> ‘take’	T	14%	97	<b>86%</b>	593	100%	690	TT
<i>pad</i> ‘fall’	I	<b>92%</b>	83	8%	7	100%	90	II
<i>uth</i> ‘rise’	I	<b>90%</b>	147	10%	17	100%	164	II
<i>nikal</i> ‘leave’	I	<b>83%</b>	10	17%	2	100%	12	II
<i>jaa</i> ‘go’	I	<b>70%</b>	409	30%	179	100%	588	II
<i>mar</i> ‘die’	I	<b>67%</b>	4	33%	2	100%	6	II
<i>aa</i> ‘come’	I	33%	57	<b>67%</b>	117	100%	174	<b>IT</b>
<i>baith</i> ‘sit’	I	14%	34	<b>86%</b>	203	100%	237	<b>IT</b>

**Table 2.12:** Type frequency of main verbs that the light verbs select for in the Nespital dataset

In addition to transitivity, other factors also determine main verb-light verb com-

<sup>1</sup>The transitivity of a light verb is determined by the transitivity of its main verb usage. For instance, the light verb *daal* ‘put’ is transitive because its main verb form is transitive.

## 2.6 Combinations of Verbs and Auxiliaries

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binations. As noted before, not all main verbs combine with all light verbs. In Tables 2.13 and 2.14, I show the overlap in the main verbs that light verbs combine with in terms of raw type frequency and percentages respectively. These tables are useful in terms of determining how frequently various main verbs combine with multiple light verbs. For instance, Table 2.14 shows that the main verbs that combine with the light verb *baith* ‘sit’ also combine with the light verb *jaa* ‘go’ about half the time (i.e., 52%) but on the other hand, main verbs that combine with the light verb *jaa* ‘go’ also combine with the light verb *baith* ‘sit’ only about a fifth of the time (i.e., 21%). Both the light verbs *jaa* ‘go’ and *baith* ‘sit’ are both intransitive, however, they still appear to combine with different verbs. While this data needs to be investigated more thoroughly, what it does show is that transitivity is not the only factor in main verb-light verb combinations. In Chapter 5, I show that one of the factors affecting main verb-light verb combinations is the semantic expectations of the constraints encoded by the light verb.

LV (n)	<i>total</i> 'take'	<i>le</i> 'give'	<i>de</i> 'go'	<i>jaa</i> 'put'	<i>daal</i> 'sit'	<i>baith</i> 'come'	<i>aa</i> 'rise'	<i>uth</i> 'fall'	<i>pad</i> 'hit'	<i>maar</i> 'leave'	<i>nikal</i> 'exit'	<i>nikaal</i> 'die'	<i>mar</i>
<i>le</i> 'take'	690	690	513	211	359	202	132	32	34	32	6	9	1
<i>de</i> 'give'	681	513	681	127	403	183	102	12	12	38	3	8	2
<i>jaa</i> 'go'	588	211	127	588	112	124	129	121	77	23	11	7	4
<i>daal</i> 'put'	435	359	403	112	435	154	92	2	1	32	0	8	0
<i>baith</i> 'sit'	237	202	183	124	154	237	94	13	27	25	6	3	3
<i>aa</i> 'come'	174	132	102	129	92	94	174	18	28	16	9	7	2
<i>uth</i> 'rise'	164	32	12	121	2	13	18	164	37	1	2	0	1
<i>pad</i> 'fall'	90	34	12	77	1	27	28	37	90	1	7	0	0
<i>maar</i> 'hit'	39	32	38	23	32	25	16	1	1	39	0	5	0
<i>nikal</i> 'leave'	12	6	3	11	0	6	9	2	7	0	12	0	2
<i>nikaal</i> 'remove'	9	9	8	7	8	3	7	0	0	5	0	9	0
<i>mar</i> 'die'	6	1	2	4	0	3	2	1	0	0	2	0	6

**Table 2.13:** Overlap of selected main verbs between different light verbs in type frequency

LV (%)	<i>le</i> 'take'	<i>de</i> 'give'	<i>jaa</i> 'go'	<i>daal</i> 'put'	<i>baith</i> 'sit'	<i>aa</i> 'come'	<i>uth</i> 'rise'	<i>pad</i> 'fall'	<i>maar</i> 'hit'	<i>nikal</i> 'leave'	<i>nikaal</i> 'exit'	<i>mar</i> 'die'
<i>le</i> 'take'	100	74	31	52	29	19	5	5	5	1	1	0
<i>de</i> 'give'	75	100	19	59	27	15	2	2	6	0	1	0
<i>jaa</i> 'go'	36	22	100	19	21	22	21	13	4	2	1	1
<i>daal</i> 'put'	83	93	26	100	35	21	0	0	7	0	2	0
<i>baith</i> 'sit'	85	77	52	65	100	40	5	11	11	3	1	1
<i>aa</i> 'come'	76	59	74	53	54	100	10	16	9	5	4	1
<i>uth</i> 'rise'	20	7	74	1	8	11	100	23	1	1	0	1
<i>pad</i> 'fall'	38	13	86	1	30	31	41	100	1	8	0	0
<i>maar</i> 'hit'	82	97	59	82	64	41	3	3	100	0	13	0
<i>nikal</i> 'leave'	50	25	92	0	50	75	17	58	0	100	0	17
<i>nikaal</i> 'remove'	100	89	78	89	33	78	0	0	56	0	100	0
<i>mar</i> 'die'	17	33	67	0	50	33	17	0	0	33	0	100

**Table 2.14:** Overlap of main verb selection between different light verbs in percentage

## 2.7 Mood

To complete the discussion of the Hindi verb complex, it should be noted that the language makes a five-way distinction in terms of mood: imperative, subjunctive, indicative, presumptive, and contingent (Kachru 1980:48). Each of these are exemplified for the verb *k<sup>h</sup>aa* ‘eat’:

(2.162) Imperative: *k<sup>h</sup>aa!* ‘eat’

(2.163) Subjunctive: *k<sup>h</sup>aae* ‘may eat’

(2.164) Indicative: *k<sup>h</sup>aataa hai* ‘eats’ (*lit.* ‘eat be’)

(2.165) Presumptive: *k<sup>h</sup>aa-yaa ho-g-aa* ‘may have eaten’ (*lit.* ‘eat-M.SG  
be-FUT-M.SG’)

(2.166) Contingent: *k<sup>h</sup>aa-yaa ho* ‘were he to have eaten’ (*lit.* ‘eat-M.SG be’)

All forms except the imperative inflect in the third person singular masculine in these examples.

## 2.8 Theoretical Implications

The data presented on the Hindi verb complex in this chapter has broader theoretical implications and this section discusses two issues. First, the correlation between finiteness and agreement-marking in Hindi is described in §2.8.1. Then a comparison of the order of functional categories in Hindi with the expectations from the literature is undertaken in §2.8.2.

### 2.8.1 Finiteness and Agreement

The word order assigned to each verb form depending on its usage (as a main verb, light verb or an auxiliary) is strict. Additionally, the combinations of both non-modal and modal auxiliaries show how agreement works in a verbal complex. Agreement is a strong definitional criterion for finiteness in Hindi. Whether or not the verb is inflected, and consequently agrees with the unmarked argument, depends on whether the verb that follows it selects for a (non-)finite verb.

This is illustrated in the following examples, repeated from (2.110-2.112). When a main verb combines with a non-modal and a modal auxiliary, the main verb inflects for agreement and so does the modal verb. But the passive only inflects with the modal *cah* ‘want/like’ and not with either the modal *paa* ‘can [+NEG]’ or the modal *sak* ‘able’.

(2.167) 1 + 4 + 5a

*cancer mein uttarparivartit protein=ko liye madhumeh=ke liye*  
 cancer in develop.NOUN protein=DAT take diabetes=GEN for  
***jor-aa jaa paa-yaa***  
 join-M.SG:MV go:PASSIVE can:M.SG  
 ‘The protein developed for cancer was taken to be joined (together?) for  
 diabetes.’ (web)

(2.168) 1 + 4 + 5b

*prem=ko keval nazrōō=kii b<sup>h</sup>as<sup>h</sup>aa=se b<sup>h</sup>ii par-aa*  
 love=DAT only looks=GEN.F language=INST EMPH read-M.SG  
***jaa sak-t-aa hai***  
 go:PASSIVE able-HAB-M.SG be.PRES.3.SG  
 ‘Love can be read even with only eyes.’ (web)

(2.169) 1 + 4 + 5c

*pratiiband jaise sazaa purii jaanch=ke baad hii*  
 prohibition like punishment full examination=GEN later EMPH  
*di-i jaa-nii cah-iye*  
 give-F.SG go-INF.F.SG:PASSIVE shall-IMP  
 ‘A punishment like prohibition should be given only after a complete (*lit.*  
 full) examination.’ (web)

Additionally, agreement marking must be the same on all verbs. In (2.169) the main verb *de* ‘give’ agrees with the subject *sazaa* ‘punishment’ and inflects for feminine singular. The verbs that follow *de* ‘give’ in that example, which are the passive *jaa* ‘go’ and the modal *cah* ‘want/like’, also inflect for feminine singular. Even when a non-finite verb intervenes between two finite verbs, agreement between the finite verbs and the highest unmarked argument in the clause remains the same for the verb following the non-finite verb, as shown in (2.167-2.168). Thus, in a verb complex, agreement is shared between all finite verbs.

### 2.8.2 Word Order

In some theories, the semantic structures of semantic modifiers are taken to be isomorphic to the syntactic structures that express them. Cinque (1999) in particular argues for a strong correspondence between the cartography of verbal functional projections to the embeddedness of semantic functor-argument relations. He argues that the hierarchies of specifiers and clausal functional heads match in a one-to-one fashion and puts forward the following ordering of functional head. For a head-final language, the hierarchy would predicate a universal isomorphism between scope and left-to-right linear order. The order presented below has been adapted to model the

head-final nature of Hindi.

(2.170) (V <) Voice < Aspect<sub>progressive</sub> < Aspect<sub>perfect</sub> < Tense (Cinque 1999:57)

Each verb or functional head should immediately precede the verb or functional head which it immediately outscopes. The word order of Hindi verbs outlined in (2.52), repeated below, can be evaluated on the basis of functional categories as shown in (2.172).

(2.171) Main Verb (Light Verb) (LV-like) (Passive) (Modal) (Progressive)  
(Tense/Perfect)

(2.172) (V<sub>main</sub>) (LV<sub>aspect/semantic-modifier</sub>) (LV-like<sub>semantic-modifier</sub>) (Voice)  
(Aspect<sub>Modal</sub>) (Aspect<sub>Progressive</sub>) (Tense/Perfect)

The notable issue in (2.172) is that the light verb, which is considered an aspectual modifier is separated from other aspectual modifiers. Moreover, the light verb precedes the passive. The word order in the Hindi verbal complex "violates" the hierarchy posited by Cinque (1999). This contradiction will be discussed further in Chapter 3-4 with respect to verbal constituency and in Chapter 5 with respect to the light verb semantics.

## 2.9 Summary

The data presented in this chapter suggests that word order and verb selection together serve to be a useful criteria in disambiguating between light verb and auxiliary

usages of a verb, and consequently in treating them as distinct syntactic categories. Additionally, light verbs and auxiliaries can also be distinguished in terms of their semantics rather than syntax. In the following chapter, I examine the constituency structure of Hindi verbal complexes. I also examine the effect that the reordering of the light verb and main verb has with respect to which verb functions as the syntactic head of the construction.

# Chapter 3

## Syntax of Complex Predicate Constructions

### 3.1 Introduction

This chapter systematically investigates the different syntactic structures of Hindi verbal complex predicate constructions. These constructions involve the *standard* and *reverse* aspectual complex predicates, as well as the *permissive* construction (first discussed in Chapter 2). The syntactic structure of these three constructions has received attention elsewhere (Hook, 1975; Butt, 1994; Poornima and Koenig, 2008), but none of these works have compared all three constructions together with respect to either phrase structure or argument structure.

It has been strongly argued that complex predicate formation takes place at the argument structure level, and not at the phrase structure level (cf. Butt (1994) for

Hindi, Andrews and Manning (1999) for Hindi and other languages). However, I posit that phrase structure ought not to be ignored. I show that while this view correctly captures complex predicate formation for the standard complex predicate construction, phrase structure representations must also be taken into account in order to capture the differences that exist between the various verbal complexes. For Hindi in particular, the relationship between phrase structure and argument structure is crucial in distinguishing the standard and the reverse aspectual complex predicates from each other as well as from other verbal complexes, like the permissive.

Any analysis of complex predicates must take into account such differences, while maintaining some uniformity in how complex predicate constructions are analyzed. Formal analyses within LFG have suggested that both the standard aspectual complex predicate construction and the permissive construction ought to be defined at a level distinct from phrase structure (Butt, 1994; Andrews and Manning, 1999). “What is relevant”, Butt (1994:52) argues, “with respect to a complex predicate formation is that the combination of the verbs’ argument structure result in a single set of grammatical functions i.e., they have one subject, one object, etc.” One conclusion that is drawn from such an analysis is that Hindi complex predicates are defined by argument sharing rather than a specific syntactic structure. An alternative perspective, however, is that constructions with different syntactic structures ought to still be analyzed similarly with respect to their argument-structure properties (Kayne, 1994; Cinque, 1999). Yet other analyses recommend treating the various components of complex predicate constructions as complex lexical units (Ackerman and Lesourd, 1997; Webelhuth and Ackerman, 1998). The data presented in this chapter

### 3.2 Constituency of Aspectual Complex Predicate Constructs

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facilitates a thorough comparison of the three Hindi complex predicate constructions and an evaluation of each of these claims. I show that not all complex predicate formation is equivalent – in the case of the reverse construction, the complex predicate formation does not have the same properties of monoclausality and argument composition that the standard construction displays. I therefore argue for a partial dissociation of phrase structure and argument structure. I further suggest that with respect to the permissive construction, taking phrase structure into account makes it possible to determine whether or not there is complex predicate formation.

I first describe the constituency structure of Hindi aspectual complex predicate constructions (§3.2) and the permissive (§3.3) constructions before comparing the two constructions from an argument-structure perspective (§3.4). I show that the relationship between phrase structure and argument structure is crucial in distinguishing the three Hindi complex predicate constructions. These facts are useful in determining how complex predicate constructions ought to be defined. I suggest that the differing syntactic structures of these complex predicate constructions are indicators of underlying differences in the argument-sharing properties.

## 3.2 Constituency of Aspectual Complex Predicate Constructs

As noted previously, Hindi light verbs are homophonous to main verbs, but are semantically bleached. Additionally, as introduced in Chapter 1, Hindi aspectual complex predicates can be formed by the light verb either following the main verb

### 3.2 Constituency of Aspectual Complex Predicate Constructs

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(*standard aspectual complex predicate construction*, as in (3.1) or by preceding the main verb (*reverse aspectual complex predicate construction*, as in (3.2)).

- (3.1) *raam=ne Leela=ko tamaachaa maar di-yaa*  
Ram=ERG Leela=DAT slap.M.SG hit:MV give-M.SG:LV  
'Ram slapped Leela (hit Leela with a slap).' (constructed)

- (3.2) *raam=ne Leela=ko tamaachaa de maar-aa*  
Ram=ERG Leela slap.M.SG give:LV hit-M.SG:MV  
'Ram slapped Leela (hit Leela with a slap).' (constructed)

Note that the inflection *-(y)aa* is carried by the light verb *de* 'give' in the *standard* (3.1), but by the main verb *maar* 'hit' in the *reverse* (3.2) aspectual complex predicate construction.

It should be noted that V-V sequences are frequently ambiguous between a complex predicate reading and an embedded adverbial structure. Butt and Lahiri (2003) point out that the ambiguity can be removed when an optional complementizer *kar* 'do' is included.

- (3.3) *nadyaa=ne makaan ban-aa di-yaa*  
nadya.f=ERG house make:MV give-M.SG:LV  
'Nadya built a house (for somebody else).' (complex predicate, constructed)

- (3.4) *nadyaa=ne makaan ban-aa (kar) di-yaa*  
nadya.f=ERG house make:MV do give-M.SG:LV  
'Having built a house, Nadya gave it.' (serial verb (adverbial structure) construction, constructed)

Moreover, it is possible to insert another object in the adverbial construction, but not in the complex predicate.

### 3.2 Constituency of Aspectual Complex Predicate Constructs

---

- (3.5) \**nadyaa=ne makaan ban-aa (kar) abbu=ko di-yaa*  
Nadya=ERG house make-M.SG do father=DAT give-M.SG:LV  
*Intended*: ‘Nadya built a house for her father.’ (complex predicate)

- (3.6) *nadyaa=ne makaan ban-aa (kar) abbu=ko di-yaa*  
Nadya=ERG house make-M.SG father=DAT give-M.SG  
*Intended*: ‘Having built a house, Nadya gave it to her father.’ (serial verb construction)

The adverbial construction in (3.6) consists of two main verbs, one of which (*ban* ‘make’) heads an embedded clause whose subject is controlled by the matrix subject. The complex predicate on the other hand is an instance of clause union where both the verbs select a single array of grammatical functions, There is no subject control, no embedded clause, and only one possible object.

The main verb and the light verb form a V-V sequence in the syntax. In addition, the main verb combines with the light verb to the exclusion of the main verb’s arguments. In a complex predicate construction, there is only one argument structure list, i.e., one subject, one object etc. I show that both the standard and reverse complex predicate constructions are monoclausal and form a verbal complex to the exclusion of the complements of the main verb. The two constructions differ in that the standard complex predicate construction allows certain particles to intervene between the two verbs, and the range of auxiliaries that can follow the two verb combination is more restricted in the reverse complex predicate construction. The arguments made here in favor of the monoclausality of Hindi aspectual complex predicate constructions are derived from Butt (1994). The arguments in Butt (1994) are expanded when needed to the reverse complex predicate construc-

## 3.2 Constituency of Aspectual Complex Predicate Constructs

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tion, which she does not discuss.<sup>1</sup> In the following sections, I discuss data based on movement, modifiers and co-ordination to show that the main and light verb form a constituent. Additionally, I argue against the possibility that the two verbs combine in the morphology and form some kind of compound.

### 3.2.1 Movement

Although the ordering of subjects and objects is fairly free in Hindi, the main verb and the light verb in an aspectual complex predicate must be reordered with other clausal constituents *as a unit*. This was demonstrated by Butt (1994:93) for the standard construction, repeated in (3.7), and is demonstrated for the reverse construction in (3.8)<sup>2</sup>

- (3.7) (a)  $[leela=ne]$   $[shyaam=ko]$   $[citṭṭ^h ii]$   $[lik^h$   
[Leela.F=ERG] [Shyam.M.SG=DAT] [letter.F.SG] [write:MV  
 $maar-ii]$   
hit-F.SG:LV]  
'Leela wrote a letter to Shyam.' (constructed)
- (b) [Shyam=ko] [Leela=ne]  $[citṭṭ^h ii]$   $[lik^h$  maarii]  
(c) [Leela=ne]  $[lik^h$  maarii]  $[citṭṭ^h ii]$  [Shyam=ko]  
(d)  $[lik^h$  maarii] [Leela=ne] [Shyam=ko]  $[citṭṭ^h ii]$   
(e)  $[lik^h$  maarii]  $[citṭṭ^h ii]$  [Shyam=ko] [Leela=ne]  
(f)  $[citṭṭ^h ii]$   $[lik^h$  maarii] [Leela=ne] [Shyam=ko]

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<sup>1</sup>Much of the original argumentation and tests used in Butt (1994) are based on Hindi N-V complex predicates studied by Mohanan (1994). I do not discuss nominal complex predicate constructions here.

<sup>2</sup>The square brackets are used to represent surface phrase structure.

### 3.2 Constituency of Aspectual Complex Predicate Constructs

---

- (g) [ciṭṭ<sup>h</sup>ii] [lik<sup>h</sup> maarii] [Shyam=ko] [Leela=ne]  
 (h) \*[ciṭṭ<sup>h</sup>ii] [lik<sup>h</sup>] [Shyam=ko] [Leela=ne] [maarii]  
 (i) \*[ciṭṭ<sup>h</sup>ii] [lik<sup>h</sup>] [Shyam=ko] [maarii] [Leela=ne]

The scrambling possibilities in (3.7.a)-(3.7.g) show that the sentence can be reorganized in many ways. Nonetheless, the main verb *de* (give) cannot be moved away from the light verb *maar* (hit) as shown in examples from (3.7.h) and (3.7.i). The same holds true for the following attested example of the reverse complex predicate construction.

- (3.8) a. [isii gam mein] [govindacharya=ne] [apnaa sir] [divaar par]  
           this sadness in Govindacharya=ERG self head wall on  
           [de maar-aa]  
           hit:MV hit-M.SG:LV  
           ‘In(/due to) this sadness Govindacharya his his head on the wall.’  
           (EMILLE Corpus ID: 152)
- b. [isii gam mein] [govindacharya=ne] [apnaa sir] [divaar par] [**de**  
           **maar-aa**]
- c. [isii gam mein] [govindacharya=ne] [divaar par] [apnaa sir] [**de**  
           **maar-aa**]
- d. [isii gam mein] [govindacharya=ne] [apnaa sir] [**de maar-aa**] [divaar  
           par]
- e. [isii gam mein] [govindacharya=ne] [**de maar-aa**] [apnaa sir] [divaar  
           par]
- f. [isii gam mein] [**de maar-aa**] [govindacharya=ne] [apnaa sir] [divaar  
           par]

## 3.2 Constituency of Aspectual Complex Predicate Constructs

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- g. \**de [isii gam mein] [govindacharya=ne] [apnaa sir] [divaar par]*  
*maar-aa*

The scrambling possibilities in (3.8) show that the light verb and main verb can be reordered with respect to other clausal constituents as a unit. Other clausal units such as *apnaa sir* ‘self head’ or *divaar par* ‘head on’ can also be reordered, as indicated in (3.8b). Similarly, the light verb-main verb combination can be moved, as shown in (3.8c-3.8f), with some changes in terms of emphasis. The ungrammaticality of (3.8g) suggests that they *must* be re-ordered with other clausal constituents as a unit. Together, the data in (3.7) and (3.8) indicate that the combination of main verb and light verb in a Hindi complex predicate construction behave as a single unit with respect to movement.

### 3.2.2 Adverbial Modification

Temporal adverbial modifiers such as *kal* ‘yesterday/tomorrow’ can appear in various positions to the left of the verb that is optionally followed by an auxiliary (3.9a-3.9c), but cannot follow the verb (3.9d).

- (3.9) a. *leelaa=ne kal xat pad<sup>h</sup>-aa (t<sup>h</sup>-aa)*  
Leela.F=ERG yesterday letter write-M.SG be.PAST-3.SG  
‘Leela (had) read a letter yesterday.’ (constructed)
- b. *leelaa=ne xat kal pad<sup>h</sup>-aa (t<sup>h</sup>-aa)*
- c. *kal leelaa=ne xat pad<sup>h</sup>-aa (t<sup>h</sup>-aa)*
- d. \**leelaa=ne xat pad<sup>h</sup>-aa kal (t<sup>h</sup>-aa)*

### 3.2 Constituency of Aspectual Complex Predicate Constructs

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Similar to the examples illustrated above for main verbs, Butt (1994:94-95) provides examples that show the same to be true of the standard CP construction.

- (3.10) a. *anjum=ne xat kal [lik<sup>h</sup> li-yaa]*  
anjum=ERG yesterday letter write:MV take-M.SG:MV  
‘Anjum wrote the letter yesterday.’ (constructed)
- b. \**anjum=ne xat [lik<sup>h</sup> kal li-yaa]*

In the above examples, the adverbial modifier can appear before the two verbs in the complex predicate construction (3.10) but not between them. This pattern holds for the reverse CP as well. The adverbial modifier *kal* ‘yesterday/tomorrow’ can appear in various positions to the left of the reverse CP, as indicated in (3.11a) and (3.11b), but not between the main verb and the light verb (3.11c).

- (3.11) a. *leelaa=ne kal saaraa din gappõ mein [maar bitaay-aa]*  
Leela.F=ERG yesterday all day.M chats.M.PL in hit:LV  
spend-M.SG:MV  
‘Leela spent all day yesterday chatting.’ (constructed)
- b. *leelaa=ne saaraa din gappõ mein kal [maar bitaay-aa]*
- c. \**leelaa=ne saaraa din gappõ mein [maar kal bitaay-aa]*

With respect to adverbial modification, then, aspectual complex predicates form a single unit. The coordination data also confirms this pattern.

#### 3.2.3 Coordination

Another piece of evidence that the verbs that form an aspectual complex predicate form a single constituent derives from coordination facts. In Hindi, anything that

### 3.2 Constituency of Aspectual Complex Predicate Constructs

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is a constituent can be coordinated and if something cannot be coordinated it is definitely not a constituent (Mohan, 1994). However, it is not necessarily the case that if something can be coordinated it must form a constituent. That is, Hindi has non-constituent coordination and therefore it is not necessarily the case that what is coordinated forms a constituent.

For instance, a main verb followed by an auxiliary cannot be coordinated. This is exemplified in (3.12) for the progressive auxiliary (the same facts apply for other auxiliaries as well).

- (3.12) a. *Leela haar banaa rah-ii t<sup>h</sup>-ii aur*  
 Leela.F necklace.M make:MV stay.IMPV-F.SG be.PAST-F.SG and  
*usii vakt pahan rah-ii t<sup>h</sup>-ii*  
 that time wear stay.IMPV-F.SG be.PAST-F.SG  
 ‘Leela was making a necklace and wearing it at the same time.’
- b. \**Leela haar [[banaa aur pahan] rah-ii*  
 Leela.F necklace.M make:MV and wear:MV stay.IMPV-F.SG  
*t<sup>h</sup>-ii]*  
 be.PAST-F.SG  
*Intended:* ‘Leela was making a necklace and wearing it at the same time.’
- c. \**Leela [[haar banaa aur haar pahan]*  
 Leela.F necklace.M make:MV and necklace.M wear:MV  
*rah-ii t<sup>h</sup>-ii]*  
 stay.IMPV-F.SG be.PAST-F.SG  
*Intended:* ‘Leela was making a necklace and wearing it at the same time.’

The sentence in (3.12a) illustrates an instance in which two predicates containing auxiliaries are coordinated. The ungrammaticality of examples (3.12b-c) suggests that any attempts at coordination which separate one of the main verbs from its auxiliary are ill-formed (Butt 1994:95). Similarly, any attempts at coordination

### 3.2 Constituency of Aspectual Complex Predicate Constructs

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which separates the main verb and the light verb from each other are ill-formed as shown in (3.13-3.13).

- (3.13) a. *\*leelaa=ne shyaam=ko citt<sup>h</sup>ii [likh aur de]*  
 Leela.F=ERG Shyam.M=DAT letter.F.Sg write:MV and give:MV  
*maar-ii*  
 hit-F.Sg:LV  
*Intended:* ‘Leela wrote and gave a letter to Mohan.’
- b. *\*leelaa=ne shyaam=ko citt<sup>h</sup>ii maar [likh-ii]*  
 Leela.F=ERG Shyam.M=DAT letter.F.Sg hit:LV write.Perfv-F.Sg:MV  
*aur di-i]*  
 and give-F.Sg:MV  
*Intended:* ‘Leela wrote and gave a letter to Mohan.’

In (3.13a), the complement of the light verb cannot be coordinated with main verbs in the standard CP construction. Coordinated main verbs can also not follow light verbs in the reverse CP construction (3.13b). The data discussed so far indicates that both the standard and reverse construction thus patterns similarly to a verb constellation.

The data based on movement, modifiers and co-ordination presented so far suggest that the main and light verb form a single constituent. However, as stated before, an alternative hypothesis is that the two verbs combine in the morphology and form some kind of compound. Butt (1994) provides evidence against that hypothesis for the standard CP construction as discussed below.

## 3.2 Constituency of Aspectual Complex Predicate Constructs

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### 3.2.4 Insertion

If lexical items that themselves are syntactic constituents of the sentence can be inserted between the main verb and light verb, then it shows that the two verbs combine not in the lexicon but in the syntax. In general, most lexical items cannot be inserted between the main verb and light verb. In particular, it has been widely noted that it is not possible to negate an aspectual complex predicate (Hook, 1975; Butt, 1994; Singh, 1998). I now discuss two possible types of markers that can appear within a complex predicate construction: negation markers and discourse clitics.

#### 3.2.4.1 Negation

Singh (1998:196) demonstrates that while a main verb in (3.14) can be negated, a main verb-light verb combination cannot be negated (3.15).

- (3.14) *us=ne res nahĩĩ jĩit-ĩĩ*  
3sg=erg race NEG win-F.SG  
‘She did not win the race.’ (constructed)

- (3.15) \* *us=ne res nahĩĩ jĩit li-i*  
3sg=erg race NEG win:MV take-F.SG:LV  
*Intended:* ‘She did not win the race.’

The explanation posited for the inability of negative markers to appear with light verbs is that since the complex predicate constructions are used to focus on the completion, the use of negation is pragmatically not felicitous (Singh, 1998, p.195). However, what has not been noticed previously is that even though the negative marker by itself cannot appear in the standard CP construction (see 3.17), instances

### 3.2 Constituency of Aspectual Complex Predicate Constructs

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where *wh-* + *neg* sequence (‘why not’) can appear between the main and light verb (3.16a) but not at the end of the clause (3.16b).

- (3.16) a. *tum apne beimaan naukara=ko nikaal kyõ nahĩĩ*  
you self rogue servant=DAT remove:MV why neg  
*de-t-e?*  
give-HAB-PL:LV  
‘Why don’t you remove your rogue servant?’ (Nespital, 1997)
- b. *\*tum apne beimaan naukara=ko nikaal de-t-e kyõ*  
you self rogue servant=DAT remove:MV why neg  
*nahĩĩ?*  
give-HAB-PL:LV  
*Intended:* ‘Why don’t you remove your rogue servant?’

Based on the above data, the explanation for the inability of the Hindi negative marker *nahĩĩ* to appear between a main verb and light verb can be because the negative marker must scope to its right over either the entire phrase or the verb, leading to the infelicity of sentences like the one below.

- (3.17) *\*/# tum ciṭṭhi nahĩĩ le aa-yee*  
you letter NEG bring:MV come-M.SG:LV  
*Intended:* ‘You did not bring the letter.’

In addition to the *wh-* + *neg*, discourse clitics such as *hii* (exclusive focus particle ‘only’) and *bhii* (inclusive focus particle ‘also’) can also be inserted between the verbs in a standard complex predicate construction as I now show.

#### 3.2.4.2 Discourse Clitics

In the standard CP construction, in order to take narrow scope over the verb, the emphatic particle must appear between the main verb and the light verb (3.18b).

### 3.2 Constituency of Aspectual Complex Predicate Constructs

It cannot appear after the verbal complex either before (3.18c) or after an auxiliary (3.18d).

- (3.18) a. *us=ne      ciṭṭ<sup>h</sup>ii      b<sup>h</sup>ii bhej      di-yaa      (t<sup>h</sup>-aa)*  
                  3.SG=ERG letter.F.SG also send:MV give-M.SG:LV (be.Past.3.Sg)  
                  ‘He sent a letter also (along with other things).’ (web)
- b. *us=ne      ciṭṭ<sup>h</sup>ii      bhej      b<sup>h</sup>ii di-yaa      (t<sup>h</sup>-aa)*  
                  3.SG=ERG letter.F.SG send:MV also give-M.SG:LV (be.Past.3.Sg)  
                  ‘He even sent a letter (in addition to **sending** other things).’  
                  (constructed)
- c. *\*us=ne ciṭṭ<sup>h</sup>ii bhej di-yaa b<sup>h</sup>ii (t<sup>h</sup>-aa)*
- d. *\*us=ne ciṭṭ<sup>h</sup>ii bhej di-yaa (t<sup>h</sup>-aa) b<sup>h</sup>ii*

The restriction on focus particles in the reverse ACP is different. Here, *b<sup>h</sup>ii* can only precede the complex predicate (3.19a) but cannot be inserted between the two verbs (3.19b) or it can, as indicated previously, appear at the end of the clause.

- (3.19) a. *us=ne      ciṭṭ<sup>h</sup>ii      b<sup>h</sup>ii de      bhej-aa*  
                  3.SG=ERG letter.F.SG also give:LV send-M.SG:MV  
                  ‘He also sent off a letter (in addition to **doing** other things).’  
                  (constructed)
- b. *\*us=ne ciṭṭ<sup>h</sup>ii de b<sup>h</sup>ii bhej-aa*

While the insertion of a focus particle is possible in the standard ACP construction and serves as evidence against compounding, such an insertion is not possible in the reverse ACP construction. The only structural difference between the two constructions is the order of the main and light verb. Since the first predicate in the reverse construction is a light verb, the ungrammaticality of (3.19) may be semantic:

## 3.2 Constituency of Aspectual Complex Predicate Constructs

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the light verb just cannot be the scope of the focus particle. Therefore, the fact that *b<sup>h</sup>ii* cannot appear between the two verbs in the reverse construction does not provide evidence for or against the claim that the reverse ACP construction involves some kind of compounding.

The data presented so far suggests that from a syntactic perspective the standard and reverse aspectual complex predicate construction behave the same way except with respect to insertion. In what follows, I show the two constructions differ with respect to the auxiliaries that they can appear with.

### 3.2.5 Range of Auxiliaries

In addition to lexical items that can be inserted between the main and light verb, the standard and the reverse CP construction also differ with respect to the auxiliaries that they can appear with. As stated previously in Chapter 2, auxiliaries occur in a specific order and always follow the CP construction. For instance, the passive auxiliary *jaa* ‘go’ precedes the progressive auxiliary *rah* ‘stay’, and the tense auxiliary is obligatory with the progressive. The tense auxiliary must be last, as illustrated in (3.20).

- (3.20) *shyaam=ka ghar beech di-yaa jaa rah-aa*  
Shyam.MGEN house.M.SG sell:MV give-M.SG:LV **go** stay.IMPV-M.SG  
*hai*  
be.PRES.3.SG  
‘Shyam’s house is being sold off.’ (constructed)

As illustrated in section §2.6.2 in Chapter 2, the standard CP construction can appear with the full range of Hindi auxiliaries. The reverse construction is more

### 3.2 Constituency of Aspectual Complex Predicate Constructs

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restricted. Neither the progressive nor the passive auxiliary can appear in a reverse construction, as shown in (3.21a) and (3.21b) respectively.

- (3.21) a. *\*shyaam kitaab jor=se de phekh*  
Shyam.M book.M.SG force=Inst give:LV throw:MV  
*rah-aa t<sup>h</sup>-aa*  
**stay.IMPFV-M.SG** be.Past-M.3.Sg  
*Intended*: ‘Shyam threw the book forcefully.’
- b. *\*kitaab jor=se de p<sup>h</sup>ekh-aa ga-yaa t<sup>h</sup>-aa*  
book.M.SG force=Inst give:LV throw:MV **go-M.SG** be.Past-M.3.Sg  
*Intended*: ‘The book was thrown forcefully.’

One possible explanation for why the progressive cannot appear with the reverse construction is that this construction is strictly perfective, as opposed to the standard construction, which need not be. I currently have no explanation for the inability of the reverse construction to passivize.

#### 3.2.6 Summary

The purpose of this section was to demonstrate that the main and light verb combination in both the standard and reverse aspectual CP construction belong to the same clause. There is only one list of arguments that both verbs inherit. The standard and reverse aspectual complex predicate constructions behave the same way in terms of syntactic tests like movement, adverbial modification and coordination. Even the difference between the two structures as to whether or not elements can be inserted between the main and light verbs can be explained on semantic grounds: The lack of emphatic element insertion in the reverse construction is due to the fact

that the emphatic marker cannot just modify the light verb, which precedes the main verb in the reverse.

### 3.3 Constituency of Permissive Complex Predicate

In order to facilitate a comparison between aspectual complex predicates and other verbal complexes, this section describes the constituency structure of the permissive. Recall that the permissive, which was first introduced in Chapter 2, is formed by the verb *de* ‘give’ when it is used to indicate the notion of permission. From an argument structure perspective, the presence of the permissive allows the addition of an argument. This is illustrated by the contrasting examples repeated from (2.66-2.65).

- (3.22) *shyam=ko k<sup>h</sup>aanaa k<sup>h</sup>aa-naa hai*  
           shyam=DAT food eat-INF be-PRES.3.SG  
           ‘Shyam has to eat food.’ (constructed)

- (3.23) *leela=ne shyam=ko k<sup>h</sup>aanaa k<sup>h</sup>aa-ne di-yaa*  
           leela=ERG shyam=DAT food eat-INF give-M.SG:LET  
           ‘Leela let Shyam eat food.’ (constructed)

In (3.22), the argument *Shyam* is both the permittee and the eater and the argument *Leela* is the permitter. Both *Shyam* and *k<sup>h</sup>aanaa* ‘food’ are arguments of *k<sup>h</sup>aa* ‘eat’, whereas *Leela* is the argument of the permissive *de* ‘let’. Additionally, the subject is assigned ergative case by the permissive.

### 3.3 Constituency of Permissive Complex Predicate

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Extensive evidence for the monoclausality of the permissive has been presented in Butt (1994).<sup>1</sup> Here, I repeat only the relevant data that will facilitate comparison between the permissive and the aspectual complex predicate constructions.

#### 3.3.1 Agreement

The permissive is similar to the standard aspectual complex predicate construction with respect to agreement. The finite permissive verb agrees with the highest unmarked argument as shown below.

- (3.24) *anjum=ne saddaf=ko jaa-ne di-yaa*  
Anjum=ERG saddaf=DAT go-Inf.Obl:MV let-M.SG  
‘Anjum let Saddam go.’ (Butt 1994:33)

- (3.25) *anjum=ne saddaf=ko haar banaa-ne di-yaa*  
Anjum=ERG saddaf=DAT necklace.M make-Inf.Obl:MV give-M.SG:LET  
‘Anjum let Saddam make the necklace.’ (Butt 1994:33)

- (3.26) *anjum=ne saddaf=ko citt<sup>h</sup>i lik<sup>h</sup>-ne di-i*  
Anjum=ERG saddaf=DAT letter.F write-Inf.Obl:MV give-F.SG:LET  
‘Anjum let Saddam write the letter.’ (constructed)

In the above set of examples, the permissive is masculine by default when there are no unmarked arguments, and either masculine (3.25) or feminine (3.26) depending on the gender of the unmarked direct object *haar* ‘necklace’ or *citt<sup>h</sup>i* ‘letter’

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<sup>1</sup>Butt (1994) shows that the permissive construction is a monoclausal unit and not an object control structure. Specifically, she shows based on anaphora and control data that the subject in the permissive is not embedded.



### 3.3 Constituency of Permissive Complex Predicate

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- b. ??[*leela=ne*] [*citt<sup>h</sup>i lik<sup>h</sup>-ne*] [*shyam=ko*] [*di-i*]
- c. \**leela=ne shyam=ko lik<sup>h</sup>-ne citt<sup>h</sup>i di-i*
- d. \**leela=ne shyam=ko citt<sup>h</sup>i di-i lik<sup>h</sup>-ne*
- e. \**leela=ne di-i citt<sup>h</sup>i shyam=ko lik<sup>h</sup>-ne*

Additionally, as noted before, auxiliaries, which are not discussed in Butt (1994), must always appear after the permissive i.e., the verbs must move as a unit to the exclusion of their arguments, as shown in (3.28i-j).<sup>1</sup>

(3.29)

- a. [*leela*] [*shyam=ko*] [*citt<sup>h</sup>i*] [*lik<sup>h</sup>-ne de rahii hai*]
- b. [*leela*] [*de rahii hai*] [*shyam=ko*] [*citt<sup>h</sup>i lik<sup>h</sup>-ne*]

Based on the above set of examples (3.27-3.29), one can see that the permissive is compatible with two different constituent structures. Either the two predicates in the permissive form a single constituent (3.27) or the infinitive forms a constituent with the direct object (3.28)). I now test the constituency of both structures.

#### 3.3.3 Coordination

Coordination does not provide conclusive evidence of the constituent structure of the permissive construction. Unsurprisingly, it is possible to coordinate two different infinitival verb and permissive verb combination, as illustrated in the following example.

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<sup>1</sup>In each of the examples, the light verb agrees with the unmarked direct object *citt<sup>h</sup>i* ‘letter’ irrespective of its position in the clause.

### 3.3 Constituency of Permissive Complex Predicate

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- (3.30) *anjum=ne saddaf=ko roti [[k<sub>h</sub>ariid-ne di-i] aur  
 anjum=ERG saddaf=DAT bread [buy-INF give-F.SG:LET and  
 [k<sub>h</sub>aa-ne di-i]]  
 eat-INF give-F.SG:LET  
 ‘Anjum let Saddam buy roti and eat roti.’ Butt (1994)*

In (3.30), the phrases *k<sub>h</sub>ariid-ne di-i* ‘buy-INF let’ and *k<sub>h</sub>aa-ne di-i* ‘eat-INF let’ can be coordinated. Butt (1994) argues that it is also possible to coordinate the infinitival verb and the permissive, when they appear together, as shown in (3.31) and (3.30).

- (3.31) *anjum=ne saddaf=ko [[haar banaa-ne] aur [xat lik<sub>h</sub>-ne]]  
 anjum=ERG saddaf=DAT necklace make-INF and letter.M write-INF  
 di-yaa  
 let-M.SG  
 ‘Anjum let Saddam make a necklace and [let Saddam] write a letter.’ Butt (1994)*

This, however, could be a result of non-constituent coordination because the coordination of multiple objects in (3.31) is a result of left-constituent coordination.

- (3.32) *anjum=ne saddaf=ko [[haar banaa-ne] aur [xat lik<sub>h</sub>-ne]]  
 anjum=ERG saddaf=DAT necklace make-INF and letter.M write-INF  
 di-yaa  
 let-M.SG  
 ‘Anjum let Saddam make a necklace and write a letter.’ (Butt, 1994)*

In the above example, the permissive verb takes two objects and thus does not present strong evidence for a clause union structure, i.e., where the two verbs form a single constituent and select a single array of grammatical relations. Additionally, when the permissive takes the VP complement i.e., the structure where the permissive

### 3.3 Constituency of Permissive Complex Predicate

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and the infinitival verb can be separated can also be coordinated. This is shown in (3.33) and (3.30).

- (3.33) *anjum=ne di-yaa saddaf=ko [[haar banaa-ne] aur [xat  
anjum=ERG let-M.SG saddaf=DAT necklace make-INF and letter.M  
lik<sub>h</sub>-ne]]*  
write-INF  
'Anjum let Saddam make a necklace and (**let Saddam**) write a letter.'

The above case of VP coordination presents a non-clause union structure and suggests that when the permissive appears with a VP complement structure, it does not form a clause union. The above data on coordination therefore does not provide an argument for a monoclausal structure. In fact, it suggests that the combination of the permissive with the VP complement is a non-clause union structure.

#### 3.3.4 Insertion

##### 3.3.4.1 Negation

A clearer indicator of the constituency structure of the permissive is that unlike what is the case with aspectual complex predicate construction, the negative marker can appear between the two verbs in the permissive complex predicate construction, and leads to two interpretations when it occurs before the complement verb.<sup>1</sup> The following data comes from Butt (1994).

- (3.34) *anjum saddaf=ko haar banaa-ne nahĩĩ de-g-ii*  
Anjum Saddam=DAT necklace.M make-INF neg give-FUT-F.SG  
'Anjum will **not** let Saddam make a necklace.' (Butt, 1994)

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<sup>1</sup>Recall from 3.2 that aspectual complex predicates allow negative marker between the two verbs, only when the *Wh-* marker appears with the negative marker.

### 3.3 Constituency of Permissive Complex Predicate

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- (3.35) ?*anjum haar nahĩĩ banaa-ne saddaf=ko de-g-ii*  
 Anjum necklace.M NEG make-INF Saddaf=DAT give-FUT-F.SG  
 ‘Anjum will let Saddaf **not** make a necklace.’ (Butt, 1994)

- (3.36) *anjum saddaf=ko [nahĩĩ banaa-ne de-g-ii] haar*  
 Anjum Saddaf=DAT NEG make-INF.OBL give-FUT-F.SG necklace.M  
*Reading 1*: ‘Anjum will **not** let Saddaf make a necklace.’  
*Reading 2*: ‘Anjum will let Saddaf **not** make a necklace.’

As indicated previously, the negative marker modifies the following word or phrasal constituent. Therefore, it modifies the infinitival verb in (3.34) and the VP complement in (3.35). When it precedes both verbs, as in (3.36), then the sentence is ambiguous between whether the entire complex predicate is being modified (reading 1) or just the complement of the causative verb (reading 2).

#### 3.3.5 Summary

When they appear together, the two predicates in the permissive form a clause union structure and target a single argument structure list. When the permissive allows an additional argument in the clause, there is no clause-union. In this way, the permissive participates in two different structures, one that is monoclausal, and another that is not. Additionally, the finite verb triggers agreement with the highest unmarked argument, just like in the aspectual complex predicate construction. However, with respect to constituency, the permissive is different from the aspectual complex predicate in that it shows ambiguous structure: the permissive construction can take a VP complement which does not form a clause-union structure. The data from negation also suggests that even when the two verbs in the permissive form

a single unit, it can lead to an ambiguous reading. Having described the syntactic structure of the complex predicate construction, I now look at these constructions with respect to argument structure and headedness.

## 3.4 Headedness in Complex Predicates

So far, I have described the constituency structure of the aspectual complex predicate in §3.2 and compared it to the permissive construction in §3.3. I now look at complex predicates from an argument structure perspective and show that the difference between the standard and the reverse construction goes beyond merely surface order of the two verbs; the two constructions differ in terms of headedness. The semantic head is the verb that operates as a functor over the other arguments of the clause. In the case of the complex predicate construction, the light verb is the semantic head because in addition to modifying the semantics of the main verb, it takes scope over the main verb and the main verbs' arguments. In contrast to semantic headedness, syntactic headedness is not so straightforward. I will show that while the light verb is the semantic head of the standard and reverse aspectual complex predicate constructions, as well as the permissive, it is not always the syntactic head. I first describe headedness and then look at two features that define the relationship between a head and its dependents: agreement and case assignment.

#### 3.4.1 Defining headedness

One criterion for headedness is that its dependents bear particular inflections (Zwicky, 1985). In terms of agreement, the inflectional value of a dependent word or phrase must be the same as the inflectional value of another dependent word or phrase in the sentence. Following Zwicky (1985), a syntactic head is defined by the following formal properties:

(3.37) *Syntactic head properties:*

- a. The head is the **morphosyntactic locus**, i.e., it is the constituent on which the inflectional markers that belong to the whole phrase will be located (Zwicky 1985:6-7).
- b. The head is the syntactic category determinant and it may govern the form of its dependents (Zwicky 1985:6-7).

I will argue that the second verb in a V-V combination in Hindi complex predicate constructions is always the syntactic head. That is, the head of both the standard aspectual complex predicate construction and the permissive construction is the light verb but the head of the reverse aspectual complex predicate construction is the main verb. In the following sections, I demonstrate that the second verb agrees with its dependent, which is the highest unmarked argument, and also governs the form of the dependent subject with respect to case assignment. In particular, I show that case assignment is determined by the last verb in the verb complex is not novel. A similar generalization holds in other languages; for instance, in Korean, the final auxiliary

### 3.4.2 Agreement in Complex Predicates

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### 3.4 Headedness in Complex Predicates

- c. *leelaa=ne*      *shyaam=ko*      *citt<sup>h</sup>ii*      *lik<sup>h</sup>*      *maar-ii*  
 Leela.F=ERG    Shyam.M.SG=DAT    letter.F.SG    write:MV    hit-F.SG:LV  
 ‘Leela wrote a letter to Shyam (hurriedly).’      (constructed)

The unmarked subject NP in (3.38a) is masculine and therefore, the light verb is assigned masculine gender *ga-yaa* ‘go’ instead of feminine *ga-yii*. When the subject is marked for case, the verb *maar* ‘hit’ agrees with the unmarked direct object in (3.38b) and (3.38c). In (3.38b), the finite verb is inflected for masculine gender since the direct object *xat* ‘letter’ is masculine and similarly, the finite verb in (3.38c) is inflected for feminine gender since *citt<sup>h</sup>ii* ‘letter’ is feminine.

In the reverse CP construction, it is the main verb that agrees with the highest unmarked argument, the subject in (3.39a) and the object in (3.39b) and (3.39c). In (3.39b), the main verb *lik<sup>h</sup>* ‘write’ is inflected for masculine gender since the highest unmarked NP, the object *xat* (letter), is masculine and similarly in (3.39c) *lik<sup>h</sup>* is inflected for feminine gender since the object *ciTThi* ‘letter’ is feminine. Overall, the examples in (3.38) and (3.39) show that the last verb in the complex predicate, irrespective of whether it is the light verb or the main verb, agrees with the subject.

- (3.39) a. *baaz*      *parinde=par*      *de*      *jhapt-aa*  
           **eagle.M.SG**    bird.M.SG=Loc    give:LV    swoop-M.Sg:MV  
           ‘The eagle swooped on the bird (forcefully).’      (Hook, 1975)
- b. *leelaa=ne*      *shyaam=ko*      *xat*      *maar*      *lik<sup>h</sup>-aa*  
       Leela.F=ERG    Shyam.M=DAT    letter.M.Sg    hit:LV    write-M.Sg:MV  
       ‘Leela wrote a letter to Shyam (hurriedly).’      (constructed)
- c. *leelaa=ne*      *shyaam=ko*      *citt<sup>h</sup>ii*      *maar*      *lik<sup>h</sup>-ii*  
       Leela.F=ERG    Shyam.M=DAT    letter.F.Sg    hit:LV    write-F.Sg:MV  
       ‘Leela wrote a letter to Shyam (hurriedly).’      (constructed)

The above data suggests that the light verb is the head of the standard ACP construction (at least when no auxiliary follows) and the main verb is the head of reverse ACP construction. Additional evidence establishing headedness comes from case assignment facts, as I now show.

#### 3.4.3 Ergative Case and Complex Predicates

Like argument-verb agreement, case assignment is also triggered by the light verb in the standard ACP construction and the main verb in the reverse ACP construction, demonstrating that these verbs are truly the head of their respective constructions. In this section, I refer back to the ergative case assignment facts outlined in Chapter 2 for verb constellation, and then contrast these facts with ergative case assignment in complex predicate constructions. I will show that the same case assignment constraints that operate on main verbs can model the case assignment data in the ACP constructions. For the convenience of the readers, case assignment constraints are repeated below:

(3.40) *Default Unmarked Constraint*: By default, the subject is unmarked.

(3.41) *Transitive Perfective Constraint*: If the verb is transitive and perfective, then the subject is assigned ergative case.

(3.42) *Contrary to Expectation Constraint*: If the verb is intransitive and perfective, denotes a bodily function and the subject is assigned ergative case, then the action is unexpected given the actor.

### 3.4 Headedness in Complex Predicates

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The above constraints can also predict case assignment in Hindi complex predicate constructions *if* the light verb is considered the head of the V-V constituent in the standard complex predicate construction, and the main verb in the reverse complex predicate construction. Assuming, once again, that case is assigned by the head of the clause, the above data suggests that (ergative) case assignment is driven by headedness or more specifically, by the transitivity of the head verb. This research advances other works that have focused on the standard ACP construction and shown that in the standard ACP, the light verb always assigns case to the subject (Mohanan, 1994; Butt, 1994; Butt and King, 2005).

I show that the data on the reverse construction contradicts the claim made by Butt (1994) and Butt and King (2005) that the light verb determines case assignment on the basis of its meaning. Contrasting the standard and the reverse complex predicate constructions will show that the last verb in the verbal complex assigns case on the subject. Case assignment on the subject of standard complex predicate construction depends only on the transitivity of the second verb. For a main verb, the transitivity of a verb is determined by the number of arguments that it selects. The transitivity of a light verb is determined by the transitivity feature of its homophonous main verb. For instance, the light verb *de* ‘give’ is transitive because the main verb *de* ‘give’ is a transitive verb that takes arguments.<sup>1</sup> In Hindi, the subject must be ergative if the light verb is transitive, and nominative (unmarked in our terminology) if the light verb is intransitive. For instance, although the main verb *gaa* ‘sing’ is transitive in both (3.43) and (3.44), the subject is only assigned ergative

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<sup>1</sup>As we will subsequently see in Chapter 4, with respect to HPSG, transitivity in Hindi is defined as a head feature.

case in (3.43). This is because the light verb *ḍaal* ‘put’ is transitive whereas the light verb *paḍ* ‘fall’ is intransitive.

- (3.43) *unhõ=ne do s<sup>h</sup>ab-dõ=ke badle ek b<sup>h</sup>ajan gaa*  
 PRON.3.SG=ERG 2 words=GEN instead one hymn sing:MV  
*ḍaal-aa*  
 put-M.SG:LV  
 ‘Instead of two words he sang a hymn.’ (web)

- (3.44) *rasam gaanaa gaa paḍ-aa*  
 Ram.M song sing:MV fall-M.SG:LV  
 ‘Ram sang a song.’ (constructed)

Even though the light verb *paḍ* ‘fall’ in (3.44) is intransitive, the main verb *gaa* ‘sing’ subcategorizes for two arguments. It is therefore not possible to determine the transitivity status of a light verb based on the number of arguments in the clause. In such cases, the transitivity of a light verb is determined by whether its homophonous main verb form is transitive or intransitive. Therefore, transitivity with respect to light verbs must be stipulated. With regards to the above examples, the (in)transitivity of the light verb is a carry-over from their main verb usage, as, semantically, both *ḍaal* ‘put’ and *paḍ* ‘fall’ are monadic aspectual functors.

A pattern similar to (3.43-3.44) is illustrated in the contrast between (3.45) and (3.46) for the main verb *ciik<sup>h</sup>* ‘scream’. The subject is unmarked if the light verb is intransitive (3.45) and is assigned ergative case if the light verb is transitive (3.46). Finally, note that among intransitive verbs, only verbs denoting bodily function can appear in the standard CP construction (a restriction explained below).

- (3.45) *Ram ciik<sup>h</sup> paḍ-aa*  
 raam.M scream:MV fall-M.SG:LV

‘Ram screamed suddenly.’ (constructed)

- (3.46) *us=ne*                      *ro*                      *daal-aa*  
           PRON.3.SG=ERG cry:MV put-M.SG:LV  
           ‘He wept heavily.’ (Butt 1994:103)

Instead of transitivity, a competing account of ergative case assignment is offered by Butt (1994); Butt and King (2005). The claim is that a light verb requires the main verb it selects for to be semantically compatible with an agent’s conscious choice. “A light verb like *paḍ* ‘fall’, which is specified negatively for conscious choice, requires an [unmarked] subject and cannot combine with a main verb that is specified positively for conscious choice. On the other hand, a light verb like *daal* ‘put’, which is specified positively for conscious choice, requires an ergative subject in the perfective and cannot combine with a main verb specified negatively for conscious choice” (Butt 1994:115). There are several arguments against Butt’s analysis.

First, the notion of conscious choice is largely contextually determined as Raja (2003) points out for Punjabi. Second, those main and light verbs that are specified negatively for conscious choice in Butt’s examples are exclusively intransitive light verbs and those that are specified positively for conscious choice include transitive light verbs. Third, taking the data from the reverse complex predicate construction also confirms a transitivity-based pattern. Additionally, Butt’s analysis would require a different rule for conscious choice governed case assignment of light verbs for transitive versus intransitive light verbs. But in the case assignment analysis being presented here, a separate analysis would not be required. Finally, recall that non-bodily function verbs cannot combine with intransitive verbs and the formal analysis

presented in this dissertation in Chapter 4 shall be able to model this fact.

In the reverse construction, the main verb governs assignment of ergative case. For instance, even though the light verb *de* ‘give’ is transitive, the subject in (3.47) is unmarked for case, because the main verb *bhaag* ‘run’ is intransitive. Conversely, when the intransitive light verb *jaa* ‘go’ in (3.48) combines with the transitive main verb *beech* ‘sell’ to form a reverse ACP construction, the subject is ergative. In both (3.47) and (3.48), then, the transitivity of the main verb, not the transitivity of the light verb, determines the assignment of ergative (vs. unmarked) case to the subject.<sup>1</sup>

- (3.47) *raam de b<sup>h</sup>aag-aa*  
 Ram.M give:LV run-M.SG:MV  
 ‘Ram ran (rapidly).’ (Hook, 1975)

- (3.48) *raam=ne apnaa makaan ja beech-aa*  
 Ram.M=ERG self house go:LV sell-M.SG:MV  
 ‘Ram sold his house.’ (Hook, 1975)

A summary of the case assignment pattern in the two constructions is shown in Table 3.1. While the transitivity of the light verb assigns ergative case to the subject in the standard CP construction, it is the transitivity of the main verb that assigns ergative case to the subject in the reverse ACP construction.

The above set of data shows that in the standard construction, the light verb, which follows the main verb, assigns case to the subject and contrastingly, in the reverse construction, the main verb, which follows the light verb assigns case to the

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<sup>1</sup>Note that bodily function verbs do not seem to be able to appear in the reverse ACP construction, and I currently do not have an explanation for this fact.

### 3.4 Headedness in Complex Predicates

First verb	Second verb (Case-assigning verb)	Subject case
<b>Standard</b>		
Trans <sub>MV</sub> <i>gaa</i> ‘sing’	Intrans <sub>LV</sub> <i>paḍ</i> ‘fall’	Ø
	Trans <sub>LV</sub> <i>ḍaal</i> ‘put’	ERG
Intrans <sub>MV</sub> <i>ciik</i> ‘scream’	Intrans <sub>LV</sub> <i>paḍ</i> ‘fall’	Ø
	Trans <sub>LV</sub> <i>ḍaal</i> ‘put’	ERG
<b>Reverse</b>		
Trans <sub>LV</sub> <i>de</i> ‘give’	Intrans <sub>MV</sub> <i>B<sup>h</sup>aag</i> ‘run’	Ø
	Trans <sub>MV</sub> <i>maar</i> ‘hit’	ERG
Intrans <sub>LV</sub> <i>jaa</i> ‘go’	Intrans <sub>MV</sub> <i>baiṭ<sup>h</sup></i> sit	Ø
	Trans <sub>MV</sub> <i>beeḥ</i> sell	ERG

**Table 3.1:** Subject case assignment in standard and reverse CP constructions

subject. The transitivity of the case assigning verb determines whether or not the subject bears ergative case, irrespective of the number of arguments that the main verb selects. That the assignment of ergative case depends on the transitivity of the light verb in the standard ACP construction is explained by the *Transitive Perfective Constraint*, provided case assignment is governed by the light verb in the standard ACP construction and the main verb in the reverse construction. This suggests that the syntactic head of the standard CP construction is the light verb, and the syntactic head of the reverse ACP construction is the main verb. The fact that ergative case in Hindi is assigned by the head verb is not restricted to aspectual complex predicates. In the following section, I show that case is assigned by the last verb in the verb complex.

### 3.4.4 Ergative Case and Auxiliaries

This section shows that in the Hindi verb complex, case assignment constraints are governed by the head verb.<sup>1</sup> I illustrate this with respect to the aspectual complex predicate construction, but the same results would apply to the permissive as well.

While the transitivity of the light verb determines the assignment of ergative case to the subject in the standard complex predicate construction, this is only true when no auxiliary follows the light verb as illustrated in (3.43)-(3.46)) or in (3.49).

- (3.49) *shyaam=ne g<sup>h</sup>ar beech di-yaa*  
 Shyam.M=ERG house.M.SG sell:MV give-M.SG:LV  
 ‘Shyam sold the house.’ (constructed)

The presence of other auxiliaries following the light verb impacts ergative case assignment. When the passive (3.50), or passive and imperfective auxiliaries together (3.51) follow a transitive light verb, the subject is unmarked and does not receive ergative case.

- (3.50) *shyaam=KAA g<sup>h</sup>ar beech di-yaa ga-yaa*  
 Shyam.MGEN house.M.SG sell:MV give-M.SG:LV go-M.SG  
 ‘Shyam’s house was sold off.’ (constructed)

- (3.51) *shyaam=KAA g<sup>h</sup>ar beech di-yaa jaa rah-aa*  
 Shyam.MGEN house.M.SG sell:MV give-M.SG:LV go stay.IMPV-M.SG  
*hai*  
 be.PRES.3.SG  
 ‘Shyam’s house is being sold off.’ (constructed)

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<sup>1</sup>Since Hindi is a head-final language, the head verb also happens to be the final verb.

### 3.4 Headedness in Complex Predicates

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Examples (3.50-3.51) show that when a passive or progressive auxiliary follow a transitive light verb, the subject cannot be assigned ergative case. This is explained by the Transitive Perfective Constraint, since these auxiliaries are neither transitive nor perfective, assuming these auxiliaries determine subject case assignment. In contrast to the passive or progressive, the tense auxiliary does not impact case assignment. When the tense auxiliary follows a transitive light verb, the subject bears ergative case, exactly as when no auxiliary is present, as shown below.

- (3.52) *shyaam=ne      g<sup>h</sup>ar      beech      di-yaa      hai*  
 Shyam.M=ERG   house.M.SG   sell:MV   give-M.SG:LV   be.PRES.3.SG  
 ‘Shyam has sold the house.’ (constructed)

- (3.53) *Shyam      g<sup>h</sup>ar      beech      bait<sup>h</sup>-aa      hai*  
 Shyam.M   house.M.SG   sell:MV   sit-M.SG:LV   be.PRES.3.SG  
 ‘Shyam has sold the house (with a negative consequence).’ (constructed)

When the tense auxiliary follows a transitive light verb, the clause’s subject bears ergative case (3.52), but when it follows the passive or progressive auxiliaries (3.53), it does not. This suggests that the tense auxiliary remains “transparent” to transitivity and perfectivity of the auxiliary or light verb that precedes it. The tense auxiliary is the only auxiliary that can appear in the reverse complex predicate construction, and it is therefore still the main verb that governs case assignment in the reverse complex predicate construction. In the presence of an intransitive auxiliary, the (transitive) light verb does not assign (ergative) case.

The above data demonstrates once again that ergative case assignment does not depend on the notion of conscious choice but rather on the verb transitivity. In a

complex predicate construction with auxiliaries, the head verb, which happens to be the last verb, assigns case.

## 3.5 Phrase Structure Representations

I now present phrase structure representations of the standard and reverse ACP constructions as well as of the permissive construction. I show the various possible phrase structure representations for the standard and the reverse ACP constructions. On the basis of which verb forms the head of the construction, it is shown that the standard and reverse ACP constructions have different representations in the phrase structure.

Table 3.2 offers a summary of these two aspectual complex predicate constructions with the permissive. In each row, the values that is unique to that row, has been italicized. The permissive differs from the aspectual complex predicates with respect to *argument selection*, which is done only by the light verb in the permissive and by the main verb in the standard and reverse construction. With respect to form, the reverse complex predicate construction, where the main verb is finite and the light verb non-finite, differs from both the permissive and the standard aspectual complex predicate constructions. In terms of constituent structure, we see mixed results because the permissive allows for two different phrase structure representations.

Constituency tests show that the main and light verbs in the standard and the reverse complex predicate construction behave exactly the same with respect to movement, adverbial modification and coordination. That is, the verb complex moves as

### 3.5 Phrase Structure Representations

a unit, cannot have an intervening adverbial modifier, and cannot be coordinated. Where the two constructions differ is that the standard complex predicate construction allows certain elements to be inserted between the main verb and the light verb, while the reverse complex predicate construction does not. The constituency of the aspectual complex predicate construction differs from the permissive in terms of coordination, negation as well as movement. However, with respect to the range of auxiliaries as well as agreement and case assignment, the permissive and the standard complex predicate construction behave the same way.

FEATURES	PERMISSIVE	STANDARD ACP	REVERSE ACP
Argument selection	<i>both mv, lv</i>	only mv	only mv
.....	.....	.....	.....
<b>Form</b>			
Main verb	<i>-naa</i> infinitive	base infinitive	<i>finite</i>
Light verb	finite	finite	base <i>infinitive</i>
.....	.....	.....	.....
<b>Constituent structure</b>			
Can coordinate	<i>yes</i>	no	no
Can negate	<i>yes</i>	no	no
V-V can move	<i>can separate</i>	cannot separate	cannot separate
Can have element insertion	yes	yes	<i>no</i>
Range of auxiliaries	all	all	<i>only tense</i>
.....	.....	.....	.....
<b>Headedness</b>			
Agreement	light verb	light verb	<i>main verb</i>
Case assignment	light verb	light verb	<i>main verb</i>
.....	.....	.....	.....

**Table 3.2:** Comparing the three complex predicates constructions

To sum up, the **light verb** is the head of both the permissive and the standard construction and the **main verb** is the head of the reverse construction. The main

and light verbs in both the standard and the reverse complex predicate constructions form a V-V constituent, and the differences with respect to linear order, element insertion, agreement as well as case assignment suggest that they have different phrase structure.

#### 3.5.1 Aspectual Complex Predicates

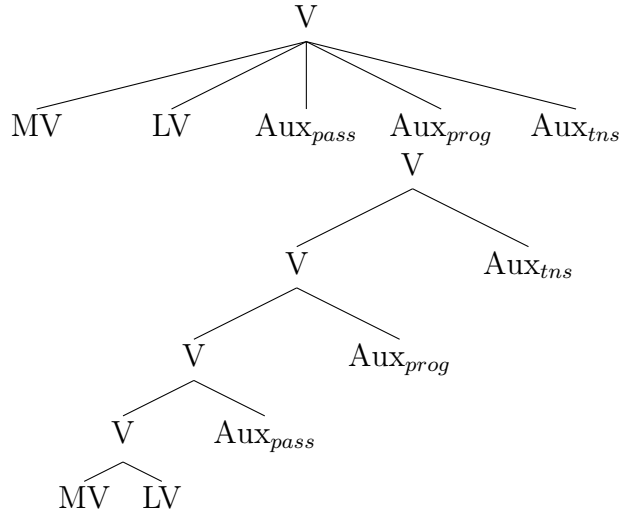
With respect to phrase structure, two different representations are possible for both the standard and the reverse complex predicate constructions. The verbal complexes can form either a hierarchical structure or a flat structure, as illustrated in Figures 3.1 and 3.2.<sup>1</sup> The binary branching structure is well accepted in transformational and GB frameworks, as well as in LFG. The flat structure, on the other hand, was proposed early on in a transformational framework for French auxiliaries (Legaré and Rollin 1976).

It should be noted that whether or not the phrase structure for the standard and the reverse construction is flat or hierarchical becomes an issue only when other auxiliaries follow the combination of main verb and light verb. Otherwise, the structure for the two constructions looks exactly the same, as illustrated in (3.54a) and (3.54b) for the standard and the reverse constructions respectively.

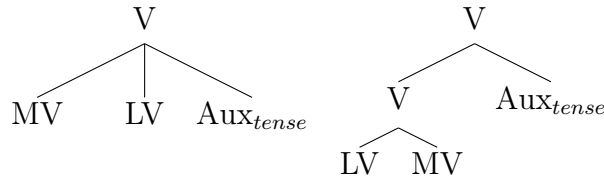
(3.54)

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<sup>1</sup>Butt (1994) uses the notation  $V'$ , which has no theoretical status in HPSG. To simplify matters,  $V$  is used here, as the trees are only meant to illustrate the hierarchical structure.

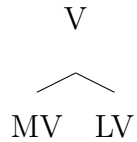


**Figure 3.1:** Two possible structures for the standard CP construction

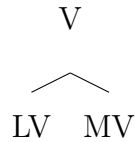


**Figure 3.2:** Two possible structures for the reverse CP construction

a.



b.



Some potential syntactic evidence in favor of a flat structure for the standard CP construction in Hindi, following Butt (1994), comes from topicalization and coordination, as I discuss below.

### 3.5.1.1 Topicalization

In Hindi, only phrasal constituents and not lexical items can be topicalized (Butt 1994:97). For instance, in a combination of an N-V and a complex predicate and auxiliaries, the expression is only grammatical if the entire verbal complex can be topicalized. This is illustrated in (3.55) for the tense auxiliary and in (3.56) for the passive and progressive auxiliaries.

- (3.55) a. [*aa ga-yaa t<sub>h</sub>-aa*] *leelaa=ko gussaa*  
           come:MV go-M.SG:LV be.Past-M.SG Leela=DAT anger  
           ‘Leela had become angry.’ (constructed)

- b. \**aa ga-yaa anjum=ko gussaa t<sub>h</sub>-aa*

- (3.56) a. [*aa ja-a rah-aa hai*] *leelaa=ko gussaa*  
           come:MV go-M.SG:LV stay-M.SG be.Past-M.SG Leela=DAT anger  
           ‘Leela is getting angry.’ (*lit.* ‘anger is coming to Leela’) (constructed)

- b. \**aa ja-a leelaa=ko gussaa rah-aa hai*

It is only when all the verbs in the clause move together that the sentence is grammatical. Only fronting the verbs results in an ungrammatical sentence, as illustrated below.

- (3.57) [*aa ga-yaa*] *leela=ko gussaa*  
           come:MV go-M.SG:LV Leela=DAT anger  
           ‘Leela became angry.’ (constructed)

- (3.58) \**ga-yii leelaa aa*  
           go-F.Sg:LV Leela.F come:MV  
           *Intended:* ‘Leela arrived.’

(3.59) \**aa leelaa=ko gussaa ga-yaa*

The above set of examples (3.57-3.59) illustrate that in a standard CP construction the main verb and light verb can be topicalized together (3.57), but not separately (3.58-3.59). Data based on topicalization might suggest that the verbal complex forms a flat structure; this is certainly the position adopted by Butt (1994).

#### 3.5.1.2 Coordination

I have already shown in §3.2.3 that a sequence of main verb and auxiliaries cannot be coordinated. A sequence of complex predicates and auxiliaries can similarly not be coordinated. This is best illustrated with the passive auxiliary.

(3.60) *shyaam=ka ghar [[banaa di-yaa ga-yaa/ aur*  
 ShyamGEN.M house.M made:MV give-M.SG:LV go.PASSIVE-M.SG and  
*/beech di-yaa ga-yaa/]*  
 sell:MV give-M.SG:LV go.PASSIVE-M.SG  
 ‘Shyam’s house **has** been made and **has** been sold.’ (constructed)

(3.61) \**shyaam=ka ghar [[banaa diyaa ga-yaa/ aur*  
 ShyamGEN.M house.M made:MV give-M.SG:LV go-M.SG:PASSIVE and  
*/beech di-yaa/]*  
 sell:MV give-M.SG:LV  
*Intended:* ‘Shyam’s house **has** been made and **has** been sold.’

As (3.60 and 3.61) show, in order to passivize the entire expression, the passive auxiliary must be repeated. Presenting similar evidence for the tense auxiliary is trickier. The finite clause in Hindi defaults to a past tense reading without a tense auxiliary. Therefore, simply omitting the tense auxiliary in the coordinated structure would not make any difference, as shown below.

### 3.5 Phrase Structure Representations

- (3.62) *shyaam=ne ghar [banaa di-yaa] aur [beech di-yaa hai]*  
 Shyam=ERG house.M make:MV give-M.SG:LV be.Past-M.SG and  
 sell:MV give-M.SG:LV be.PRES.3.PL  
 ‘Shyam made the house and has sold it.’ (constructed)

In the above example, due to the pragmatic inference that one can draw from the presence of the tense auxiliary, the reference time of both the making and the selling of the house is in the past. It is however possible to have two different temporal relations in the sentences as shown in (3.63). The making of the house in the above example took place at a different time than the selling of it.

- (3.63) *shyaam=ne ghar [banaa di-yaa t<sup>h</sup>-aa] aur [beech di-yaa hai]*  
 Shyam=ERG house.M make:MV give-M.SG:LV be.Past-M.SG and  
 sell:MV give-M.SG:LV be.PRES.3.PL  
 ‘Shyam **had** made the house and **has** sold it.’ (constructed)

The inability of the (standard) complex predicate construction to coordinate is taken by Butt (1994) as evidence that the main verb, light verb and auxiliaries together form a monoclausal unit and have a flat structure. However, using the lack of possible coordination as evidence is a weak argument. The fact that coordination is not possible does not necessarily suggest monoclausality.

The difference in agreement and case assignment facts between the standard and the reverse complex predicate construction impacts which verbs is the head of the construction. The light verb (or the subsequent auxiliary) is the syntactic head of the standard complex predicate construction and the main verb (or the tense auxiliary) is the syntactic head of the reverse construction. While the light verb is the head of

### 3.5 Phrase Structure Representations

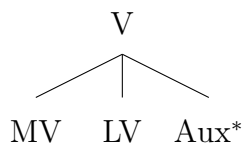
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the standard ACP construction, it only subcategorizes for the main verb. The light verb then inherits the subcategorization requirements of the main verb. The light verb's argument structure is subsequently inherited by the auxiliaries that follow it. The argument inheritance facts of the standard ACP construction suggests that it forms a flat structure in the syntax. In the reverse ACP construction, the main verb is the syntactic head of the construction but the light verb is the semantic head of the construction. Therefore, when there is a sequence of verbs, the main verb must combine with the light verb in order to percolate its arguments to other verbs. For this reason, the reverse construction forms a hierarchical structure.

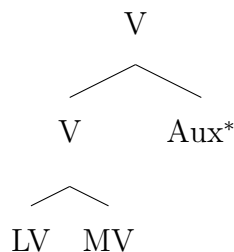
The proposed phrase structure of the standard and the reverse constructions are illustrated in (3.64). The flat structure of the standard construction, which includes both the complex predicate and the auxiliaries is represented in (3.64a). The single constituent formed by the light verb and the main verb in the reverse CP construction is represented by the tree in (3.64b).

(3.64)

a.



b.



The difference between the standard and the reverse aspectual complex predicate constructions with respect to headedness is indicated by the hierarchical structure of the reverse construction. The phrase structure ambiguity in the permissive construc-

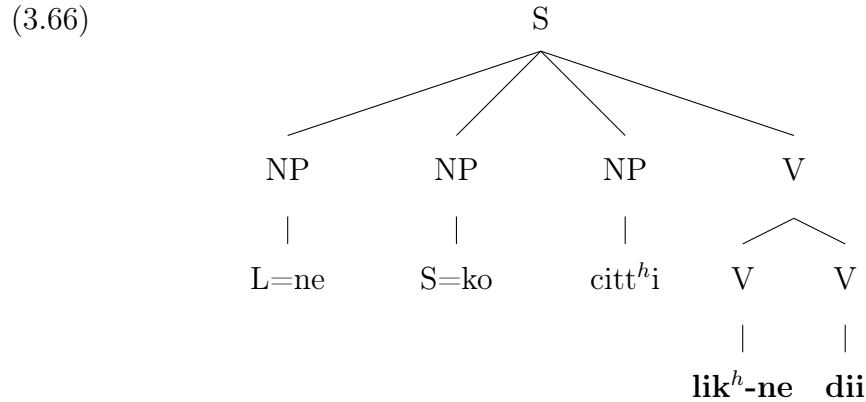
### 3.5 Phrase Structure Representations

tion is different. In the permissive construction, the light verb can be separated from the infinitival verb and actually precede it. This leads to different phrase structure representations, as well as differing analyses.

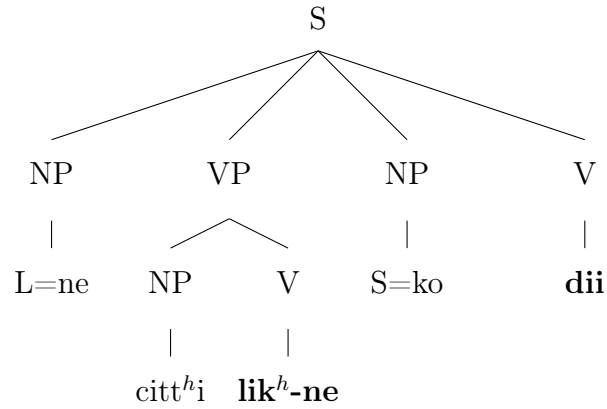
#### 3.5.2 Permissive

Recall that on the basis of the movement data, the permissive complex predicate can have two different phrase structure representations, one where the infinitive forms a constituent with the light verb (3.66), and one where the infinitive forms a constituent with the direct object (3.67). This is illustrated for the following example.

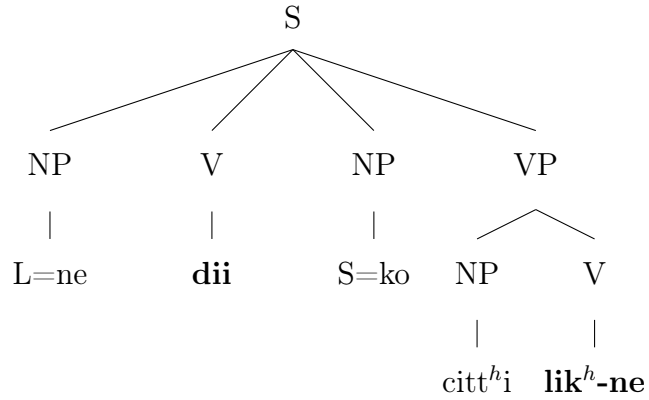
- (3.65) *[leela=ne] [shyam=ko] [citt<sup>h</sup>i] [lik<sup>h</sup>-ne di-i]*  
 leela.F=ERG shyam.M=DAT letter.F write-INF=:MV give-F.SG:LV  
 ‘Leela let Shyam write the letter.’ (constructed)



(3.67) a.



b.



In (3.66), the infinitive and the light verb form a constituent. On the other hand, the direct object and the infinitive form a VP in (3.67a) and (3.67b). When the permissive verb precedes the infinitive (3.67), there is only one structure. The ambiguity arises when the permissive verb follows the infinitive. In (3.67b), the light verb precedes them, in a manner reminiscent of the reverse CP construction. However, in contrast to the light verb in the reverse construction, the light verb in the permissive appears in its finite form. Moreover, the light verb in the permissive is the head of the construction, but as discussed above, this is not the case in the reverse ACP construction. As discussed previously, when the permissive light verbs

takes a VP complement, it does not form a clause-union structure.

## 3.6 Theoretical Implications

This chapter has discussed the aspectual complex predicate constructions and another complex predicate construction, the permissive, in terms of constituency structure, argument structure, and phrase structure. The data discussed in this chapter offers an insight into the interface between the semantics and syntax of (verbal) aspect modifiers. At the level of phrase structure, the standard and the reverse complex predicate construction differ in terms of linearity. The light verb in the reverse complex predicate construction, though different from the standard construction with respect to surface order, is still the semantic head. However, it is not the syntactic head: the light verb in the reverse construction does not assign case to the subject or agree with the highest unmarked argument. Therefore, agreement and case assignment facts provide compelling evidence that the standard and reverse complex predicate constructions are truly distinct beyond surface order. That is, these two constructions are not different only in terms of linear order but also in terms of how the complex predicate construction itself is formed.

The presence of the reverse complex predicate construction in Hindi presents a mismatch for what is expected of semantic heads. If a difference in linear order is assumed to reflect a difference in hierarchical structure (Kayne, 1994), then the reverse construction is problematic. The fact that the light verb precedes to the main verb and the optional tense auxiliary violates the relative ordering of functional heads

posited by Cinque (1999:57), and repeated below from Chapter 2.

(3.68) (V <) Voice < Aspect<sub>progressive</sub> < Aspect<sub>perfect</sub> < Tense

In light of the above hierarchy, the light verb ought to be an aspectual functional head not just in the standard complex predicate construction, but also in the reverse CP construction because after all, both constructions express essentially the same light verb semantics. But, as this chapter has discussed, this cannot be true of the surface order of the reverse complex predicate construction.

The differing surface order between the standard and the reverse constructions could be explained via a head-movement analysis (within Minimalism, cf. Baker (1989), Baker and Stewart (1999)). This would assume the same syntactic representation at some level and in both constructions, the light verb takes the main verb and its complements as a complement. This is once again problematic because argument selection in Hindi, a head-final language, takes place from left to right. Therefore, the light verb would be expected to follow the main verb if it were the head of the reverse complex predicate construction and even more problematically, agreement and case assignment facts in the reverse construction could not be explained.

In the end, any formal analysis must take into account the similarities and differences between the standard and reverse ACP constructions in terms of both headedness and constituency. Instead of representing complex predicate constructions only in terms of phrase structure, or only in terms of argument structure, I show that a lexical formalism such as HPSG, which allows for independent levels of representation and precise formulation of features, allows one to model both.

## Chapter 4

# Formal Syntactic Analysis

The previous chapter showed that the verbs in Hindi aspectual complex predicate constructions form a tight constituent: main verbs cannot be coordinated when preceded or followed by a light verb or an auxiliary. While adverbial modifiers cannot intervene between the main and light verbs, the standard complex predicate construction does allow the focus particle *bhii* ‘also’ as well as the construction *kyõ nahĩ* ‘why not’ to appear between the two verbs. Following Butt (1994), I posit that the main verb-light verb combination is not a morphological operation.

Additionally, the finite light verb agrees with the highest unmarked argument and assigns case to the subject in the standard complex predicate construction, while the finite main verb agrees with the highest unmarked argument and assigns case to the subject in the reverse complex predicate construction. The arguments of the main verb are inherited by the light verb, and together the two verbs are part of a clause-union structure (Aissen, 1974; Aissen and Perlmutter, 1976, 1983). As a consequence

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of clause-union, the main and light verbs do not function as heads of independent clauses but instead they form a complex predicate that heads a single clause. That is, clause union pulls the arguments in the complex predicate construction together to be a monoclausal structure.

Moreover, as is evident from the agreement and case assignment facts described in the previous chapter, the differences between main verb and light verb in the standard and reverse complex predicate constructions go beyond just surface word order. The two constructions differ in terms of which verb is the syntactic head: the light verb in the standard construction and the main verb in the reverse construction. In this chapter, I present a formal mechanism to capture this difference in headedness between the various complex predicate constructions. The defining characteristics of a Hindi complex predicate construction are monoclausality and argument composition/sharing.<sup>1</sup> While both the standard and the reverse construction form monoclausal units, only the light verb in the standard construction induces argument composition.

I introduce HPSG in §4.1 and then describe general constraints for modeling ergative case assignment in §4.2 and phrasal constituency in §4.3. I then discuss the complex predicate constructions specifically and show that a lexically-induced argument composition analysis is appropriate for the standard construction in §4.4.1.2. Specifically, the light verb in the standard construction subcategorizes for the main verb and takes on the argument structure of the main verb.

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<sup>1</sup>The terms ‘argument sharing’ is used in LFG and ‘argument composition’ in HPSG in order to account for the fact that the light verb in the complex predicate construction either shares or shares the complements of the main verb. Since the formal analysis presented in this dissertation is within HPSG, I use the term *inherit*.

With respect to the permissive construction, I argue in §4.4.1.3 that an argument composition analysis can only be applied when the main verb and the permissive appear together. When the permissive takes a VP-complement as its argument, argument composition does not apply. The different phrase structure representations of the permissive thus mirror different argument structures. Finally, I discuss the reverse construction in §4.4.2, and posit that it is better analyzed as a head-modifier construction.

## 4.1 Introducing HPSG

HPSG is a constraint-based formalism where the different aspects of words or phrases e.g., phonology, syntax, semantics, and so forth are represented as linguistic objects via *signs*, which in turn are organized in terms of *types*. The hierarchical organization of linguistic types allows constraints to be stated over various natural classes of lexical entries or phrases (Pollard and Sag, 1994). Lexical entries within HPSG are partial descriptions of lexemes that provide only the information that is not given by more general constraints on the lexeme’s maximal (i.e., most-specific) type or by one of its supertypes. A lexical entry for a word contains information about words or phrases that the word combines with syntactically. This information is specified in the values of the valence features SUBJ (subject), SPR (specifier) and COMPS (complements). A phrase is saturated if all of its valence requirements are realized; for instance, a VP is usually COMPS-saturated (its COMPS value is the empty list), and S is both SUBJ-saturated and COMPS-saturated.

Like phrases, words in HPSG are also assigned to types and hierarchically organized. They differ from phrases in lacking daughters, and in having an argument structure (ARG-ST). The basic purpose of this feature is to encode the combinatorial potential of a lexical sign by listing its potential syntactic arguments. The linear ordering of a verb's arguments in a sentence is determined by the interaction of the grammar rules and the ordering of elements in the COMPS list. Information about specifiers and complements is also present in the argument structure attribute ARG-ST, which is an ordered list of the arguments required by the sign.

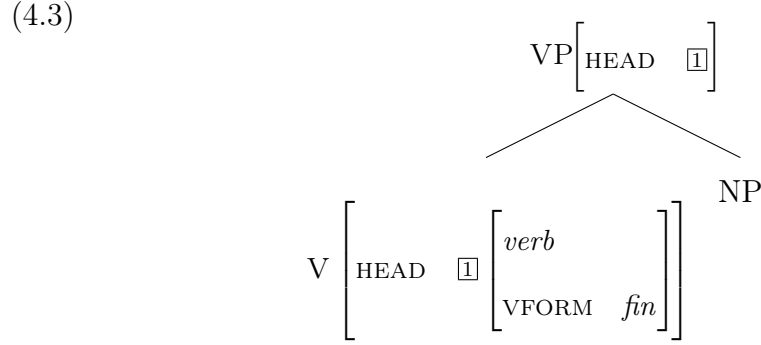
$$(4.1) \left[ \text{SYN} \left[ \text{VAL} \left[ \begin{array}{ll} \text{SPR} & \boxed{a} \\ \text{COMPS} & \boxed{b} \end{array} \right] \right] \right] \Rightarrow \left[ \text{ARG-ST} \left[ \boxed{a} \oplus \boxed{b} \right] \right]$$

The ARG-ST of a verb can contain specific selectional restrictions. For example, the fact that the inflected form *loves* requires a third person subject can be encoded in the following way:

$$(4.2) \left\langle \text{loves}, \left[ \text{ARG-ST} \left\langle \text{NP} \left[ \begin{array}{ll} \text{PERSON} & 3rd \\ \text{NUMBER} & singular \end{array} \right], \text{NP} \right\rangle \right] \right\rangle$$

Crucial to an analysis of Hindi complex predicates is the framework's conception of lexical items as specifying precise syntactic and semantic information about their arguments. Grammatical properties like part of speech, case, verbal form, and so forth are systematically percolated from lexical entries to small phrases and from smaller phrases onto maximal phrases via the *Head Feature Principle*, which states that the HEAD value of a phrase (MTR) is identified by default with that of its

daughter. This is exemplified in 4.3 where the tag  $\boxed{1}$  indicates that the HEAD value of the verb is identical to the HEAD value of the VP:



HPSG also posits that lexical subcategorization requirements need not be satisfied by a single structural configuration and that the semantic type of an expression does not predict its morphosyntactic combinatorial requirements. This allows for a straightforward representation of Hindi complex predicate construction. The HPSG formalism also allows for an accurate portrayal of the non-correspondence between the standard and reverse aspectual complex predicate constructions. Additionally, the formalism captures the surface word order differences in the permissive construction where the permissive verb precedes or follows the infinitive. I begin by presenting constraints for Hindi ergative case assignment to the subjects of both transitive and intransitive verbs in HPSG and then model the constituency structure of the complex predicate constructions.

## 4.2 Modeling Ergative Case Assignment

Recall from Chapter 2 the following constraints on ergative case assignment in Hindi:

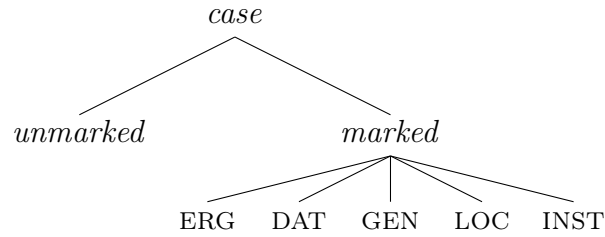
## 4.2 Modeling Ergative Case Assignment

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- (4.4) *Default Unmarked Constraint*: By default, the subject is unmarked.
- (4.5) *Transitive Perfective Constraint*: If the verb is transitive and perfective, then the subject is assigned ergative case.
- (4.6) *Contrary to Expectation Constraint*: If the verb is intransitive and perfective, denotes a bodily function and the subject is assigned ergative case, then the action is unexpected given the actor.

The present analysis of ergative case assignment assumes that Hindi case values are organized as shown in Figure (4.1). Case in Hindi is either marked or unmarked. If the case is marked, then it takes one of the other Hindi case markers: ergative (ERG), dative (DAT), genitive (GEN), locative LOC, or instrumental (INST). I focus here *only* on having the ergative/unmarked alternation captured via the rules outlined in this section. By default, a dependent is stipulated as unmarked, as proposed in (4.7).

- (4.7) *Default Unmarked Constraint*:  $\left[ \text{HEAD} \right] \Rightarrow \left[ \text{CASE} \quad /unmarked \right]$



**Figure 4.1:** Hindi Case Ontology

## 4.2 Modeling Ergative Case Assignment

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This rule applies to subjects of intransitive verbs that do not denote bodily functions and therefore never alternate. As exemplified below, their case value is unmarked.

- (4.8) *shyaam fisl-aa*  
Shyam slip-M.SG  
'Shyam slipped.'

The *Default Unmarked Constraint* is, however, a defeasible constraint, as indicated by the '/'. Therefore, the default (4.7) is overridden when other case assignment constraints apply. I now discuss the other two constraints required for ergative case assignment in Hindi.

The *Transitive Perfective constraint* requires defining transitivity, which can be done within HPSG in one of two ways: either by assigning a feature value of [TRANS +] to the verb, or by listing the number of NPs on the argument structure list, whose value is an ordered list of the arguments required by the sign. The first solution makes transitivity a lexical feature of the verb. The second solution requires counting the number of NPs in the ARG-ST list to determine the transitivity of the verb – one if it is an intransitive verb, two if it transitive, and three if it is ditransitive. For Hindi, I do not define transitivity in terms of properties of the ARG-ST list (its inclusion of two NP *synsem* descriptions), but rather in terms of the attribute/value pair [TRANS +]. This attribute does not always entail the presence of two NP descriptions on the ARG-ST list. In order to model the *Transitive Perfective Constraint*, transitivity is defined in terms of such an attribute/value pair rather than directly in terms of ARG-ST membership. There are two reasons for this choice.

## 4.2 Modeling Ergative Case Assignment

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First, this constraint must apply to “transitive” light verbs, and yet the ARG-ST list of such verbs need not include two NP descriptions.<sup>1</sup> This is because when a “transitive” light verb combines with an intransitive main verb the main verb decides on the total number of arguments. Therefore, the fact that the light verb is “transitive” is an idiosyncratic property left over from their main verb uses. Second, treating transitivity as a feature is useful to model the positional nature of ergative assignment within the sequence of main verb, light verb, and auxiliaries.

$$(4.9) \left[ \text{TRANS} \quad + \right];$$

The relation between ARG-ST membership and the head transitivity feature is modeled via (4.10).

$$(4.10) \text{ ARG-ST} \left\langle \text{NP, NP, ...} \right\rangle \Rightarrow \left[ \text{TRANS} \quad /+ \right];$$

The above rule ensures that when there are more than two or more NPs on the argument structure list then the verb is transitive. This constraint is defeasible and can be overridden by “transitive” light verbs. In addition to transitivity, another head feature value that must be assigned to Hindi verbs is aspect. This is because as explained in Chapter 2, the aspect of Hindi verbs cannot be attributed to a specific morphological value like the *-(y)aa/ii* suffix, contrary to claims to that effect in the literature. Combining the features of transitivity and aspect, ergative case assignment to the subject of “transitive” verbs applies to all verbs that bear the following head properties:

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<sup>1</sup>Recall that light verbs are only considered transitive if their form-identical main verb usage is transitive.

$$(4.11) \begin{bmatrix} \text{TRANS} & + \\ \text{ASP} & \textit{perf} \end{bmatrix};$$

Another factor to consider in modeling the *Transitive Perfective Constraint* is that ergative case is assigned by the last verb in the verbal complex. For instance, if the last verb in the verbal complex is a transitive main or light verb, then the subject is assigned ergative case. On the other hand, if the last verb in the verbal complex is an intransitive main or light verb, or the passive or the progressive, then the subject cannot be assigned ergative case. Also, recall that the tense auxiliary does not impact ergative case assignment, in that it can appear with both ergative and unmarked subjects. Therefore, the head value of the tense auxiliary is identical to the values of the verb that precedes it, i.e., its verbal complement. By putting together the various pieces introduced so far, the *Transitive Perfective Constraint* is modeled in (4.12). These facts are captured by introducing a relational constraint *last-member* that selects the last daughter of the sequence of verbs licensed by the construction.

$$(4.12) \text{ Transitive Perfective Constraint}$$

$$\begin{aligned} & \begin{bmatrix} \textit{verb-complex-cx} \\ \text{DTRS} \quad \boxed{1} \begin{bmatrix} \text{AUX} & - \end{bmatrix} \dots \left( \boxed{n} \begin{bmatrix} \text{AUX} & + \end{bmatrix} \right) \end{bmatrix} \\ & \wedge \textit{last-member}(\boxed{n}) \wedge \boxed{n} \text{ HEAD} \begin{bmatrix} \text{TRANS} & + \\ \text{ASP} & \textit{perf} \end{bmatrix} \\ & \Rightarrow \boxed{n} \begin{bmatrix} \text{ARG-ST} & \left\langle \text{NP} \begin{bmatrix} \text{CASE} & \textit{erg} \end{bmatrix}, \dots \right\rangle \end{bmatrix} \end{aligned}$$

## 4.2 Modeling Ergative Case Assignment

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The verb complex sequence, introduced in (4.12), states that the sequence can consist of a single non-auxiliary verb, i.e., main verb, followed by a sequence of light verbs and auxiliaries (both tagged here as AUX). The tags  $\boxed{1} \dots \boxed{n}$  refer to the list of verbs in the verbal complex and the tag  $\boxed{n}$  refers to the last verb. The constraint *last-member* selects the head verb, i.e., the last daughter of the verbal sequence, which assigns case to the subject. For the *Transitive Perfective Constraint* to apply, the last verb, i.e., the head verb, in the verbal complex ought to be both transitive and perfective.

The application of the *Transitive Perfective Constraint* is as follows. When there is only a single verb in the sequence, i.e., the main verb, *Transitive Perfective Constraint* still applies. If the head verb is transitive and perfective, then the first NP in the argument structure (ARG-ST) list is assigned ergative case. The contrast between (4.13) and (4.14) shows that the ergative case can only apply in the perfective.

- (4.13) *shyaam=ne khaanaa banaa-yaa (hai)*  
 ShyamM=ERG food make-M.SG (be.PRES.3.SG)  
 ‘Shyam (has) made food.’

- (4.14) *\*shyaam=ne khaanaa banaa-t-aa (hai)*  
 Shyam.M=ERG food make-HAB-F.SG (be.PRES.3.SG)  
*Intended:* ‘Shyam (has) made food.’

With respect to complex predicates, its application is also straightforward: the last verb in the verbal sequence is required to be transitive by *last-member*. Once again, ergative case on the subject is assigned only when the last verb is transitive, as the following examples (adapted from 3.43 and 3.44) show.

(4.15) *raam=ne gaanaa gaa daal-aa*  
 Ram.M=ERG song sing:MV put-M.SG:LV  
 ‘Ram sang a song.’

(4.16) *\*raam gaanaa gaa daal-aa*  
 Ram song sing:MV put-M.SG:LV  
*Intended:* ‘Ram sang a song.’

(4.17) *raam gaanaa gaa pad-aa*  
 Ram.M song sing:MV fall-M.SG:LV  
 ‘Ram sang a song.’

(4.18) *\*raam=ne gaanaa gaa pad-aa*  
 Ram.M=ERG song sing:MV fall-M.SG:LV  
*Intended:* ‘Ram sang a song.’

The above examples of the standard aspectual complex predicate construction show that when the light verb is (di)transitive, the subject must be ergative (4.15) and cannot be unmarked (4.16), and when the light verb is intransitive, the subject must be unmarked (4.17) and cannot be ergative (4.18).

Unlike the *Transitive Perfective Constraint*, which can apply to all transitive verbs, the *Counter to Expectation Constraint* applies only to a small subset of intransitive verbs that are semantically-defined as denoting *bodily functions*. Ergative case assignment here requires that the conversational background support the contention that the bodily function is counter-to-expectation for the subject’s referent.

The relevant lexical constraint can be modeled using Minimal Recursion Semantics (MRS) following Copestake et al. (2005). MRS is a mechanism for representing meaning and one of its goals is to allow underspecification of scopal relations. The semantic component of a word or phrase is a bag of elementary predications (EP): a

## 4.2 Modeling Ergative Case Assignment

single relation with its associated arguments which generally corresponds to a single lexeme. Each EP is represented as a feature structure which contains a semantic relation REL, e.g., *love\_rel* and its associated arguments.<sup>1</sup> The central predication of a phrase is a list of semantic relations RELS and the SEM value encodes the central predication of a phrase as its key.

(4.19) *Counter to Expectation Constraint: ergative case assignment*

$$\left[ \begin{array}{c} \text{HEAD} \\ \text{SEM} \end{array} \left[ \begin{array}{c} \left[ \begin{array}{cc} \text{TRANS} & - \\ \text{ASP} & perf \end{array} \right] \\ \left[ \begin{array}{c} \text{RELS} \quad [3] \quad \left[ \begin{array}{c} \text{bodily-function-rel} \\ \text{EVENT} \quad [2] \\ \text{ARG} \quad [1] \end{array} \right] \end{array} \right] \end{array} \right] \Rightarrow \left[ \text{ARG-ST} \left\langle \text{NP}_{[1]} \left[ \text{CASE} \quad erg \right] \right\rangle \right]$$

(4.20) *Counter to Expectation Constraint: semantics*

$$\left[ \begin{array}{c} \text{HEAD} \\ \text{ARG-ST} \end{array} \left[ \begin{array}{c} \left[ \begin{array}{cc} \text{TRANS} & - \\ \text{ASP} & perf \end{array} \right] \\ \left\langle \text{NP}_{[1]} \left[ \text{CASE} \quad erg \right] \right\rangle \end{array} \right] \Rightarrow \left[ \text{BGRND} \left\{ \left[ \begin{array}{c} counter-expect-rel \\ \text{EVENT} \quad y \\ \text{ARG1} \quad [1] \end{array} \right] \right\} \right]$$

The Counter-to-Expectations constraints are modeled in (4.19-4.20). The fact that non-bodily function verbs cannot be assigned ergative case is captured by the constraint in (4.19). The part in (4.19) shows that when the verb is perfective and

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<sup>1</sup>The general MRS approach is neutral about what the inventory of relation features consists of, being equally compatible with the use of generalized semantic (thematic) roles such as actor and undergoer (e.g., Davis (2001)) or a semantically-bleached nomenclature, such as ARG1, ARG2. Here, the latter is used.

denotes a bodily-function, then the subject is assigned the ergative case. In this situation, the semantics of the verb is described by the *counter-expect-rel* in (4.20). The semantic interpretation of counter-to-expectation outlined in BGRND follows from the assignment of ergative case on the subject as in the case of the following example.

- (4.21) *shyaam=ne khããs-aa*  
Shyam=Erg cough-M.Sg  
'Shyam coughed (without meaning to).'

The bodily function verb *khããs* 'cough' appears in the perfective which requires, according to the constraint in (4.19), to assign ergative case to the subject. The semantic interpretation that follows from this constraint is that the act of coughing is contrary to the expectation given the agent.

The above constraints model ergative case assignment for Hindi. With respect to the complex predicate construction, only the first two rules apply since ergative case assignment is dependent on the transitivity of the last verb. The next section models the constraints on Hindi verbal complex by taking into consideration, the weight feature, which is required in order to model this particular constituency structure in HPSG.

## 4.3 Modeling Constituency Structure

This section models Hindi constituent structure. Recall that the main and light verb in the standard and reverse aspectual complex predicate construction:

- cannot be separated
- cannot be coordinated independently of the other, and
- cannot have an intervening adverbial modifier

Additionally, the reverse complex predicate construction cannot have any element inserted between the two verbs. I now present the constraints required to capture these facts.

The constituency of Hindi verbal complex is modeled through the use of the binary feature of WEIGHT (Abeillé and Godard, 2002, 2007). Lexical items or phrases can either be *lite* or *non-lite*. The weight value of an element can be specified within the lexicon or remain underspecified. In Hindi, the distinction between *lite* and *non-lite* constituents is evident in the domain of word order: *lite* constituents follow *non-lite* ones. Specifically, most adverbial modifiers that precede the main verb, such as *kal* ‘yesterday/tomorrow’ are *non-lite* whereas focus particles like *b<sup>h</sup>ii* ‘also’ that follow the main verb are *lite*. Main verbs are underspecified in the lexicon and subsequently specified as *lite* or *non-lite* depending on the constraint on weight in the verbal construct in which they appear; in particular, main verbs in a verbal complex are *lite*.

Modeling the constituency structure is achieved by means of defining which combination of words and phrases can be *lite* or *non-lite*. A verbal constituent itself is *lite* but any XPs preceding the verbal constituent are *non-lite*, as outlined in (4.22).

$$(4.22) \text{ S} \rightarrow \text{XP}^* \begin{bmatrix} \text{WEIGHT} & \text{non-lite} \end{bmatrix} \text{V} \begin{bmatrix} \text{WEIGHT} & \text{lite} \end{bmatrix}$$

### 4.3 Modeling Constituency Structure

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The above constraint ensures that any constituent in Hindi that precedes a verbal complex is *non-lite*. Within the verbal constituent itself, the last verb is the head of the construction. This is ensured by (4.23).

$$(4.23) \quad V \begin{bmatrix} \text{WEIGHT} & \textit{lite} \\ \text{HEAD} & \boxed{1} \end{bmatrix} \rightarrow X^* \begin{bmatrix} \text{WEIGHT} & \textit{lite} \\ \text{HEAD} & \boxed{1} \end{bmatrix} V \begin{bmatrix} \text{WEIGHT} & \textit{lite} \\ \text{HEAD} & \boxed{1} \end{bmatrix}$$

In any headed construction, the last verb is the head of the entire construction; this is indicated by the fact that the value of the head feature is shared between the last daughter (see  $\boxed{1}$ ) and the phrase. (4.23) thus models the fact that in a complex predicate construction the last verb is the head of the phrase. Additionally, (4.23) ensures that the verbal constituent can license a sequence of *lite* elements e.g., light verbs, auxiliaries, or discourse particles.

The constraints in (4.22-4.23) model the verbal complex constituent structure. I now turn to coordination and adverbial modification data. With respect to the adverbial modification data, or any head-adjunct phrase in general, the combination of *lite* and *non-lite* constituents in a head-adjunct phrase is *non-lite*. This follows from the following constraint.

$$(4.24) \quad \begin{bmatrix} \textit{head-adj-ph} \\ \text{NON-HD-DTRS LIST } \left( \begin{bmatrix} \text{WEIGHT} & \textit{lite} \end{bmatrix}, \begin{bmatrix} \text{WEIGHT} & \textit{non-lite} \end{bmatrix} \right) \end{bmatrix} \Rightarrow \begin{bmatrix} \text{WEIGHT} & \textit{non-lite} \end{bmatrix}$$

The above constraint states that in a head-adjunct phrase, if one constituent has a *lite* value and another constituent has a *non-lite* value, then their combination is *non-lite*. In addition, when multiple *lite* constituents are co-ordinated, their resultant weight is *non-lite*, as indicated below.

### 4.3 Modeling Constituency Structure

$$(4.25) \left[ \begin{array}{l} \text{coord-ph} \\ \text{NON-HD-DTRS LIST } ([\text{WEIGHT } \textit{lite}], \dots, [\text{WEIGHT } \textit{lite}]) \end{array} \right] \Rightarrow [\text{WEIGHT } \textit{non-lite}]$$

The combination of the two constraints above on head-adjunct phrases (4.24) and co-ordinated phrases (4.25) ensures that coordination and temporal modification would render the light verb-main verb combinations *non-lite*. Such structures would violate the headedness constraint in (4.23), which requires that a verbal complex be *lite*, thereby rendering coordinated main verb-light verb combination ungrammatical. I illustrate this point better with the help of the following set of examples (repeated from (3.11) and (3.18)) on modifiers. Recall that the adverbial modifier cannot appear between the main and light verb but the emphatic particle *bhii* ‘also’ can (at least in the standard construction).

(4.26) *\*leelaa=ne saaraa din gappõ mein /maar kal*  
 Leela.F=ERG all day.M chats.M.PL in hit:LV yesterday  
*bitaay-aa/*  
 spend-M.SG:MV  
*Intended:* ‘Leela spent all day yesterday chatting.’

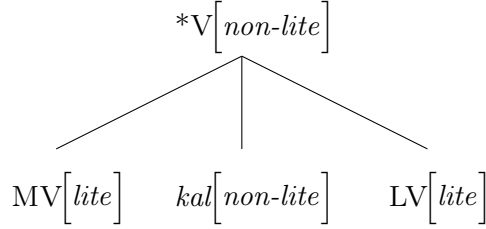
(4.27) *us=ne xat bhej b<sup>h</sup>ii di-yaa*  
 PRON.3.SG=ERG letter.F.SG send:MV also give-M.SG:LV  
*(t<sup>h</sup>-aa)*  
 (be.PAST.3.SG)  
 ‘He sent a letter (in addition to doing other things).’

(4.28) *\*us=ne ciṭṭ<sub>h</sub>ii b<sub>h</sub>ej di-yaa (t<sup>h</sup>-aa) b<sub>h</sub>ii*

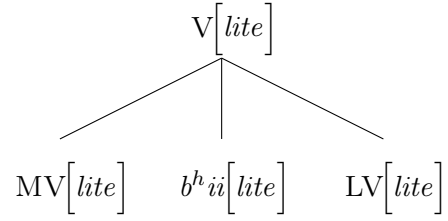
In (4.26), the insertion of a *non-lite* adverb like *kal* ‘yesterday/tomorrow’ between the main verb and light verb renders the entire construct *non-lite* following (4.24).

### 4.3 Modeling Constituency Structure

However, this is ungrammatical since according to the constraint in (4.23), a verbal complex must be *lite*. In contrast, a *lite* element such as the focus particle *bhii* ‘also’ can be felicitously inserted between the main verb and the light verb (4.27). The trees in Figures 4.2 and 4.3 illustrate this contrast further.<sup>1</sup>



**Figure 4.2:** Unacceptable element insertion



**Figure 4.3:** Acceptable element insertion

The constraints formally outlined in this section model the verbal constituency structure, as well as the restrictions on coordination and element insertion within both the standard and reverse aspectual complex predicate constructions. The constraint in (4.23) accounts for the fact that the particle *bhii* ‘also’ cannot appear after the light verb in example (4.28) by positing that the last element of the verbal complex must be the head.<sup>2</sup>

I now model the difference in headedness between the standard and reverse complex predicate constructions.

<sup>1</sup>I use trees here for exposition.

<sup>2</sup>Similarly, the *kyōō nahĩĩ* ‘why-not’ construction is *lite* whereas the negative marker *nahĩĩ* itself is *non-lite*. I cannot present independent evidence on this datapoint at this time.

## 4.4 Modeling Complex Predicate Constructions

The constraints so far have modeled some aspects of the Hindi verbal constituent structure and ergative case assignment constraints. In what follows, I discuss Hindi complex predicate construction by considering different analyses and selecting the most promising approach. There are three different verbal complexes to consider: the standard aspectual complex predicate construction, the reverse aspectual complex predicate construction, and the permissive construction. The light verb does not follow the main verb in the reverse construction but does so in the other two constructions. This stands in contradiction to argument selection expectations: with Hindi being a head-final language, argument selection would be expected to take place from right to left i.e., the light verb would be expected to follow the main verb if it were the head. The light verb in the reverse construction contradicts this expectation. Additionally, case assignment and agreement facts show that the last verb is the head of the construction in every construction. Taken together, these facts suggest that the reverse construction is different from other verbal complexes in terms of which verb is the syntactic head. I posit that the light verb *inherits* the argument structure of the main verb in the standard construction, but *modifies* the main verb in the reverse construction. In HPSG terms, the standard and the permissive construction involves argument composition while the reverse construction involves a head-modifier structure. With respect to the permissive construction, argument composition only applies when the permissive verb *de* ‘give’ subcategorizes for an infinitival main verb and not when the permissive verb subcategorizes for a VP-complement.

### 4.4.1 Argument Composition

In the standard aspectual complex predicate construction, the main verb determines the number of arguments in the clause. Then, by means of a sharing mechanism called *argument inheritance* or *argument composition*, the main verb shares its entire argument structure with the light verb, which in turn shares it with the auxiliary that follows it and so forth.

The ARG-ST list is therefore crucial to our analysis of the standard construction. Such an analysis was proposed originally by Aissen (1974) in terms of a clause-union structure and has subsequently been adapted by various frameworks. The term argument composition analysis was presented by Grimshaw and Mester (1988) for nominal complex predicates in Japanese. The similarity between complex predicate constructions, serial verb constructions, causatives etc. in Romance and other languages has been noted, and it has been widely assumed, particularly within LFG, that the same general theory of argument inheritance should be applied (cf. Andrews and Manning (1999); Alsina et al. (1997)). A thorough discussion of whether such constructions are truly similar from both a syntactic and semantic perspective is beyond the scope of this dissertation. In the following section, I briefly contrast the approaches taken by HPSG and LFG for argument inheritance.

#### 4.4.1.1 HPSG vs. LFG

Both LFG and HPSG are unification and constraint based non-derivational approaches. The two frameworks are similar in that grammatical notions such as subject and object are not defined in terms of positions in a tree but are instead

formalized in terms of attributes (such as SUBJ and OBJ in LFG and SPR (specifier) and COMP (complement) in HPSG. The two frameworks differ in terms of the number of levels of representations they use. HPSG has only one level (encoded in a complex sign structure) containing information about phonology, syntax and semantic interpretation of an expression (Cooper, 1996:192). It is in this one level which argument functions such as subject and object are indicated. LFG in contrast encodes hierarchical structure in one level (c-structure) and notions of subject and object in another (f-structure) (Bresnan, 2001: 44-45).

Within HPSG, an argument composition analysis has been proposed for German verbal complexes (Hinrichs and Nakasawa, 1994), Romance complex predicates (Abeille et al., 1998), and Persian periphrastic constructions (Bonami and Samvlien, 2009). A similar *predicate composition* analysis has been proposed within LFG (Lexical Functional Grammar) for Bantu and Romance causatives (Alsina, 1993, 1997), Hindi/Urdu aspectual complex predicates (Butt, 1994, 1997), and Tariana serial verbs (Andrews and Manning, 1999). Classic LFG (Bresnan, 1982) itself does not permit the valences of two verbs (encoded in PRED) to unify. A predicate composition approach applies to complex predicate constructions that are phrase-structurally monoclausal. The light verb is treated as an inherently incomplete predicate which cannot appear on its own and compose the values of its subject/object attributes with those of a main verb. Butt (1994) and Alsina (1993, 1997) propose slightly different formulations of this idea. Specifically, Alsina models the incompleteness of the light verb in the PRED value. In contrast, Butt (1994) and Andrews and Manning (1999) argue for a more elaborate representation of argument structure, which

is similar to the ARG-ST list in HPSG.

Predicate composition (LFG) and argument composition (HPSG) analyses are similar in that they treat multi-verb combinations as clause-union structures. One difference between the two frameworks is whether or not phrase structure possibilities are completely independent of complex predicate formation, which makes a difference in terms of whether or not argument inheritance implies a structural and a functional difference with respect to other verbal constructions in the language. “[In LFG], grammatical relations are genuinely shared across a domain of complex predicate formation, whereas under the argument composition approach [in HPSG] it is only the case that (certain or all) complements are inherited upwards within the complex predicate” (Andrews and Manning 1999:68-9). Within LFG Alsina (1997:240-1) contends that an incomplete predicate such as a causative verb in Romance, or presumably a Hindi light verb, must combine with a constituent with which it undergoes predicate composition in order to yield a complete predicate associated with the immediately dominating node. In other words, he argues that an incomplete predicate cannot appear as a structural sister to an XP bearing a syntactic function. Similarly, Andrews and Manning (1999) suggest, also with respect to Romance complex predicates, that the complements subcategorized by the auxiliary are realized locally within the VP complement, and share all grammatical functions in a clause with the head verb. In contrast, Abeillé and Godard (2007:134) argue that argument inheritance implies both a structural and a functional difference with ordinary verbal constructions. An argument composition analysis in HPSG “requires the verb complex to have a flat structure, even though an argument composition analysis is

compatible with various types of syntactic structures” (Abeillé and Godard, 2007, §4).

With respect to Hindi, as we have seen in Chapter 3, a flat structure is the most appropriate analysis for the standard aspectual complex predicate construction. Additionally, the difference in surface phrase structure between the standard and reverse aspectual complex predicate constructions also mirrors a difference in grammatical relations structure between them. However, multiple representations, both flat and non-flat structures, are possible for the permissive construction. Andrews and Manning (2009:68) claim that the non-flat structure of the permissive would pose a problem for HPSG, which will not be able to account for agreement facts: “while it is not impossible to combine the argument composition approach of HPSG with the existence of nested subordinate verb phrase (one simply has to allow partially saturated verb phrase constituents), such a move does not seem capable of explaining the verb agreement facts of [Hindi/]Urdu within the framework of what is usually assumed for agreement in HPSG”. In what follows, I first show how the argument composition works for the standard aspectual complex predicate construction and then address Andrews and Manning’s concern.

### 4.4.1.2 Standard construction

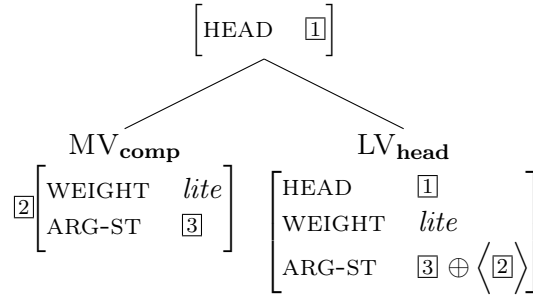
As noted above, the common thread in the literature on argument composition/predicate decomposition in HPSG and LFG is that the head verb i.e., the case-assignment/agreement verb inherits (within HPSG) or shares (within LFG) its argument structure information with the main predicate of the clause. In this sense the present analysis for the

## 4.4 Modeling Complex Predicate Constructions

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standard construction is similar to Butt’s (1994, 1997). Where the two analyses differ is that an elaborate argument structure representation, one that includes conscious choice as a feature, is not posed for the standard construction. This is because as shown in Chapter 3 against considering conscious choice a factor for case assignment in Hindi complex predicate construction. Additionally, subject case assignment in Hindi is also affected by auxiliaries as shown there.

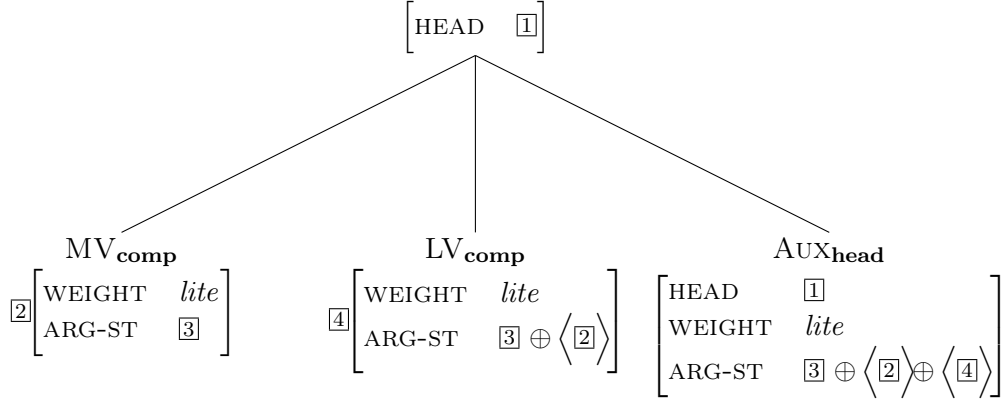
Argument composition in HPSG is achieved by ensuring that each verb in the verb complex include in its argument structure, the argument structure of the preceding verb. The head verb functions as an operator that subcategorizes for the complement verb. This is illustrated in the abbreviated phrase structure tree in Figure 4.4 for main verb and light verb combinations, and similarly in Figure 4.5 for main verb, light verb and auxiliary combination. Figure 4.5 is exemplified in (4.29).



**Figure 4.4:** MV-LV in Standard Construction (Argument composition)

- (4.29) *shyaam=ne*      *g<sup>h</sup>ar*      *beechee*      *di-yaa*      *hai*  
 Shyam.m=ERG   house.M.SG   sell:MV   give-M.SG:LV   be.PRES.3.SG  
 ‘Shyam has sold the house.’

The argument structure of the light verb includes the main verb *beechee* ‘sell’ [2], indicating that the light verb subcategorizes for it. The entire argument structure of



**Figure 4.5:** MV-LV-Aux in Standard Construction (Argument composition)

the main verb i.e., the subject *Shyam* and the object *ghar* ‘house’  $\boxed{3}$  is inherited by the light verb *de* ‘give’ and listed in its argument structure. In turn, the entire argument structure of the light verb  $\boxed{2} \oplus \boxed{3}$  and the light verb itself  $\boxed{4}$  are inherited by the auxiliary *hai* ‘be’ and listed in its argument structure list. The head of example (4.29) is the auxiliary *hai* ‘be’ as indicated by the tag  $\boxed{1}$ . By having each verb inherit the entire argument structure of its preceding verb, the argument composition analysis reflects on the clause-union structure of the standard complex predicate construction.

One noteworthy consequence of the argument composition analysis offered here is that it also accounts for why intransitive main verbs that do not express bodily functions cannot combine with transitive light verbs in the standard construction. Recall that the subject of intransitive verbs that do not denote a bodily function do not assign ergative case to their subject, and their case value is lexically pre-specified strictly as an unmarked value that cannot be overridden (*Counter-to-Expectation Constraint*). This clashes with the ergative value required by a transitive light verb. As

## 4.4 Modeling Complex Predicate Constructions

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illustrated below, a transitive light verb such as *ḍaal* ‘put’ which assigns an ergative case to its subject, cannot select for an intransitive main verb such as *fisal* ‘slip’.

- (4.30) \**shyaam=ne fisal ḍaal-aa*  
Shyam.M=ERG slip put-M.SG:LV  
*Intended*: ‘Shyam slipped up.’

This clash is illustrated in (4.31) with corresponding examples in (4.32); the subject cannot be assigned ergative case when an intransitive verb that does not denote bodily function combines with the light verb *ḍaal* (4.31a, 4.32a). On the other hand, the subject can be assigned ergative case either when the intransitive verb denotes a bodily function (4.31b, 4.32b) or when the main verb is transitive (4.31c, 4.32c).

- (4.31) a. \*SUBJ=ERG *intransitive-non-bodily-emission*:MV *transitive*:LV  
b. SUBJ=ERG *intransitive-bodily-emission*:MV *transitive*:LV  
c. SUBJ=ERG (...) *transitive*:MV *transitive*:LV

(4.32)

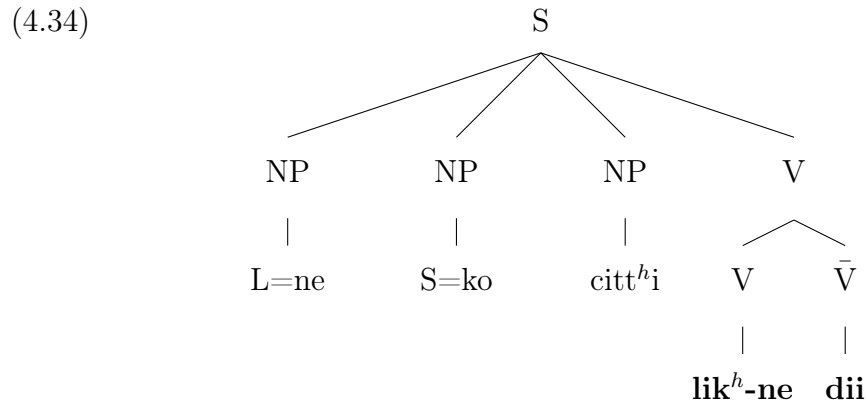
- a. \**taale=ne tuut ḍaal-aa*  
lock=ERG break:MV put-M.SG:LV  
*Intended*: ‘The lock broke.’
- b. *shyaam=ne ro ḍaal-aa*  
shyam=ERG cry:MV put-M.SG:LV  
‘Shyam cried.’
- c. *miraa=ne gaanaa gaa ḍaal-aa*  
mira=ERG song sing:MV put-M.SG:LV  
‘Mira sang a song.’

Not only do light verbs compose their argument structure with that of their verbal complement, they also require the selectional restrictions of the main verb to be compatible with their own. As noted in this thesis before, non-bodily emission intransitive verbs *strictly* require their subjects to bear *unmarked* case. But the subject of *daal* ‘put’ and other transitive light verbs (inherited via clause-union) are required to bear *ergative* case. Hence, the ungrammaticality of (4.31a/4.32a) supports an argument composition analysis, where the arguments as well as the restrictions imposed by the main verb are inherited by the light verb. The contrast between (4.31b/4.32b) and (4.31c/4.32c) and suggests that an argument composition analysis is also appropriate for the permissive construction, as shown below.

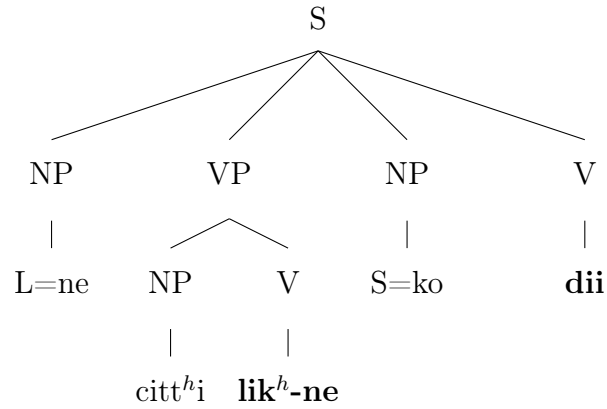
### 4.4.1.3 Permissive construction

Recall that the permissive can take not just a V complement (4.34), but also a VP complement (4.35).

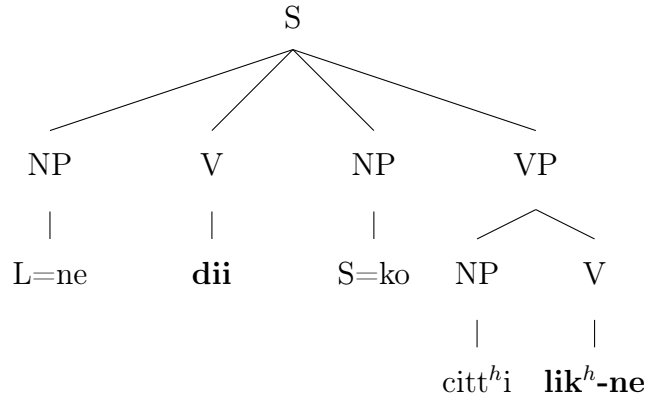
- (4.33) *[leela=ne] [shyam=ko] [citt<sup>h</sup>i] [lik<sup>h</sup>-ne di-i]*  
 leela.F=ERG shyam.M=DAT letter.F write-INF=:MV give-F.SG:LV  
 ‘Leela let Shyam write the letter.’



(4.35) a.



b.



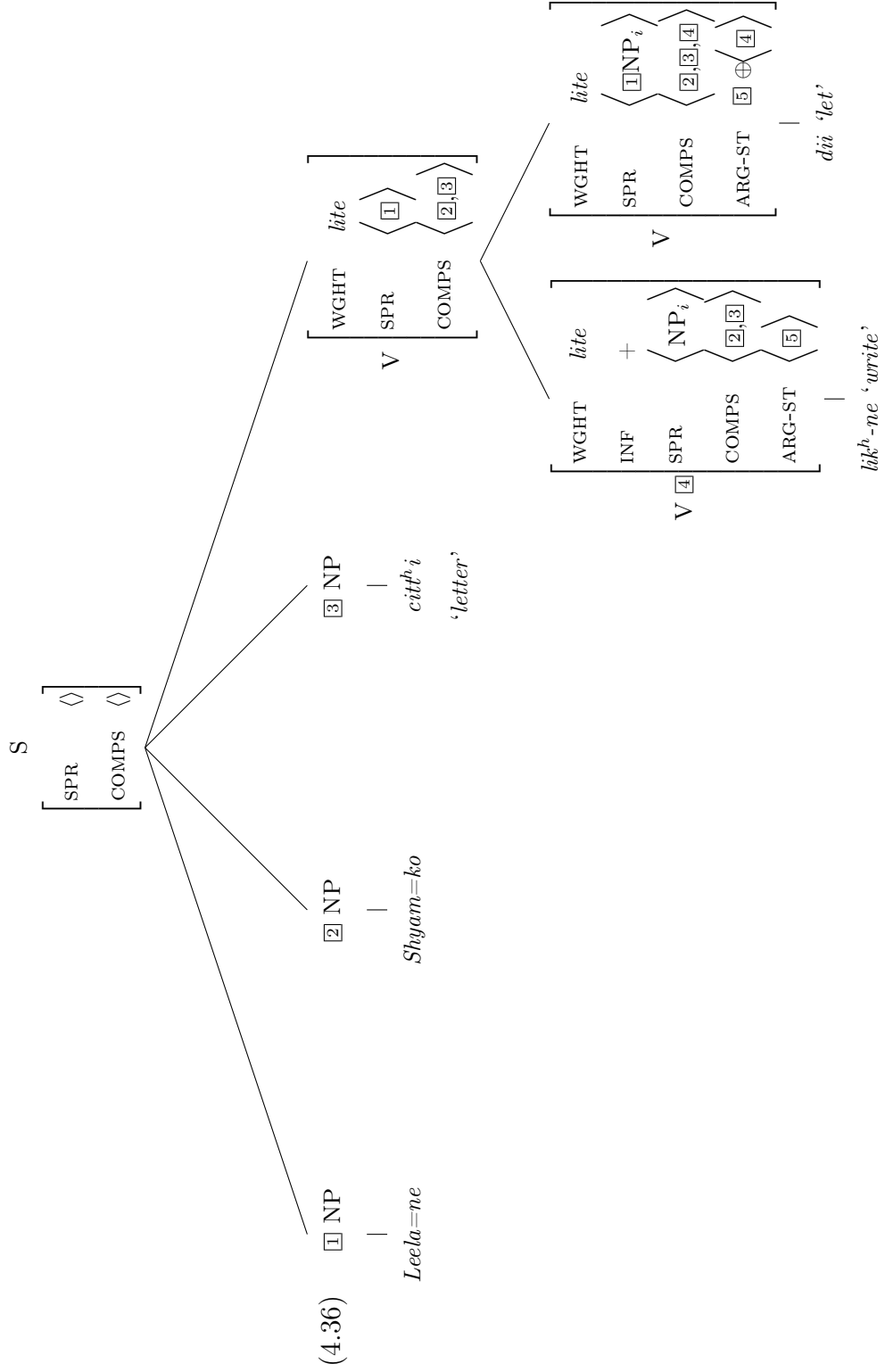
The infinitive and the light verb form a constituent in (4.34). However, the direct object and the infinitive form a VP-complement in (4.35). The difference between the two structures lies in the position of the light verb. In (4.35a), the light verb follows the direct object and the infinitive, and in (4.35b), the light verb precedes them.

An argument composition analysis is appropriate for the permissive complex predicate construction when the permissive verb subcategorizes for the V-complement in (4.34). The permissive subcategorizes for the infinitival main verb and inherits its complements. This analysis is illustrated in (4.36) for example (4.33). The subject

#### 4.4 Modeling Complex Predicate Constructions

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of the main verb *lik<sup>h</sup>* ‘write’, listed in its specifier list, is co-indexed with the subject ( $\text{NP}_i$ ). In accordance with an argument composition analysis, the light verb *de* ‘let’ inherits the argument-structure of the main verb *lik<sup>h</sup>* ‘write’.



## 4.4 Modeling Complex Predicate Constructions

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The above description should suffice to explain how an argument composition analysis would apply to the permissive when the two verbs appear together in the clause. Does the same analysis also apply when the permissive takes a VP-complement? An example based on the representative tree in (4.35) is the following.

- (4.37) *[leela=ne]* *[di-i]* *[shyam=ko]* *[citt<sup>h</sup>i]* *lik<sup>h</sup>-ne*  
 leela=ERG give-F.SG:LV shyam=DAT letter.F write-INF.OBL:MV  
 ‘Leela let Shyam write the letter.’

Andrews and Manning (1999:68) suggest that an argument composition analysis within HPSG would fail to account for verb agreement facts in the above example. Their argumentation is the following:

“Under an argument composition account **lik<sup>h</sup>-ne** would take **citt<sup>h</sup>i** as a regular complement, and then argument composition would occur with **di-i** inheriting any remaining complements of the heavy verb (here there are none – the subjects of **lik<sup>h</sup>-ne** is not separately realized but simply coindexed with an argument of **di-i**. The problem lurking here is that nowhere in this analysis is **citt<sup>h</sup>i** an argument of **di-i**. It is an argument of **lik<sup>h</sup>-ne**, but it is removed from the COMPS list of **lik<sup>h</sup>-ne** when the infinitival [VP] is formed, before argument composition occurs. Therefore, there is no way for the light verb **di-i** to get its hands on **citt<sup>h</sup>i** so that it can agree with it, and yet agreement between this ‘lower object’ and the light verb is exactly what we find. Under the terms in which agreement is normally discussed in HPSG, this datum is thus a violation

of Keenan’s Principle: a verb is agreeing with something that is not one of its arguments” (Andrews and Manning 1999:68).

There are two different issues that must be addressed. First, does the permissive subcategorizing for a VP-complement induce argument composition, and second, can HPSG account for the agreement facts when the relevant argument is embedded in a VP structure. With respect to the first, the infinitival verb forms a constituent with the direct object, to the exclusion of the permissive verb.<sup>1</sup> This indicates that when the permissive verb subcategorizes for the VP-complement, there is no clause-union, as a consequence of which, there is no argument composition.

The second question refers to the fact that it would not be possible for the permissive verb to agree with the highest unmarked argument, because this argument is embedded within the permissive construction’s VP complement structure. Before delving into this issue, I summarize for the reader’s benefit the facts on Hindi agreement (taken from Chapters 2 and 3):

- (4.38)    • In a finite clause, the verb agrees with the highest unmarked argument in the clause.
- If the subject is unmarked then the verb agrees with the subject, otherwise the verb agrees with the unmarked (direct, or else the indirect) object. If there are no unmarked arguments, then the verb is assigned masculine singular by default.

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<sup>1</sup>As shown in the previous chapter, the DO-InfV can move together as well as be coordinated together.

## 4.4 Modeling Complex Predicate Constructions

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- The verb that agrees with the unmarked argument is the one that is finite in the clause.

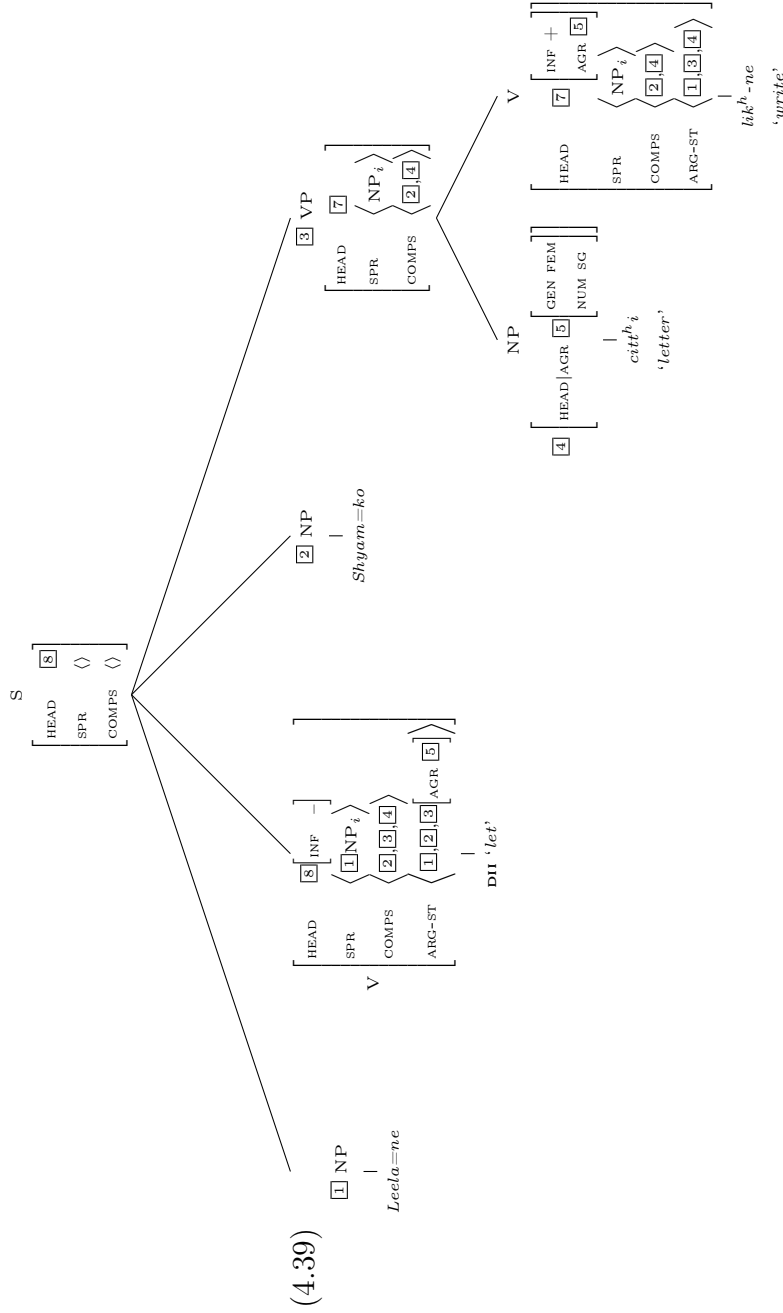
Based on these facts, it is clearly the verb *dii* ‘give’ and not the verb *likh* ‘write’ that agrees with *citt<sup>th</sup>ii* ‘letter’.<sup>1</sup> I posit that agreement should be treated as a head feature. An HPSG representation for this construction is shown in (4.39). The agreement feature indicates that the feature values of the direct object, in this case feminine and singular for *citt<sup>th</sup>i* ‘letter’ (५), are selected by the main verb and included in the head, which is then passed on to the VP. When the permissive verb subcategorizes for the VP-complement, it inherits the agreement.

The illustrations in this section should sufficiently describe the argument composition analysis within HPSG.<sup>2</sup> The present analysis accounts for subject case marking by the light verb, and establishes it as both the syntactic and semantic head of both the permissive and the standard complex predicate construction. As noted before, in the reverse construction, the main verb assigns case to the subject and is therefore the syntactic head. However, it is not the semantic head of the reverse construction and as shown below.

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<sup>1</sup>Recall that both the infinitive and the finite verb inflect for gender and number.

<sup>2</sup>I leave a formal treatment of object agreement in Hindi to another venue.



### 4.4.2 Reverse construction

In spite of being the semantic head of the reverse aspectual complex predicate construction, the light verb does not assign case to the subject or agree with the highest unmarked argument. Instead, it is the the main verb that functions as the syntactic head of the constructions. Depending on the direction in which syntactic selection in the reverse construction is considered to take place, the light verb can be analyzed as either an adjunct or a complement. Either a light verb function as a modifier and take what it syntactically modifies as a semantic argument, or it is a complement of the main verb. I present both analyses and show that it is better to consider the light verb an adjunct in a head-modifier/marker analysis.

#### 4.4.2.1 Head-modifier analysis

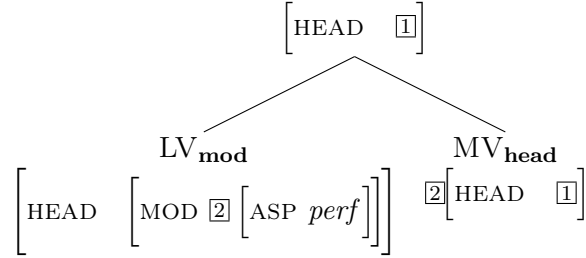
A *modifier-head structure* in HPSG involves the combination of a modifier with a head daughter whose features are compatible with (or "unify" with) the modifier's MOD value. In English, the adverb *never* is one such modifier (Kim and Sag:353-4) and can be represented as follows.

$$(4.40) \text{ } \begin{array}{c} \textit{never} \\ \left[ \begin{array}{c} \text{HEAD} \\ \left[ \begin{array}{cc} \textit{adv} \\ \text{MOD} \quad \text{VP} \end{array} \end{array} \right] \end{array} \right]$$

The lexical representation of the English adverb *never* in (4.40) shows that it modifies a VP. In Hindi, the light verbs in the reverse construction appear in the same position as adjectival or adverbial modifiers i.e., they typically precede the

expressions that they modify Kachru (1980).

The head-modifier structure of the reverse construction is illustrated in Figure 4.6. Crucially, the non-null value of the MOD feature indicates that the light verb cannot be the head of the construction. The light verb in the reverse construction modifies the main verb but does not inherit its argument structure. Instead, the main verb is the head of the construction, as indicated by the matched tags [1] at the lexical and phrasal level. Thus, unlike the standard construction, there is no argument composition between the light verb and the main verb in the reverse construction. The light verb selects for the main verb, which is always marked as *perf* (perfective) for its aspectual (ASP) value. This accounts for the fact that complex predicate constructions in the reverse construction are always perfective.



**Figure 4.6:** LV-MV in Reverse Construction (No argument composition)

The analysis of reverse construction can be illustrated via the following example, which is represented in Figure 4.7.

- (4.41) *baaz (parinde par) de j<sup>h</sup>apt-aa*  
 eagle (bird on) give:LV swoop-M.SG:MV  
 ‘The eagle swooped (on the bird).’

In the above example, the subject *Ram* appears in (4.7) only on the specifier (SPR) and argument-structure list of the main verb, as indicated by the shared tag

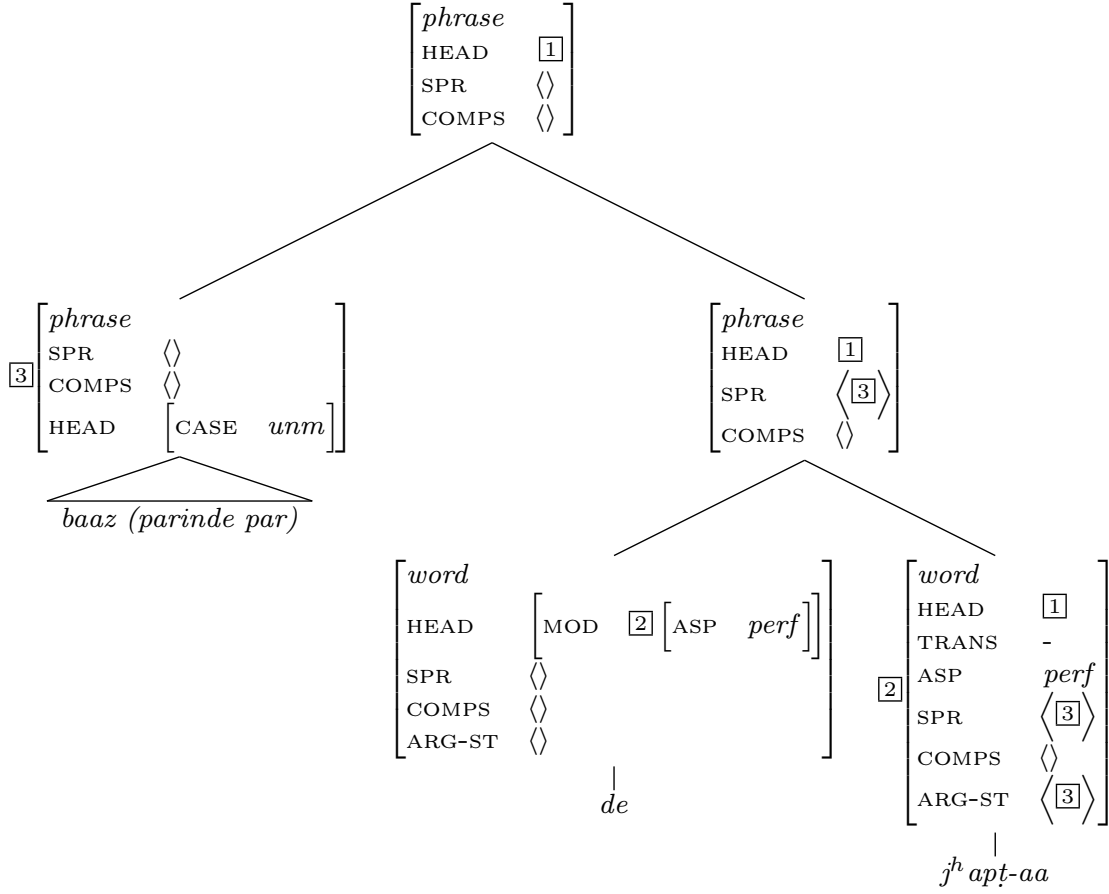


Figure 4.7: Reverse Construction: Head-modifier structure

[3]. As there is no argument composition between the light verb and the main verb in the reverse construction, both the specifier and the argument list of the light verb is left empty. Since the verb *bhaag* ‘run’ is intransitive, there are no complements, and therefore the COMPS lists is also empty. The light verb *de* ‘give’ modifies the head of the phrase, as indicated by the presence of the tag [2] on the MOD list of the light verb, which matches the tag of the main verb. The non-null value of the

MOD feature indicates that the light verb cannot be the head of the construction thus ensuring that it cannot assign case to the subject in spite of being the clause’s semantic head. The main verb *bhaag* ‘run’ is also the head of the entire construction, as denoted by the matching tag  $\boxed{1}$ , which indicates that the main verb is the head of the construction, at the lexical and phrasal levels. Based on the transitivity of the main verb, the subject’s case is unmarked.

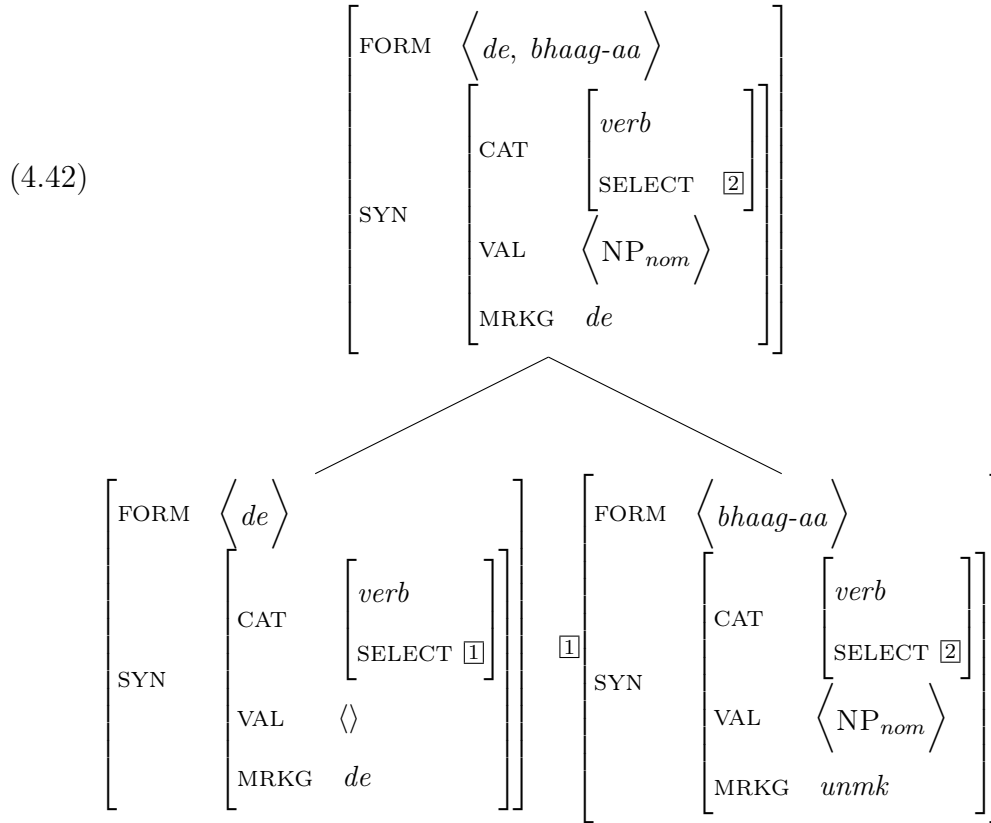
### 4.4.2.2 Head-functor analysis

Recent literature in HPSG, spilling over into Sign-Based Construction Grammar (Sag, 2010), has argued for a unified analysis of markers (such as determiners) and modifiers by subsuming the two under a *head-functor expression* (see van Eynde (2006, 2007) for details). Phrased in HPSG terminology, functors are non-head daughters which select their head sister, based on the SELECT feature. I now offer this analysis within Sign-based Construction Grammar (SBCG) (see Sag, to appear).

Within SBCG the categories of specifiers and modifiers have been subsumed under one category and reintroduced as *functors*. Van Eynde (1998, 2006, 2007) argues that significant generalizations in the grammar of nominals are missed by analyses based on so-called *functional categories*. In their place, he develops a unified analysis of markers (including determiners) and modifiers in terms of a simple, direct combination of a *functor* expression and the head that it selects. Marked and unmarked phrases are distinguished via the MRKG feature. This feature was first introduced in Pollard and Sag (1994) to identify English complementizers. For instance, the marking feature distinguishes between marked phrases such as *that Kim laughed*,

#### 4.4 Modeling Complex Predicate Constructions

*whether Morgan was awake*, and *Hillary's* from their respective ‘unmarked’ counterparts *Kim laughed*, *Morgan was awake*, and *Hillary* (Sag, 2010, p.55). In accordance with the Head Feature Principle, the mother’s SELECT and MARKING specification is inherited from the head daughter. Within SBCG then, the light verb-main verb combination in the reverse construction in (4.41) can be reanalyzed as a head-functor (or head-marker) expression as following.



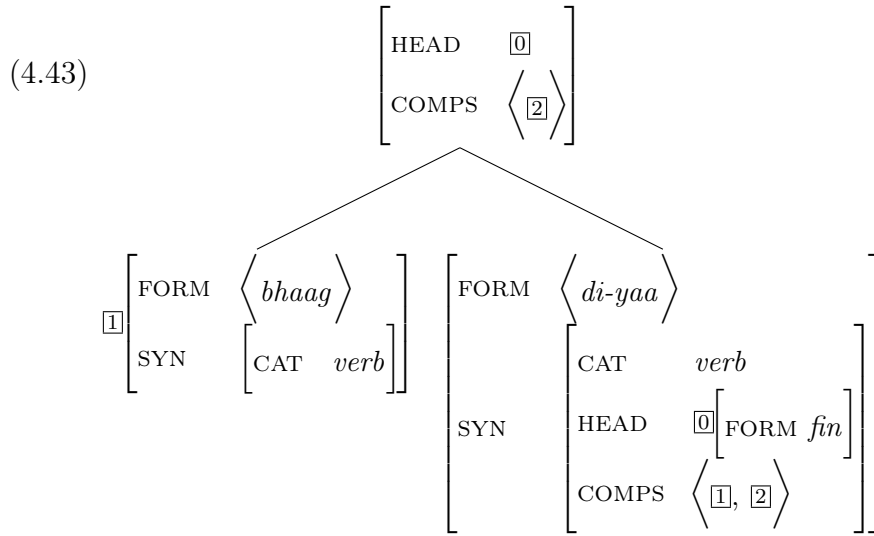
The light verb *de* ‘give’ selects for the main verb *bhaag* ‘run’ in  $\boxed{1}$ . The SELECT feature of the mother (MTR) matches the SELECT feature of the head daughter, and this establishes the main verb as the head of the reverse construction. The value of the light verb is included in the MRKG feature (in order to indicate that the reverse

construction is a marked phrase in comparison to the standard construction), and propagated up. The head-modifier analysis in HPSG and the head-functor analysis in SBCG treat the reverse construction in essentially the same way. The light verb, which is the semantic head, modifies the main verb, which is the syntactic head. Syntactic selection thus goes from left to right.

### 4.4.2.3 Type-raising analysis

Another possible analysis within HPSG would be a type-raising analysis similar to that proposed in Kim and Sag (2002) for French post-verbal negation *pas* (and similar functors). “In the standard presentation of [type-raising], an element  $X$  that ordinarily serves as a semantic argument of some modifier  $Y$  is assigned a ‘higher order’ meaning  $F(X)$  that can take  $Y$  as its semantic argument. Though the function-argument relations are reversed in type raising, the meaning expressed by applying  $F(X)$  to  $Y$  is exactly the same as the result of applying  $Y$  to  $X$ . The lexicalist type-raising analysis changes the mode of combination only in limited instances, those controlled by application of the lexical rule” (Kim and Sag 2002:374).

In the case of the reverse construction, a type-raising analysis would treat the light verb as a complement of the main verb, and the syntactic selection would then take place from right to left. Such an analysis would treat the light verb as a syntactic complement of the main verb, since the light verb is ordered before the lexical head (main verb) just as the other complements are. A simplified representation of the light verb-main verb combination in example (4.41) as a head-complement structure is as follows:



At the empirical level, both the head-modifier/functor and the type-raising analyses seem plausible. However, the type-raising analysis cannot account, except in a stipulative way, for the differences observed between the standard and the reverse construction. An argument against the type-raising analysis is the lack of flat structure in the reverse construction. The light verb and the main verb combination in both the standard and the reverse aspectual complex predicate construction form a constituent to the exclusion of the complements of the main verb. A type-raising analysis would expect the complements to form a constituent with the light verb-main verb, e.g., the DO would move with the main verb-light verb combination, or vice versa. As shown in the previous section, this is the case.

The reverse construction partially dissociates between constituency structure and argument structure, a difference that is better captured by treating it as a head-modifier structure.

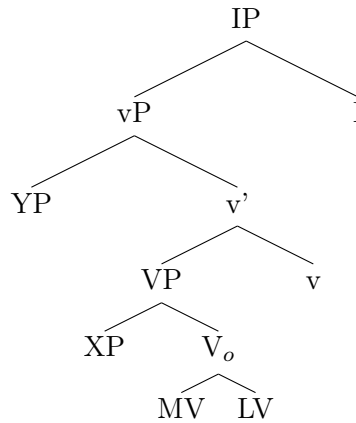
### 4.4.3 Complex Predicates within Minimalism

A couple of possible solutions to formulate the standard and reverse aspectual complex predicate constructions within Minimalism can be considered. First, the light verb in the reverse construction could be treated as the functional head that is higher than the main verb even though it is the main verb that “counts” as the head with respect to case assignment. I do not presently know of any independent motivation for such a claim; leftward movement of a verb, for example, does not typically affect the head status of the functional heads it moves to the left of.

Alternatively, one could also consider treating the light verb-main verb combination in the reverse construction as an instance of compounding (since I do not know of any marker that can appear between the light verb and the main verb in the reverse construction). This line of inquiry seems even less appealing, as the relative productivity of the reverse construction makes it hard to see how one would distinguish the kind of compounding purportedly present in reverse constructs from true VV syntactic combinations. More importantly, exempting compounding from the purview of the Uniformity Hypothesis greatly weakens it, and would run counter to its current scope, as it is standardly assumed that suffixal tense and aspect marker is the expression of a higher functional T head.

Finally, one could consider a double-headed structure within Minimalism along the lines of Baker’s analysis of serial verb constructions (SVCs) in Edo (Baker, 1989; Baker and Stewart, 1999). Allowing for the possibility that a phrase can have two heads, Baker and Stewart (1999) suggest the use of the Merge feature to combine two phrases that are identical or nearly identical in syntactic features. Butt and

Ramchand (2001) suggest such a possibility for the standard construction (see Figure 4.8), In the sense that this analysis argues for co-headedness.



**Figure 4.8:** Double headed structure within Minimalism for the standard construction

Baker and Stewart (1999) can be contrasted with Déchaine (1993:ch.4), who observes asymmetrical headedness in Yoruba SVCs: some types of SVCs are headed by the first verb, and others by the second. She posits, following Baker (1989), that two VPs can be merged to form a larger VP but also assumes that one of the verbs must be chosen as the head of the construction as a whole. It is unclear that such an analysis would be able to account for the agreement and case assignment facts for the reverse construction.

## 4.5 Summary

This chapter has modeled within HPSG the interaction of case assignment and complex predicate formation in Hindi as well as the constituency structure of the verbal complexes. Additionally, I have modeled the standard and reverse I have argued that

the light verb induces argument composition in the standard construction, but is a head-modifier in the reverse construction. With respect to the permissive construction, argument composition is induced only when the permissive verb subcategorizes for a V-complement and not when it subcategorizes for a VP-complement. An accurate modeling of the data can lead to a better understanding of the data itself; for instance, an argument composition analysis accounted for the fact that non-bodily emission verbs cannot appear in the standard construction with certain transitive light verbs.

## Chapter 5

# Semantic Contribution of Hindi Light Verbs

### 5.1 Introduction

In keeping with the goal of this dissertation to explore Hindi aspectual complex predicates at the syntax/semantics interface, this chapter identifies the core semantic characteristics of Hindi light verbs. These semantic characteristics can be subdivided into two categories: *aspectual* and *subtle*. The aspectual category refers to the so-called notion of perfectivity attributed to Hindi aspectual light verbs<sup>1</sup>, and the subtle category refers to various other semantic notions, e.g., volitionality, force, suddenness, benefaction, etc. This chapter discusses both of these categories. With respect to the first category, I contrast the aspectual content encoded by a main verb with that of a complex predicate construction. With respect to the second category,

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<sup>1</sup>When I discuss light verbs in this chapter, I am referring only to aspectual light verbs.

I describe the semantic notions encoded by each light verb and show that the various descriptions that have traditionally been assigned to various light verbs are in fact pragmatic inferences. I then present a descriptive analysis which portrays the differences between the (relevant) Hindi light verbs.

While many researchers have noted the variation between Hindi light verbs, accurately describing the semantic properties of each light verb remains a daunting task. The following quote is typical: “It seems that the difficulty of giving a notional characterization for the function of light verbs has led researchers to center, in their analyses, on features that are predominantly syntactic in nature” (Butt 2011:78). Additionally, it has been argued that the subtle semantic notions can neither be systematically characterized nor be cleanly reconciled with the idea of aspectuality. In general, most studies on the semantics of Hindi light verbs have centered their attention on the aspectual nature of these light verbs (Hook, 1975, 1991; Singh, 1994; Butt, 1994). Some studies have discussed one or two additional semantic notions that are encoded by light verbs, such as volitionality or force (Butt, 1994, 1997). Yet other works point to the semantically bleached status of the light verbs and suggest a type of adverbial event modification (Butt and Lahiri, 2003; Butt, 2010). In spite of these efforts, scholars agree that the specific contribution of these light verbs is hard to pin down.

As this chapter will show, previous research describes not the semantics of each light verb, but rather what appear to be pragmatic inferences (cf. Hook (1975); Abbi and Gopalakrishnan (1991); Nespital (1997)). To my knowledge, no thorough systematic study of the kind undertaken here has been conducted on the semantics

of all Hindi light verbs beyond general comparisons. I briefly outline three semantic analyses of Hindi light verbs that were undertaken previously, one from a diachronic perspective and the others from a synchronic perspective. What these analyses identify is that there is a relationship between Hindi main verbs and the complex predicate construction, and that the need for the use of light verbs is the result of the meaning of main verbs. However, these analyses fail to capture the precise verbal semantics. The rest of this chapter is organized as follows. I first describe the aspectual content encoded in Hindi main verbs in §5.4 and then compare it to the aspectual content encoded in Hindi light verbs in §5.5. It is shown that many Hindi main verbs do not include a finished result state and therefore require a light verb. I then discuss the semantic notions contributed by each Hindi light verb. But first I outline previous analyses for each of these verbs and then offer empirical data that facilitates in determining their core semantic meaning.

## 5.2 Previous Analyses

To give the reader an idea of the kind of analyses generally proposed for Hindi light verbs, this section discusses three analyses. The first takes a diachronic perspective on Hindi light verbs and takes a broad view on the aspectual content on Hindi light verbs. The second and third perspectives describe the aspectual content of Hindi light verbs; while the former couches its analysis under telicity, the latter suggests an underspecification analysis of Hindi light verbs. I show that the diachronic perspective as well as the underspecification analysis provide a meaning of Hindi light

verbs that is too general.

### 5.2.1 Diachronic Perspective: Aspectogenesis

From a diachronic perspective, light verbs are viewed in the context of grammaticalization as an example of the gradual emergence of aspectual meaning, sometimes referred to as *aspectogenesis* (cf. Hook (1975, 1991, 1993); Hopper and Traugott (2003a); Paradeshi (2001)). The premise behind an *aspectogenesis* analysis is that light verbs shall give rise to a type of aspectual auxiliary. Hindi light verbs are taken to be expressing a perfective conceptualization of an action or event. Having lost their contentful lexical meaning, Hindi light verbs, according to Hook, now show high degree of semantic bleaching and are acquiring ‘functional’ grammatical meaning, e.g. perfective aspect (1991:59). The definition of perfectivity within his analysis comes from Comrie (1976):

*Perfectivity* indicates the view of the situation as a single whole, denoting a complete situation with a beginning, a middle and an end. *Perfective* verbs can be used to indicate the beginning (ingressive) or the end (completive) of the situation.

The contention that light verbs mark perfectivity has led to the conclusion that light verbs are an optional stage on the grammaticalization cline between full verbs and auxiliaries, as shown below (Hopper and Traugott 2003: 111-116).

(5.1) full verb > (light verb) > auxiliary > verbal clitic > verbal affix

From a review of the data in Hook (1991), Hopper and Traugott (2003b) suggest that some light verbs appear to become more grammaticalized than others, i.e. further advanced on the cline. They claim that “in Hindi a handful of [light] verbs is gaining the ascendancy in the competition for auxiliary status” (Hopper and Traugott 2003: 116). However, the supposed connection of Hindi light verbs with aspectogenesis can be shown to be weak, if not non-existent. In fact, other lines of research on the Hindi-Urdu verbal system have also refuted the idea that light verbs, as a class or as a subset, are diachronically moving toward auxiliary status (see Butt and Geuder 2001; Butt 2003; Bowerman 2008). In contrast to the position of Hook (1991) and Hopper and Traugott (2003), Butt takes the position that since light verbs have been highly stable historically, involve no phonological loss and demonstrate no observable shift toward more auxiliary-like functions, they should not be seen as an intermediate stage on the grammaticalization cline between full verb and auxiliary (2003:16).

### 5.2.2 Synchronic Perspective: Inception/Completion

The synchronic perspective on the aspectual content of Hindi light verbs is that they are markers of telicity.<sup>1</sup> This perspective arises from the fact that Hindi complex predicate construction contrasts with the main verb usage with respect to telicity. The main verb can indicate an arbitrary endpoint (5.2), whereas the complex predicate construction, as exemplified in (5.3) by the light verb *de* ‘give’, indicates a

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<sup>1</sup>No account of telicity can apply to verbs by themselves, and so when I discuss telicity, I am discussing it in the context of a verb associated with its patient NP. Additionally, I assume here that telic descriptions entail completion whereas atelic descriptions do not.

natural endpoint.

- (5.2) *mai=ne duud<sup>h</sup> kaaḍ<sup>h</sup>-aa hi t<sup>h</sup>-aa kii duud<sup>h</sup>*  
 1SG=ERG milk thicken-M.SG:MV EMPH be-PAST.3.SG that milk  
*aag par rak<sup>h</sup>-te hii faṭ ga-yaa*  
 fire on keep-HAB EMPH tear:MV go-M.SG:LV  
 ‘I had just thickened the milk but it tore when I put it on the fire (i.e.,  
 couldn’t be thickened). (Nespital 1997:228, #2)

- (5.3) *mai=ne duud<sup>h</sup> kaaḍ<sup>h</sup> di-yaa*  
 1SG=ERG milk thicken:MV give-M.SG:LV  
 ‘I thickened the milk.’ (constructed)

In (5.2), the milk that was being thickened tore before the event thickening was completed. But with a complex predicate construction; the event must be complete, as indicated in (5.3). In fact, saying that the event of thickening the milk was incomplete would be infelicitous, as shown below.

(5.4)

- (5.5) *#mai=ne duud<sup>h</sup> kaaḍ<sup>h</sup> di-yaa hi t<sup>h</sup>-aa kii*  
 1SG=ERG milk thicken:MV give-M.SG:LV EMPH be-PAST.3.SG that  
*duud<sup>h</sup> aag par rak<sup>h</sup>-te hii faṭ ga-yaa*  
 milk fire on keep-HAB EMPH tear:MV go-M.SG:LV  
*Intended:* ‘I had just thickened the milk but it tore when I put it on fire.’

Another reason that light verbs are considered aspect markers is because they give rise to inceptive or completive readings. Butt (1994), for instance, suggests that some light verbs (e.g. *paḍ* ‘fall’) pick out or focus on the point of inception, while others (e.g. *ḍaal* ‘put’) focus on the point of completion.

- (5.6) *anjum uth paḍ-ii*  
 Anjum rise:MV fall-F.SG:LV  
 ‘Anjum rose suddenly at that very instant.’ (Butt 1994:120)

- (5.7) *anjum=ne kapṛ-e dʰo daal-ee*  
 Anjum=ERG cloth-M.PL wash:MV put-M.PL:LV (Butt 1994:120)  
 ‘Anjum (has finished) washed the clothes.’

Contrary to Butt’s claim, not all light verbs entail an inceptive/completive reading. In particular, given the right context, the inceptive/completive reading can be cancelled. This is illustrated for the light verb *daal* ‘put’ in (5.7) below.

- (5.8) *anjum apn-e bacchee=ko maar daal-n-ee valii tʰ-ii kii*  
 Anjum self kid-DAT kill:MV put-M.PL:LV about-to be-F.SG that  
*police aa ga-yii*  
 police come:MV go-F.SG:LV  
 ‘Anjum was about to kill her kid when the police arrived.’ (constructed)

While the above example does indicate that Anjum would have killed her kid had the police not arrived, crucially, it shows that the light verb can be used in a non-completive sense.

### 5.2.3 Synchronic Perspective: Underspecification

Butt and Geuder (2001:342) suggest that the following features remain constant between the main verb and light verb usages of *de* ‘give’. First, the subject of the light verb *de* ‘give’ always denotes a sentient being that performs an intentional act. Second, the recipient is also typically a sentient being but the recipient can be an inanimate object if the result is reduced to just the exertion of an effect e.g., *the car* in ‘*give the car a wash*’.

This semantic core of the light verb has been argued to form the basis for an underspecification analysis that assumes one underspecified underlying entry for light verbs and their main verb counterparts (Butt and Lahiri, 2003; Butt, 2010). For instance, Butt (2011:73) suggests that the content of this entry will not have a full-fledged argument structure, as is generally assumed, but a loose collection of information along the lines of Dowty’s (1991) Proto-Role entailments. Sample entries from Butt (2011) are provided in (5.9) for ‘give’, ‘do’ and ‘fall’.

- |            |           |  |
|------------|-----------|--|
| ‘give’     | verb-stem | agentive, some entity (concrete or abstract)<br>is to be transferred to a recipient/goal |
| (5.9) ‘do’ | verb-stem | agentive activity, could involve some entity<br>(concrete or abstract)                   |
| ‘fall’     | verb-stem | non-agentive   |

In addition to the type of information in (5.9), “the verb entries are associated with world knowledge. That is, what a falling event usually entails, namely that it is involitional, that it is sudden, that it is downward. Or what a giving event usually entails: that it is usually for the benefit of somebody (but not necessarily) and that it generally is a considered action (weighing the pros and cons). These further pieces of information influence the argument structure in terms of what kinds of arguments are realised in the syntax. However, they are also likely to provide that extra bit of semantic predication which is the hallmark of light verbs, namely the information whether a given action is sudden, benefactive, or the responsibility of the actor. And since it is information coming out of

world knowledge, it is also defeasible, i.e. not every predication with the light verb ‘give’, for example, will necessarily always have the same range of semantic connotations” (Butt 2011:73-74).

The underspecification analysis leads to assigning a meaning that is too general to a light verb, and could lead to missing the differences between different verbs. For instance, consider the meaning of the verb ‘do’ and ‘fall’ above: both involve another entity. How then would the semantics of the two verbs be disambiguated?

The alternative semantic analysis of Hindi light verbs that I offer in this chapter captures both the aspectual content of the light verbs as well as other notions that they convey. I first present the theoretical background for my analysis.

## 5.3 Theoretical Background

I now present the theoretical background outlining the motivation for selecting an affectedness analysis. I explain why the analysis undertaken in this chapter is based in terms of the event-argument homomorphism model (e.g., Krifka (1998); Kennedy and Levin (2008)) rather than the result-state model (Dowty, 1979).

### 5.3.1 Event-Argument Homomorphism

Modern works in lexical semantics take as a starting point the Aktionsart-based classification of verbs into *states*, *activities*, *accomplishments*, *achievements* (Vendler, 1967). Generally, states are non-dynamic situations, activities are open-ended processes, achievements are near-instantaneous events, and accomplishments are pro-



The aspectual classifications described so far relied on event types and subevent structures, but still did not account for how arguments ("incremental themes" in Dowty 1979:567-568) expressed in the clause also reflect temporal properties. More recent approaches make use of the notion of a part not only for events, but also for objects, and assume that verbs (like *eat*) homomorphically relate object parts and event parts to each other (cf. Bach (1986), Krifka (1989), Krifka (1992), Krifka (1998), Dowty (1991), Tenny (1992, 1994), Kratzer 2004, Kennedy and Levin 2008). In these approaches, the event is related to the object homomorphically so that the endpoint of the event is known only if the quantity of the object is known. This event to scale homorphism is described in further detail below.

### 5.3.2 Event to Scale Homomorphism

The mereological event-to-path homorphism introduced by Krifka (1992, 1998) for motion and change of state descriptions has been extended to an event-to-scale homomorphism in Hay et al. (1999). This hypothesis has led to a general analysis of predicates of change based on the notion of *scalar change* (Wechsler, 2005; Beavers, 2006; Kennedy and Levin, 2008; Beavers, ms), where change is analyzed as some theme transitioning to a new value along a property scale. Predicates are cross-classified based on a) the specificity of the endpoint along the scale, and b) the mereological complexity of the scale.

In the scalar change analysis, the crucial telicity distinction, following Krifka (1998), is between those predicates that specify the exact goal and those that only say that a goal exists. Within this analysis, scalar change is considered a type of

affectedness. Beavers (2006, ms) proposes the following scalar model in terms of how specific a theme's progress is on the relevant scale. If the theme has reached a specific state, it has undergone a *quantized* change (*e.g.*, *peel x*) but if it has only obtained *some* result state (*e.g.*, *lengthen x*), then it has undergone a *non-quantized* change. Furthermore, if there is some set of possible but not necessary change (*e.g.*, *scrub x*), it is deemed a *potential* change. Finally, if the theme is an event participant (*e.g.*, *smell x*), then it is unspecified for a change. These degree of affectedness form an *Affectedness Hierarchy* described as follows:

(5.11) For all  $x, \phi$ ,  $\text{quantized} \rightarrow \text{non-quantized} \rightarrow \text{potential} \rightarrow \text{unspecified}$

Following Beavers (2006), the degree of affectedness itself can be determined using the diagnostics defined above in the following manner:

- (5.12) a. What happened to  $x$  is  $\phi$  is true iff  $x$  iff  $x$  undergoes potential change in  $\phi$ .
- b.  $\phi$  therefore something changed about  $x$  is true iff  $x$  undergoes non-quantized change in  $\phi$ .

The Affectedness Hierarchy described by Beavers posits that a quantized change entails a non-quantized change, which entails a potential change, which in turn entails the participant's presence in the event. Therefore, if *What happened to X is Y* picks out potential changes then it also picks out (non-)quantized changes. Only quantized changes ensure telicity. One can determine (a)telicity as a consequence of modeling how specific a predicate is about the result on the scale. This is illustrated below for Hindi main and light verbs.

## 5.4 Hindi Verbs and Telicity

This section discusses the aspectual content encoded by Hindi main verbs and light verbs. It is shown that events described by durative Hindi predicates can encode a telic or atelic reading. The aspectual relationship between a main verb and a complex predicate construction is then described in terms of the gradability of the change that is denoted. Following Krifka (1998), I define  $\phi$  as telic iff for any event  $e$  in its denotation there is no  $e' < e$  is in its denotation.<sup>1</sup>

### 5.4.1 Main Verbs and Incompleteness Effect

Previous research has claimed that the events described by a verb constellation (Smith 1992) can denote arbitrary endpoints. I use the term verb constellation here to describe the combination of a main verb and its arguments. Building on Smith's research, Singh (1998:173) claims for Hindi that "the described situation has reached an endpoint, but *not* necessarily the natural one that would signify the accomplishment". An end state of this type has been characterized as a *neutral perfective* by Smith (1991b) to state the fact that the event itself can be presented as a whole. This is similar to the definition for *semi-perfective* markers in Thai, where the eventuality is bounded and must include a boundary, but it need not be completed (Koenig and Muansuwan, 2000). The source of this neutral/semi-perfectivity has been suggested to be the  $-(y)aa/ii$  suffix that a bare stem selects for in a finite clause. However, as discussed in Chapter 2, the  $-(y)aa/ii$  suffix only encodes agreement and does not encode any notion of perfectivity. Instead, the result state denoted by a finite Hindi

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<sup>1</sup>The symbol ' $<$ ' describes a proper part-of relation.

verb in a verb constellation can either be complete (telic) or incomplete (atelic).

Events described by instantaneous predicates are telic, as exemplified below.

- (5.13) *shyam=ne leela=se ek savaal puuc<sup>h</sup>-aa, \*(par puuraa nahĩĩ*  
           Shyam=ERG Leela=INST one question ask-M.SG, but all NEG  
           *puuc<sup>h</sup>-aa)*  
           ask-M.SG  
           ‘Shyam asked Leela a question, \*(but did not ask all of it).’ (constructed)

That an instantaneous predicate leads to telic interpretation is expected. In contrast, the event described by a subset of durative predicates can be atelic, as shown below.

- (5.14) *miiraa=ne santaraa chiil-aa par puuraa nahĩĩ chiil-aa*  
           Mira=ERG orange peel-M.SG but completely NEG peel-M.SG  
           ‘Mira peeled an orange but did not peel it completely.’ (Singh 1998:194)

Verb stems denoting induced change of state whose result state is not completed display an *Incompleteness Effect* (Koenig and Chief, 2008). This effect is noted when there is a quantized participant as well as perfective aspect, then an event being described by the verb complex is incomplete. The existence of verb stems that display the Incompleteness Effect raises two questions. First, what is the source of the Incompleteness Effect, and second, how is telicity computed in the event described by Hindi verb constellations if there exists an ambiguity with respect to whether the described eventuality can be telic or atelic? I address each of these questions in turn.

Koenig and Chief (2008) suggest that there can be three possible sources of IE in a language: a) the meaning of the aspect (or tense) operators i.e., the *-(y)aa/ii* suffix, b) the meaning of NPs, or c) the meaning of the verbal stems. As indicated

in §2.2.2 of Chapter 2, the agreement suffix does not function as an aspect operator. Instead, as I will now show, the source of the incompleteness effect in Hindi lies in a combination of the remaining two factors. The combination of these two factors, i.e. the meaning of the NPs and the meaning of the verbal stems, are used to semantically classify Hindi verbal predicates by Singh (1994, 1998). She derives telicity from a ‘measuring out constraint’ imposed on the incremental theme, property, or path following Krifka (1989, 1992).<sup>1</sup> A simplified version of Singh’s classification is offered in Figure 5.1.

As the figure indicates, verbs are instantaneous or durative. These are then sub-classified under Singh’s analysis as either *Gradually Creating*, *Gradually Modifying* or *Unmodifying predicates* primarily on the basis of how verbs in each of these subclasses affect their patients and whether or not the patient can be quantized. While events denoted by instantaneous predicates always lead to a completive reading, events denoted by durative predicates can trigger either a partitive (i.e., display the Incompleteness Effect) or a completive reading, depending on the properties of the patient NPs that the predicate selects. These properties are described as follows:

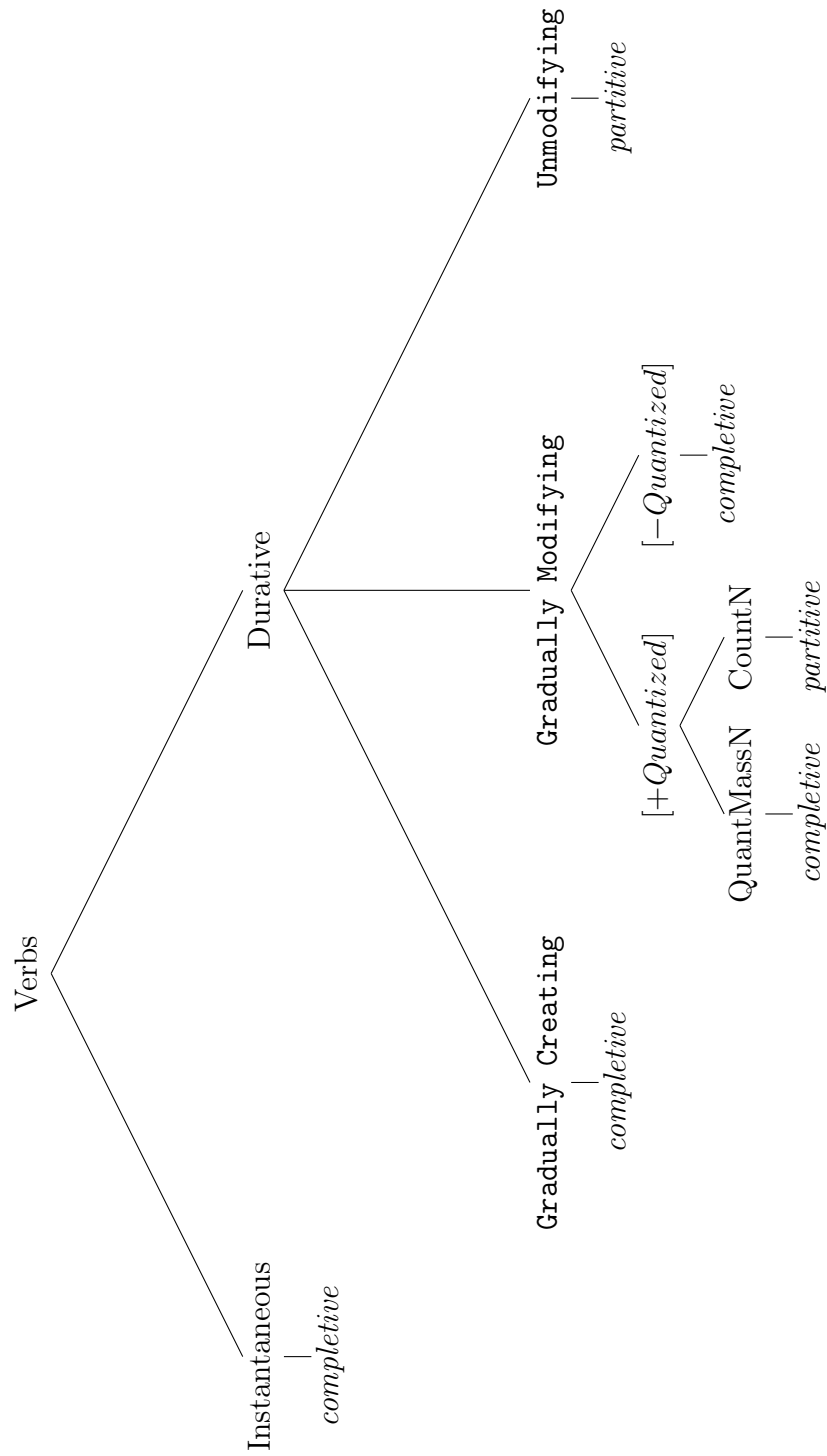
- *Graduality*: The object is subjected to the event in a gradual manner, e.g., ‘*write a letter*, *eat an apple* have a gradual effect but *see a cat* or *find a watch* do not. This property refers to a single complex individual, e.g., *eat three apples*, *wash three clothes* and some events can be repeated on the same object. Each part of the event incrementally runs over its object, i.e., subevents involve fragments of the given object; *eat an apple* has this property but *apprehend a*

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<sup>1</sup>While Singh’s analysis discusses telicity between main verbs and complex predicate constructions, the present discussion is restricted to the latter.

*thief* does not. Further, each object is incrementally involved with the event, i.e., if an object participates in an event, then parts of the object participate in subevents of the given event, e.g., *grind the coffee*.

- *Affectedness*: This is defined by the ability of the verbal predicate to affect its patient totally and is related to changes to the intrinsic or physical structure of the given object.
- *Independent Existence*: An event satisfies this property if the object involved has not been created or destroyed during or by the event e.g., *found a key*, *froze some water* of the patient.



**Figure 5.1:** Classification of Hindi verbs, adapted from Singh (1998)

Within the class of durative predicates, Gradually Creating predicates totally affect their patients, who lack the property of independent existence. Singh (1998) claims that predicates belonging to this category imply that the event was completed, and therefore cannot denote an incomplete event, as exemplified by the semantic contradiction of (5.15).

- (5.15) *#miiraa=ne baraf banaa-ii par puurii nahĩ ban-aa-ii*  
           mira=ERG ice make-F.SG but all NEG make-F.SG  
           #‘Mira made the ice but did not make all of it. Singh (1998)

The other two sub-classes of durative predicates can however denote an incomplete event. As Figure 5.1 indicates, Singh posits that Gradually Modifying predicates trigger a cumulative/completive reading when the patient NP is headed by a mass nominal, regardless of whether or not it is quantized, and can trigger a partitive reading when the patient NP is headed by a count noun.

- (5.16) *us=ne biiyar pii*  
           he=ERG beer drink  
           ‘He drank beer.’ (cumulative reading) MASS NOMINAL

- (5.17) *us=ne do gilaas biiyar pi-i (\*par puurii nahĩ pi-i)*  
           he=ERG two glass beer drink-M.SG but all NEG drink-M.SG  
           ‘He drank two glasses of beer (\*but did not drink all of it).’ (completive  
           reading) QUANTIZED MASS NOMINAL

- (5.18) *amu=ne pããc seb khaa-yee*  
           amu=ERG five apples eat-M.PL  
           ‘Amu ate five apples (not necessarily entirely, but each apple was affected).’  
           COUNT NOMINAL

Singh(1998:185-187)

If the mass noun is not quantized, as in (5.16), then the object in question is some unspecified amount. With a quantized mass nominal, as in (5.17), the implication is that “some unspecified two glasses of beer were drunk [and therefore] this clause could not have a negated subordinate clause” (Singh 1998:187). On the other hand, the interpretation in (5.18) could be that the agent ate a part of each of the five apples (*ibid.*).

Finally, Unmodifying predicates have the property of graduality and independent existence of the patient, and here, according to Singh (1998), the patient’s affectedness is not entailed.

- (5.19) *us=ne*                      *citt<sup>h</sup>ii* *par-ii*                      *par* *puurii* *nahĩĩ* *ki-i*  
             PRON.3SG=ERG   letter   read-M.SG   but   all              NEG   do-M.SG  
             ‘He read a letter but did not complete it.’    (Singh 1998:193)

A summary of Singh’s classification based on the three features is shown in Table 5.1. Instantaneous and durative predicates differ in that the object is subjected to the event in a gradual manner (GRAD) for the latter. Durative predicates also differ with respect to whether or not the patient was totally affected (AFF-O) and whether or not the patient possessed independent existence (IEO).

Class	Example	GRAD	AFF-O	IEO
a. Instantaneous	“win a race”	-		
b. Gradually modifying	“eat a cake”	+	+	+
c. Gradually creating	“knit a cardigan”	+	+	-
d. Unmodifying	“read a letter”	-	-	+

**Table 5.1:** Classification of verbal predicates. Singh (1998:198)

While such a classification captures various properties of Hindi verbal predicates, it also presents a few problems. First, if what we are trying to capture is the relevant

aspectual distinction, the classification is too rich. It is unclear if the classification of the verbal predicates on the basis of graduality, affectedness, and independent existence is necessary. Put differently, the fact that the verbal predicates may or may not have these properties does not imply that these properties play a role in determining the aspectual content of the verbal predicate. In fact, as I will show below, Singh's classification can be simplified.

Second, the data concerning count and mass nominals as it pertains to Gradually Modifying predicates can be reinterpreted on pragmatic grounds. For instance, recall from Figure 5.1 that verbal predicates with both quantized and non-quantized mass nominal arguments induce a completive reading. However, it is not possible to determine with an unquantized mass nominal patient whether the event has only stopped, i.e., partitive, instead of finished, i.e., completive (5.16). Given that 'beer' in (5.16) is non-quantized, it is possible that the same event of beer drinking might felicitously continue. On the other hand, as the translation suggests, the completive reading attributed to the event in the presence of the quantized mass nominal (5.17) is a pragmatic consequence of quantifying a mass nominal. That is, it is possible that quantifying the amount of beer leads to the interpretation that the event must have been completed; see Koenig and Chief (2008) for a similar argument on Mandarin.

Third, verb stems that appear in the Gradually Creating class also appear in the Unmodifying class, suggesting that these are not disjoint categories.

What does emerge from Singh's analysis is that total affectedness is required for a completive reading. The event denoted by count nouns is interpreted as partitive because in (5.18), not each of the 'apples' have been completely affected. Similarly,

because, or rather when, the NPs selected by Unmodifying predicates do not contain the property of total affectedness, they are interpreted as partitives (5.19). Total affectedness, therefore, is the only property crucial to determining whether or not an event is atelic or telic. The property of graduality, while useful in terms of determining whether the event denoting predicate is instantaneous or durative, is not necessary in terms of disambiguating verb classes with respect to aspect; the same goes for the independent existence of the patient.

A partial list of Hindi verb stems which can display the Incompleteness Effect when inserted in syntactic frames of the kind illustrated in (2.21) and (2.22), which are repeated here, is offered in (5.22).

- (5.20) *leela=ne    ek    citṭhii    lik<sup>h</sup>-ii    aur    us-i    (citṭhii)=ko*  
           Leela=ERG   one   letter   write-F.SG   and   it-GEN.F   (letter)=DAT  
*lik<sup>h</sup>-t-ii                    rah-ii*  
           write-HAB-F.SG   stay-IMPV-F.SG  
           ‘Leela wrote a letter and kept writing the same letter.’

- (5.21) *miiraa=ne    santaraa    chiil-aa    par    puuraa    nahĩ    chiil-aa*  
           Mira=ERG   orange   peel-M.SG   but   completely   NEG   peel-M.SG  
           ‘Mira peeled an orange but did not peel it completely.’            (Singh 1998:194)

- (5.22) **Sample Hindi verb stems that display IE:**

- *jalaa* ‘burn’
- *rang* ‘dye’
- *k<sup>h</sup>aa* ‘eat’
- *miṭaa* ‘erase’
- *piḡ<sup>h</sup>aal* ‘melt’
- *kaat* ‘reap’

- *pīi* ‘drink/ingest in non-solid form’
- *lāṅgʰ* ‘cross’
- *sukʰaa* ‘dry’
- *sunaa* ‘hear’
- *laad* ‘load’
- *chiilnaa* ‘peel’
- *camkaanaa* ‘polish’
- *paṛʰ* ‘read’
- *utaar* ‘remove’
- *bel* ‘roll’
- *bikʰer* ‘scatter’
- *kʰurac* ‘scratch’
- *ragar* ‘smoothen’
- *bikʰer* ‘spread’
- *pōch* ‘wipe’

The above data help in answering the question that this section began with, i.e., what is the source of the Incompleteness Effect in Hindi? The source lies in a combination of two factors: the denotation of the stem’s argument and the stem itself. The Incompleteness Effect is present in only those durative verbs which allow its patients to not be completely affected. While such predicates *can* affect i.e., induce change in their patients totally, they do not need to do so. The discussion so far also suggests that Singh’s analysis can be simplified in order to account for the telicity of Hindi verbs. While the eventuality described by a Hindi verb constellation must include a boundary, whether or not it is completed is computed in accordance with the dependence of realization conditions on telicity. To account for the common semantic core of incomplete stems, we must define a more general notion of gradable

change. If  $\delta$  represents the degree of affectedness or change on a scale, then  $\delta$  can be equal to or less than the normative degree for a verb constellation.

(5.23)  $d_{min} < \delta \leq d_{norm}$  Verb constellation

The above description suggests that the degree of change that is denoted by a verb constellation can be lower than the norm ( $d_{norm}$ ). This is illustrated by the following example.

(5.24) *usii raat b<sup>h</sup>ediyõõ=ne dhiime dhiime us=kaa määs*  
           that night wolf.PL=ERG slowly slowly 3.PRON.SG=GEN.M meat  
           ***k<sup>h</sup>aa-yaa***  
           eat-M.SG:MV  
           ‘The same night wolves very slowly ate his meat.’ [minimal normative degree]  
           (Nespital, 1997)

In the above example, it is not necessary that the wolves have eaten every part of the referent’s body. In the following section, I show that what is typically claimed to be telic in a complex predicate construction is actually the denotation of a *bounded event* by a Hindi light verb. Furthermore, I show that the individual Hindi light verbs’ meanings can be described as caused by either affectedness or a certain type of consequence. In certain light verbs deixis also seems to play a role, but as we will see below, it is unclear whether these light verbs have a similar meaning to the others.

## 5.5 Light Verbs and Affectedness

The theoretical proposals presented in §5.3 stressed the relevance of scalar semantics to the event structure encoded in verbs (also see Beavers (2008), Filip and Rothstein (2006), Hay et al. (1999), and Wechsler (2005), among others). Most analyses on affectedness focus on the fact that the affected argument's referent has undergone some change. Considering the change to be a temporal process allows one to describe an affected argument in aspectual terms, as an argument "which measures out and delimits the event described by the verb" (Tenny 1994:4). Tenny continues that "the term 'measure out' is used here as a convenient metaphor for uniform and consistent change, such as change along a scale." Building on this interpretation, Beavers describes affectedness as a "persistent change in an event participant" and suggests that all types of change can be defined as a transition of a theme along a scale that defines the change. In his view, the "crucial factor is specificity: the more specific a predicate is about the theme's progress on the scale, the higher the degree of affectedness" (Beavers in print:22).

Beaver's analysis permits a precise description of the change induced by a light verb on a patient/theme's argument. Hindi light verbs, as noted previously, do not instantiate a full event predication of their own i.e., they rely on the main verb for the main event description. The light verbs are also not perfective markers. Instead, they are descriptors of a *bounded event*, described either in terms of causation or result of an event. I construe boundedness within an affectedness-based analysis. Broadly speaking, affectedness depicts the notion that some [light] verbs target the agent

who is then *affected* by the result or the consequence (causation) of the action.<sup>1</sup> The difference between the aspectual content of a verb constellation and complex predicate construction can be expressed with respect to the degree of affectedness on a scale  $\delta$  as follows. While  $\delta$  can be equal to or less than the normative degree for a verb constellation (5.25), for a complex predicate construction  $\delta$  has to be equal to the normative degree (5.26).

(5.25)  $d_{min} < \delta \leq d_{norm}$  Verb Constellation

(5.26)  $d_{min} < \delta = d_{norm}$  Standard Complex Predicate

The above descriptions are exemplified as follows. The normative degree can be but does not necessarily have to be the maximum for the standard complex predicate construction.

(5.27) *usii raat b<sup>h</sup>ediyõõ=ne dhiime dhiime us=kaa määs*  
 that night wolf.PL=ERG slowly slowly 3.PRON.SG=GEN.M meat  
*k<sup>h</sup>aa-yaa*  
 eat-M.SG:MV  
 ‘The same night wolves very slowly ate his meat.’ [minimal normative degree]  
 (Nespital, 1997)

(5.28) *usii raat b<sup>h</sup>ediyõõ=ne dhiime dhiime us=kaa määs*  
 that night wolf.PL=ERG slowly slowly 3.PRON.SG=GEN.M meat  
*k<sup>h</sup>aa daal-aa*  
 eat:MV put-M.SG:LV  
 ‘The same night wolves very slowly ate his meat.’ [maximal normative degree]  
 (Nespital, 1997)

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<sup>1</sup>The fact that the light verbs target a bounded event has also been pointed out by Butt and Geuder (2001:342-3). The bounded-unbounded distinction has been argued to be the verbal counterpart to the nominal count-mass distinction (Krifka, 1992).

The verb constellation is illustrated in (5.27) repeated from (5.24), and it contrasts with (5.28) where the entailment is that a normative degree has been reached. Any meat that the wolves could have eaten off the person's body has been eaten. This still does not mean that there is no meat left on the body of the person. Finally, for the normative degree must be the maximum for the reverse complex predicate construction (5.29).

(5.29)  $d_{min} < \delta = d_{norm} = d_{max}$  **Reverse Complex Predicate**

In what follows, the various semantic notions is typically attributed to light verbs are shown to be pragmatic inferences, and the meaning of the light verbs is analyzed within the notion of affectedness. I show that the choice of light verbs is determined by one of two factors:

- (5.30)    a. by the **result** or **consequence** of the event  
             b. by who or what is being affected by the event

The aspectual content i.e., boundedness, which is encoded by the light verbs is captured by (5.30a). Those semantic notions that are entailments encoded by the light verbs are captured by (5.30b): the affected entity can either be the referent of the subject or the object or the event itself.

The remainder of this chapter will discuss the following light verbs individually.

- (5.31)    a. *de* 'give'  
             b. *le* 'take'  
             c. *daal* 'put'

- d. *baith* ‘sit’
- e. *uth* ‘rise’
- f. *pad* ‘fall’
- g. *aa* ‘come’
- h. *jaa* ‘go’
- i. *nikal* ‘leave’
- j. *nikaal* ‘remove’

In the following sections, I will show that the semantic contribution of Hindi light verbs, instead of being part of one large category, falls instead into three large categories. The light verbs (5.5a-c) are discussed in §5.5.1-§5.5.2 and it is shown that the meaning they encode can be described by some kind of affectedness. The light verbs (5.5d-f) are discussed in §5.6 and the light verbs in (5.5g-h) are discussed in §5.7. Finally, the combinations in which the verbs in (5.5i-j) appear are also discussed in §5.7, and they are shown to have more compositional semantics than what is seen for other main verb-light verb combinations.

### 5.5.1 Subject-oriented “benefactive” light verbs

This section focuses on the light verbs *de* ‘give’ and *le* ‘take’ which are typically analyzed as benefactive light verbs (Hook, 1975; Abbi and Gopalakrishnan, 1991; Butt and Geuder, 2001). In fact, the light verb *de* ‘give’ is the one that is used most often in examples (e.g., Singh 1998) and has been studied most extensively (cf. Butt

and Geuder 2001, Butt and Ramchand 2003). While benefaction is one of the uses of these two light verbs, it is not the complete picture.

Let us begin with a definition of what qualifies as a benefactive. A benefactive event is one which advantageously affects a participant, the beneficiary. In many cases the agent him/herself is a beneficiary e.g., *I shaved my head*, and in others the agent and the beneficiary are not coreferential e.g., *I baked a cake for my friend*. A malefactive event then, is the opposite of a benefactive event in that, it affects the relevant participant, the maleficiary, adversely. Since normally only animate participants are capable of making use of the benefit bestowed upon them, beneficiaries/maleficiaries are typically animate.

The typical analysis of the benefactive light verbs in Hindi is that the light verb *le* ‘take’ is used for self-benefactive readings and the light verb *de* ‘give’ for non-self-benefactive readings (Hook (1975); Kachru (1980); Abbi and Gopalakrishnan (1991); Butt (2010)). This is exemplified below.

- (5.32) *Leela=ne        makaan        banaa        li-yaa*  
          Leela.F=ERG   house.M.SG   make:MV   take-M.SG:LV  
          ‘Leela made the house (for herself).’ (constructed)

- (5.33) *Leela=ne        makaan        banaa        di-yaa*  
          Leela.F=Erg   house.M.SG   make:MV   give-M.SG:LV  
          ‘Leela made the house (for someone else).’ (constructed)

When the agent Leela made the house for her own use, the light verb *le* ‘take’ is used in (5.32), and when Leela made the house for someone else’s benefit, the light verb *de* ‘give’ is used in (5.33). In fact, this pattern of self versus non-self benefactive/malefactive holds for other Indo-Aryan languages e.g., Marathi (Paradeshi,

2001), as well as for Dravidian languages (Steever, 2005). However, this is not the complete picture. First, the readings induced by the benefactive light verbs need not always be to the benefit of someone; they can also be malefactive. This is particularly clear with the light verb *le* ‘take’. Take the following example where the interpretation of the complex predicate is one of malefaction instead of benefaction:

- (5.34) *apnii burii aadat-õõ=ke karan apnaa ghar ujaad*  
 self.F bad habit-Pl=GEN.PL because self.M house.F ruin:MV  
*li-yaa*  
 take-M.SG:LV  
 ‘His bad habits **ruined** his house.’ (web)

In (5.34), the subject is the agent that has been ruined by bad habits. The fact that the agent ruined his house benefits neither him nor anyone else. Therefore there is no benefactive reading being induced by the light verb *le* ‘take’. Similarly, in the following example, hitting one-self is not an action that is performed for one’s benefit. Moreover, the context suggests that the act was undertaken in frustration.

- (5.35) *jab bacchaa bhaag li-yaa to mãã=ne gusse mein*  
 when child run take-M.SG:LV then mother=ERG anger in  
*ḍaṇḍaa apne hii sir par maar li-yaa*  
 stick.M SELF emph head on hit:MV take-M.SG:LV  
 ‘When the child ran away, the mother **hit** her own head with a stick.’  
 (Nespital, 1997)

The reason that benefactivity is the primary meaning assigned to the Hindi light verbs *de* ‘give’ and *le* ‘take’ is because of the natural contrast that they provide in terms of which grammatical referent/thematic role is being targetted. The light verb *le* ‘take’ can only be used when the event denoted by the main verb is done to the

## 5.5 Light Verbs and Affectedness

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sake of the subject's referent and not for anyone else.<sup>1</sup> In contrast, the light verb *de* 'take' can only be used when the event denoted by the main verb is not done for the sake of the subject's referent and only for someone else. This is illustrated in the following set of examples.

- (5.36) *mira=ne apne liye k<sup>h</sup>aanaa pakaa li-yaa*  
 mira=ERG self for food cook:MV take-M.SG:LV  
 'Mira cooked the food for herself.' (constructed)

- (5.37) \**mira=ne apne liye k<sup>h</sup>aanaa pakaa di-yaa*  
 mira=ERG self for food cook:MV give-M.SG:LV  
 \*'Mira cooked the food for herself.' (constructed)

- (5.38) \**mira=ne apne dost ke liye k<sup>h</sup>aanaa pakaa li-yaa*  
 mira=ERG self friend for food cook:MV take-M.SG:LV  
 \*'Mira cooked the food for her friend.' (constructed)

- (5.39) *mira=ne apne dost ke liye k<sup>h</sup>aanaa pakaa di-yaa*  
 mira=ERG self friend for food cook:MV give-M.SG:LV  
 'Mira cooked the food for her friend.' (constructed)

When the agent Mira undertakes the event of cooking food for herself i.e., so she can do something with it (presumably *eat*), then only the light verb *le* 'take' can be used (5.36) and not the light verb *de* 'give' (5.37). In contrast, when Mira is cooking for someone else, then only the light verb *de* 'give' (5.39) and not the light verb *le* 'take' (5.38) can be used. The same contrast is illustrated when the event may be done on oneself, but for the sake of someone else.

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<sup>1</sup>In general, I shall refer to the subject or object's referent and remain agnostic towards thematic role types.

## 5.5 Light Verbs and Affectedness

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- (5.40) *mira=ne apnii k<sup>h</sup>aatir shawl oḍ<sup>h</sup> li-i*  
 mira=ERG self for-the-sake shawl cover:MV take-F.SG:LV  
 ‘Mira covered (herself) with a shawl for her own sake.’ (constructed)
- (5.41) \**mira=ne apnii k<sup>h</sup>aatir shawl oḍ<sup>h</sup> di-i*  
 mira=ERG self for-the-sake shawl cover:MV give-F.SG:LV  
 \*‘Mira covered (herself) with a shawl for her own sake.’
- (5.42) \**mira=ne apnii maa ke k<sup>h</sup>aatir shawl oḍ<sup>h</sup> li-i*  
 mira=ERG self mother of for-the-sake shawl cover:MV take-F.SG:LV  
 ‘Mira covered (herself) with a shawl for the sake of her mother.’
- (5.43) *mira=ne apnii maa ke k<sup>h</sup>aatir shawl oḍ<sup>h</sup> di-i*  
 mira=ERG self mother of for-the-sake shawl cover:MV give-F.SG:LV  
 ‘Mira covered (herself) with a shawl for the sake of her mother.’ (constructed)

In the above examples, when Mira covers herself for her own sake (e.g., because she is chilly), only the light verb *le* ‘take’ can be used (5.40 vs. 5.41). In contrast, if she performs the action for somebody else’s sake, then only the light verb *de* ‘give’ can be used (5.43 vs. 5.42). In sum, the choice of the light verb is determined not by who is undertaking the action but rather by who is being affected by the action. I now illustrate the different usages of the light verbs *le* ‘take’ and *de* ‘give’.

Typically, the affected participant is the patient/theme. However, with the semantics of the light verb *le* ‘take’, the agent is the affectee, and in this way, it is different from the notion of affectedness described in §5.3.

### 5.5.1.1 Analysis of *le<sub>lv</sub>* ‘take’

The semantic readings of the light verb *le* ‘take’ are categorized here with respect to how the agent is affected. The most common use, the self-benefactive, is when

the agent itself is being affected from the result or consequence of the action (in §5.5.1.1.1). In addition, the agent can be affected either by the change undergone by the patient/theme argument (§5.5.1.1.2), or by the success of the action (§5.5.1.1.3). While the first two types of affectedness may or may not involve a volitional act, the third type (AFF-C) must be volitional.

**5.5.1.1.1 Self-affectedness.** This is the typical use of the light verb *le* ‘take’ and is cited most often (e.g., in Abbi and Gopalakrishnan (1991)). The subject’s referent, i.e., the agent itself is affected from the result or consequence of the action and typically, but not always, involves instantaneous predicates as shown below.

- (5.44) *jab bacchaa bhaag li-yaa to maa=ne gusse mein*  
 when child run take-M.SG:LV then mother=ERG anger in  
*ḍaṇḍaa apne hii sir par maar li-yaa*  
 stick.M SELF emph head on hit:MV take-M.SG:LV  
 ‘When the child ran away, the mother **hit** her own head with a stick.’  
 (Nespital, 1997)

- (5.45) *ladke=ne galtii=se apnaa haath kaat li-yaa*  
 boyERG mistake=INST self hand cut:MV take-M.SG:LV  
 ‘The child cut his hand by mistake.’ (Nespital, 1997)

In (5.44), repeated from (5.35), the subject is the agent that hit herself, volitionally, whereas in (5.45), the subject is the agent that cut himself by mistake i.e., non-volitionally. The action is done upon oneself either volitionally or non-volitionally e.g., *maar* ‘hit’ in (5.35) refers to a volition act but *kaat* ‘cut’ in (5.45) does not. In some cases, volitionality can remain undetermined, such as in the following example (repeated from 5.34).

- (5.46) *apnii burii aadat-õõ=ke karan apnaa ghar ujaad*  
 self.F bad habit-Pl=GEN.PL because self.M house.F ruin:MV  
*li-yaa*  
 take-M.SG:LV  
 ‘His bad habits **ruined** his house.’

In the above example, the subject is the agent that was affected by the ruin. Although it is more likely that the ruin caused by the agent’s bad habits was unintentional, it could also have been intentional. The point is that volitionality is derived from the context, and it is not, as previously suggested (Butt, 1994), a lexical feature of Hindi light verbs. In addition, In cases of self-affectedness, it is infelicitous to use the light verb *de* ‘give’ . For instance, in the above example, replacing the light verb *le* ‘take’ with *de* ‘give’ would indicate that when his bad habits ruined his house, it affected others. This will be taken up in the section on the light verb *de* ‘give’ . For the moment, I describe other types of affectedness that the light verb *le* ‘take’ can involve.

**5.5.1.1.2 Affectedness from the result of the action (AFF-R).** When the patient undergoes a change of state as a result of the action denoted by the verb, the subject is affected by the result of that action. This is illustrated in (5.47) and (5.48).

- (5.47) *salmaa=ne chaar g<sup>h</sup>ante mein apne liye un=kii shawl*  
 Salma=ERG four hours in self for cotton=GEN shawl  
*bin li-i*  
 sew:MV take-F.SG:LV  
 ‘Salma **sewed** a cotton shawl for herself in four hours.’ (Nespital, 1997)

## 5.5 Light Verbs and Affectedness

- (5.48) *custard banaa-ne ke liye leela=ne thodaa-sa duud<sup>h</sup> kaadh*  
 custard make-INF for Leela=ERG little milk thicken:MV  
**li-yaa**  
 take-M.SG:LV  
 ‘To make custard (for herself) Leela **thickened** a little milk.’ (Nespital, 1997)

In (5.47), the action is done upon the shawl which is for to the agent Salma, a fact inferred by the presence of the light verb *le* ‘take’. Similarly, in (5.48), the subject Leela gets the custard, which is made by the thickening of the milk. Such affectedness can be shown for stative predicates as well, as shown below.

- (5.49) *bacchõõ=kii pyaarii baatein sab=ko manaa le-t-ii*  
 children.PL=GEN lovely talk.PL all=DAT please:MV take-HAB-PL:LV  
*hai*  
 be.PRES.3.SG  
 ‘Children’s lovely talks **please** everyone.’ (Nespital, 1997)

In all the instances above, the result of the action affects the subject’s referent directly. I now turn to a third type of affectedness, where the result does not affect the subject’s referent directly.

**5.5.1.1.3 Affectedness from the consequence of the action (AFF-C).** In this type of affectedness, the subject’s referent is not the affected agent, but is instead affected by the consequence of the action. For instance, in the following example the doctors’ are affected by the success of the action of saving Kishan.

- (5.50) *kishan=kii saans ruk<sup>h</sup> ga-yii th-ii. vah mar hii ga-yaa th-aa*  
 kishan=GEN breath stop go be. he die emph go be  
*lekin daktarõõ=ne mehnat=se us=ko jilaa*  
 but **doctors=ERG** hard-word=INST 3SG=DAT make-alive:MV

*li-yaa*

take-M.SG:LV

‘Kishan had stopped breathing. He had died but with hard work, the doctors **brought him to life.**’ (Nespital, 1997)

There is no change being brought about in the doctors themselves; instead, they are affected based on the consequence of the action of bringing Kishan to life. Similarly, in the following example the engineers are affected by the extraction of the oil.

- (5.51) *enginiiiyaarõõ=ne badii mehnat=se tel kʰod li-yaa*  
 engineers=ERG much hard-work=INST oil dig:MV take-M.SG:LV  
 ‘Engineers **dug** (out) oil after much hard work.’ (Nespital, 1997)

Because the subject’s referent is being affected by the success of the action, these acts have to be voluntary i.e., they must be volitional.

I now turn to the other benefactive light verb, *de* ‘give’ which can also be described in terms of affectedness. I show that one’s expectation of a strict parallel between uses of this light verb and that of the light verb *le* ‘take’ are not met. Instead, this verb has distinct usages as a light verb, although these uses can also be accurately analyzed via the notion of affectedness.

### 5.5.1.2 Analysis of *de<sub>lv</sub>* ‘give’

As mentioned earlier, Hook (1975) and others, view *de* ‘give’ as a light verb which marks a benefactive distinction. However, I will discuss the light verb *de* ‘give’ in terms of affectedness. As in the previous section, the light verb *de* ‘give’ is categorized in terms of the subject’s referent affectedness; however, in contrast to the previous

section, only two categories are found. In both types, the subject is affecting someone other than self, but in certain cases, the light verb *de* ‘give’ can be used to denote maximal change in the affectee due to the result of the action.

**5.5.1.2.1 Non-self Affectedness.** I begin with the usage of the light verb *de* ‘give’ where it contrasts with the self-benefactive usage of the light verb *le* ‘take’ . Here, the light verb *de* ‘give’ is used to indicate that the action done by the subject’s referent affects someone other than the subject itself. This is illustrated in the following examples.

- (5.52) *mousii=ne babloo=se vadaa ki-yaa hai kii use ek*  
 aunt=ERG Babloo=Inst promise do-M.SG be.PRES.3 that 3.SG one  
*sundar sweater bin de-g-ii*  
 beautiful sweater sow:MV give-FUT-F.SG:LV  
 ‘The aunt promised Babloo that she will knit him a beautiful sweater.’  
 (Nespital, 1997)

- (5.53) *mãã=ne bacchee=kaa haat<sup>h</sup>-mũũh d<sup>h</sup>o di-yaa*  
 mother=ERG child.M=GEN.M hand-mouth wash:MV give-M.SG:LV  
 ‘The mother washed the child’s hand and mouth.’ (Nespital, 1997)

In (5.52), the aunt is knitting a sweater for her nephew Babloo and in (5.53) the mother is washing the hand and mouth of the child. This usage of the light verb *de* ‘give’ contrasts with the usage of the light verb *le* ‘take’ presented above in (§5.5.1.1.1, AFF-A). Furthermore, this use of the light verb *de* ‘give’ is agent-oriented even when the agent does not perform the action by himself/herself – in fact, the light verb *de* ‘give’ appears to induce a causative reading. This is illustrated by the contrast between (5.54) and (5.55).

- (5.54) *[rajnii=kii<sub>i</sub> saheelii]=ne<sub>j</sub> [apnee haat<sup>h</sup>]<sub>\*i,j</sub>=se us=ke<sub>i,\*j</sub> hõ<sup>th</sup><sub>i</sub>*  
 rajni=GEN.F friend=ERG self hand=INST 3.SG=GEN lips  
*rāṅg di-ye*  
 color:MV give-M.PL:LV  
 ‘Rajni’s friend colored her (Rajni’s) lips with her own hands.’ (Nespital, 1997)

- (5.55) *mahesh [apnii patnii]=ke baal g<sup>h</sup>ar par hii rāṅg*  
 Mahesh self wife=GEN hair house on also color:MV  
*de-t-aa hai*  
 give-HAB-M.SG be.PRES.3  
 ‘Mahesh colors (gets it colored) his wife’s hair/gets it colored at home.’  
 (Nespital, 1997)

In (5.54), the reflexive anaphora *apnaa* can only refer to the subject, namely Rajni’s friend, and the pronominal anaphora *us=ke* ‘3.SG=GEN’ can only refer to Rajni’s lips and not her friends. This indicates that Rajni’s friend could only have colored Rajni’s lips and not her own. On the other hand, in (5.55), while the agent Mahesh is involved in getting his wife’s hair colored, he does not do it himself. The difference between the role of the agent in the two examples is mirrored by the use of ergative case. In (5.54), Rajni’s friend is marked by the ergative case but in (5.55) Mahesh is not. When the subject is not in the ergative case, then the event is not performed by the agent, but rather, he is involved somehow in the event taking place.

In the examples so far, the theme/patient that is affected by the light verb *de* ‘give’ is explicit. But the denoted event does not necessarily have to be **for** someone but could also simply be directed towards them. This is shown below with the intransitive main verb such as *muskuraa* ‘smile’.

- (5.56) *mai=ne bhii binaa kuch kahee muskuraa di-yaa*  
 me=ERG EMPH without anything say smile:MV give-M.SG:LV

‘I too without saying anything smiled.’ (Nespital, 1997)

I now turn to the other type of affectedness with this light verb.

**5.5.1.2.2 Affectedness from the result of the action (AFF-R).** In addition to denoting non-self affectedness, the light verb *de* ‘give’ can be used to denote maximal change in the affectee due to the result of the action. Recall that with the light verb *le* ‘take’ affectedness from the result of the action (§5.5.1.1.2) indicated that the subject’s referent is affected by the consequence of the action done upon a patient or theme. For instance, the subject may be the recipient of a sweater that has been knit, or a dish that has been prepared. One might expect that one reason for using the light verb *de* ‘give’ is that the subject’s referent affects *someone else* by the consequence of the action done upon a patient or theme. Instead, when considering affectedness that is based on the result of the action with the light verb *de* ‘give’, a difference in terms of how (much) the subject’s referent affects somebody as a consequence of the result of the action is what is indicated. The difference is amount of change that the object’s referent undergoes. The change undergone by the patient or the theme is greater than it would be had a main verb been used. Take for instance the contrast between the following pair of single and complex predicate construction (repeated from example (1.3)), where the agent thickens milk in order to make pudding.

- (5.57) *mai=ne khiir banaa-ne ke liye duud<sup>h</sup> kaaḍ<sup>h</sup>-aa*  
           I=ERG pudding make-INF for milk thicken-M.SG  
           ‘I thickened the milk in order to make pudding.’ (Nespital, 1997)

## 5.5 Light Verbs and Affectedness

- (5.58) *mai=ne khiir banaa-ne ke liye duud<sup>h</sup> kaaḍ<sup>h</sup> di-yaa*  
 I=ERG pudding make-INF for milk thicken:MV give-M.SG:LV  
 ‘I thickened the milk in order to make pudding.’ (Nespital, 1997)

In both the main verb (5.57) and the complex predicate construction, the agent is thickening the milk, which is the patient. Where the two contrast is that the presence of the light verb *de* ‘give’ underscores the change of state that the patient has undergone. That is, the change of state undergone by the patient/theme in the complex predicate construction with the light verb *de* ‘give’ has reached the maximum threshold possible – the milk has been thickened to its maximum capacity. This is further illustrated by the following example.

- (5.59) *kailash=ne kacche aam pual mein dabaa-kar pakaa di-ye*  
 Kailash=ERG ripe mango *pual* in press-ADV cook:MV give-3.PL  
<sup>th-e</sup>  
 be.PAST-3.PL  
 ‘Kailash had cooked the ripe mango by pressing it into *pual*.’ (Nespital, 1997)

The ripe mango has been completely cooked into something else; in this case the maximum amount is past being cooked, and actual rottedness; additional context even indicates the instrument on the basis of which this was achieved. Finally, in addition to inducing a change of state, the subject’s referent could also have caused the theme to undergo change. The use of the light verb *de* ‘give’ also indicates that it is actually being cooked by Kailash, instead of someone else.

- (5.60) *aap=kii makaii janvar-õõ=ne ujaad di-i*  
 your=GEN.F maize.F animal-PL=ERG ruin:MV give-F.SG:LV  
 ‘The animals ruined your *maize*.’ (Nespital, 1997)

- (5.61) *chintaa=ne raam=ke baal asamay pakaa di-yee hai*  
 worry=ERG Ram=GEN hair untimely cook:MV give-PL:LV be.PRES.3  
 ‘Worry has ripened Ram’s hair before time (turned it gray).’ (Nespital, 1997)

In the above examples, the use of the light verb *de* ‘give’ once again indicates that the change undergone by the object has reached the maximal threshold required for the event to be valid.

### 5.5.1.3 Identifying Discourse Referents

When the discourse referent is not present in the clause, the light verbs do not introduce one. For instance, in the following example the light verb invokes consequence-based affectedness.

- (5.62) *naukar=ne diivaarõ par pad-ee kichad=ke chñṭee paanii=se*  
 servant=ERG wall.PL on fall-PL mud=GEN stains water=INST  
*d<sup>h</sup>o di-ye*  
 wash:MV give-PL:LV  
 ‘The **servant** washed the mud stains on the wall with water.’ (Nespital, 1997)

The light verb in the above example targets the result of the action i.e., that the mudstains are washed out to the maximal degree. While there might be an implied world knowledge that indicates that servants do actions for their employers, it does not necessarily have to be the case. The servant may simply be removing the mud stains because he was the one that caused them. Or he may be removing the mud stains in a location other than his place of employment and it is the employer that it is actually recalling the event. So while the light verb *de* ‘give’ may introduce a referent in a pragmatic sense, such a referent does not rise to the level of a discourse referent.

### 5.5.1.4 Interim Summary

It is not necessarily the case that the light verb *le* ‘take’ and the light verb *de* ‘give’ mark an action that directly benefits oneself or someone else, respectively. The crucial point is that the benefactive light verbs target the subject/agent. The two light verbs are not entirely mirror images of each other: for instance, with the light verb *de* ‘give’ when the theme/patient is affected by the result of the action what is indicated is the amount of change that the theme argument undergoes. This stands in contrast to the light verb *le* ‘take’ where the actual action itself affects the subject’s referent.

### 5.5.2 Object-oriented “unexpected” light verb

The use of the light verb *daal* ‘put’ has been suggested to convey various features such as force (Butt 1994), violence (Kachru 1980:58, Abbi 1991:69), decisiveness (Abbi 1991:69), ease of action (Abbi 1991:69), or haste (Montaut 2004:125). However, as this section will show, many of these semantic/pragmatic claims lack evidence. For instance, the following example from Montaut (2004:125) describes an event of reading the entire Mahabharat in one night, and presumably the light verb *daal* ‘put’ implicates haste.

- (5.63) *us=ne        ek    hii        raat    mein    puurii    mahabharat    par<sup>h</sup>*  
           3.SG=ERG one    EMPH    night    in        complete    Mahabharat    read:MV  
           *daal-ii*  
           put-F.SG:LV  
           ‘In one night s/he read the entire Mahabharat.’ (Nespital, 1997)

## 5.5 Light Verbs and Affectedness

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There is clearly no violence indicated in the above example. This stands in contrast to the claim by Kachru (1980:58) that the combination of the light verb *daal* ‘put’ with main verbs *paR<sup>h</sup>* ‘read’ or *lik<sup>h</sup>* ‘write’ indicates violence. For instance, the combination of *paR<sup>h</sup>* *Daal* ‘read put’ in (5.63) need not invoke violence. Other examples from Kachru (1980:58-60) indicate other kinds of meaning; for example, the following example using the main verb *kar* ‘do’ only suggests boundedness.

- (5.64) *us=ne        jaldi jaldi sab kaam kar        daal-aa*  
           3.SG=ERG fast fast all work do:MV put-M.SG:LV  
           ‘S/he quickly did all her work in a hurry *to get it over with*. (Kachru’s translation, emphasis added)’

Based on the translation offered for the example above, the light verb perhaps indicates haste (as suggested by ‘to get it over with’ in the translation). Looking at additional data, it is possible to find examples of the light verb *daal* ‘put’ where the presence of the light verb appears to convey some notion of violence, while describing acts that are unexpected or unfortunate as is illustrated below.

- (5.65) *usii raat b<sup>h</sup>ediyõõ=ne dhiime dhiime us=kaa        määs*  
           that night wolf.PL=ERG slowly slowly 3.PRON.SG=GEN.M meat  
           ***k<sup>h</sup>aa daal-aa***  
           eat:MV put-M.SG:LV  
           ‘The same night wolves very slowly ate his meat.’ (Nespital, 1997)

The act of wolves eating flesh is violent and this example includes the light verb *daal* ‘put’ indeed. But, what is crucial is that this usage of the light verb *daal* ‘put’ is no different than the one below.

- (5.66) *nanhii nehaa=ne [apnii mummy]=kii lipstick le-kar apnee gaal*  
 little Neha=ERG self mom=GEN lipstick take-ADV self cheek  
*aur hōṭ<sup>h</sup> rāṅg ḍaal-e*  
 and lips color:MV put-PL:LV  
 ‘Little Neha colored her cheeks and lips with her mother’s lipstick.’ (Nespital, 1997)

There is no violence involved in Neha covering her cheeks and lips with her mother’s lipstick. Instead, the light verb *ḍaal* ‘put’ serves to indicate that Neha’s use of her mother’s lipstick was a bad idea. Moreover, there is no indication that the act was hasty.

The meanings associated with the use of the light verb *ḍaal* ‘put’ above, such as haste or violence, appear to be epiphenomenal descriptions that do not convey the underlying meaning of the light verb. I now offer an alternative explanation that takes into consideration previous descriptions but places focus on the underlying meaning of the light verb *ḍaal* ‘put’. I show that what is relevant is the affectedness of the patient with respect to what is expected.

### 5.5.2.1 Analysis for *ḍaal<sub>lv</sub>* ‘put’

The common thread in the examples above where the light verb *ḍaal* ‘put’ is used is that the denoted event does not conform to expectations. Revisiting (5.63), repeated below, what is indicated by the light verb is not haste, but rather that the reading of Mahabharat, a rather voluminous epic, in one night, is a difficult feat to achieve.

- (5.67) *us=ne ek hii raat mein puurii mahabharat par<sup>h</sup>*  
 3.SG=ERG one EMPH night in complete Mahabharat read:MV  
*ḍaal-ii*  
 put-F.SG:LV

‘In one night s/he (actually) read the entire Mahabharat.’ (Montaut 2004, repeated)

Based on this example and similar data, I show that the light verb *ḍaal* ‘put’ affects the patient/theme argument (i.e., the object’s referent) either in terms of the participant quantity, i.e., result (§5.5.2.1.1) or in terms of the action that the participant undergoes, i.e., consequence (§5.5.2.1.2). This light verb places the event in question in the context of beliefs and rules. Since what is unexpected is based on world knowledge, different readings i.e., violence, forcefulness, haste are pragmatic consequences of the basic semantic contribution of the light verb *ḍaal* ‘put’.

**5.5.2.1.1 Affectedness from the result of action. (AFF-R)** The presence of the light verb *ḍaal* ‘put’ indicates that an event participant is affected by the unexpected degree of change. This type of affectedness is either due to the participant being atypical, or the quantity of affectedness. That is, given the speaker’s world knowledge for the event being described, the participation of the animate participant, or the quantity of the inanimate participant is unexpected. For instance, knitting a sweater is not an unexpected action (in Hindi). So in the following example with the verb *bin* ‘knit’, the light verb *ḍaal* ‘put’ is being used to indicate that the amount of sweater that has been knit in 15 days is greater than what one would expect.

- (5.68) *uma=ne pandrah dinõõ mein hii ek puurii baanh=kaa*  
 Uma=ERG fifteen day.PL in also one full sleeve=GEN.M  
*svetar bin ḍaal-aa t<sup>h</sup>-aa*  
 sweater knit:MV put-M.SG:LV be.PAST-M.SG  
 ‘Uma knit an entire long-sleeve sweater in 15 days.’ (Nespital, 1997)

## 5.5 Light Verbs and Affectedness

The presence of the light verb *ḍaal* ‘put’ indicates that the patient/theme is affected more than otherwise expected. So in the above example, Uma has knit the entire sweater and has therefore reached the upper threshold of the event of sweater knitting.

The unexpected degree of affectedness may mean that the degree is higher than if a main verb or other light verbs had been used. Contrast the main verb in (5.69) with the corresponding complex predicate construction, repeated below from (5.65).

- (5.69) *usii raat b<sup>h</sup>ediyōō=ne dhiime dhiime us=kaa mǎās*  
 that night wolf.PL=ERG slowly slowly 3.PRON.SG=GEN.M meat  
*k<sup>h</sup>aa-ḡaa*  
 eat-M.SG:MV  
 ‘The same night wolves very slowly ate his meat.’ [minimal normative degree]  
 (Nespital, 1997)

- (5.70) *usii raat b<sup>h</sup>ediyōō=ne dhiime dhiime us=kaa mǎās*  
 that night wolf.PL=ERG slowly slowly 3.PRON.SG=GEN.M meat  
*k<sup>h</sup>aa ḍaal-aa*  
 eat:MV put-M.SG:LV  
 ‘The same night wolves very slowly ate his meat.’ [maximal normative degree]  
 (Nespital, 1997)

The verb constellation denotes a minimal normative degree for the event of eating meat whereas the complex predicate construction denotes the maximal normative degree. As noted previously, certain readings with this light verbs have typically taken to suggest extreme action. I first begin with examples where the patient or theme includes a specific quantity.

- (5.71) *is baad<sup>h</sup>=ne das ḡāāv ujaad ḍaal-ee*  
 this flood.M=ERG ten village.M ruin:MVMV put-PL:LV

## 5.5 Light Verbs and Affectedness

‘This flood has ruined ten villages.’ (Nespital, 1997)

- (5.72) *apne chaachaa=kaa pachaas hazaar rupyaa k<sup>h</sup>aa*  
 self.PL younger.paternal.uncle=GEN fifty thousand rupees eat:MV  
***ḍaal-aa***  
 put-M.SG:LV

‘He ate (wasted) 50K of his younger paternal uncle.’ (Nespital, 1997)

The use of the light verb *ḍaal* ‘put’ above indicates that the number of villages ruined in (5.71) or the amount of money wasted (5.72) is larger than expected for such situations. In (5.71), for instance, the presence of the light verb *ḍaal* ‘put’ refers to the fact that it was not just that the uncle’s money was wasted, but that it was 50K. The use of the light verb suggests that in this situation 50K is considered a large amount.

In the above two examples the quantity of the theme is not specified. But while the patient/theme is always bounded with the light verb *ḍaal* ‘put’, its quantity does not always have to be known (i.e., discrete). This is illustrated by the following two examples.

- (5.73) *mehmaanoon ke liye custard banaa-ne ke liye maĩ=ne frij mein*  
 guests for custard make-INF for 1SG=ERG fridge in  
*paḍ-aa saaraa duudh kaadh ḍaal-aa*  
 fall-M.SG all milk thicken:MV put-M.SG:LV  
 ‘To make custard for the guests, I thickened all the milk in the fridge.’  
 (Nespital, 1997)

- (5.74) *kitnaa kyaa pak-aa ḍaal-aa kii jaise un-kaa betaa*  
 how much what cook:MV put-M.SG:LV that like they-GEN.M son  
*landan mein b<sup>h</sup>oo-kaa rah-aa ho*  
 London in hunger-GEN.M stay.IMPV-M.SG be

‘She cooked so much as if her son had been starving in London.’ (Nespital, 1997)

In both examples above, the patient is bounded but the actual amount of milk is still vague (5.73) nor is the quantity of food in (5.74) is specified. What is relevant is that the quantity must simply be a salient amount (this has also been discussed in Singh (1998)). This is illustrated again with respect to verbs of motion in below where the normative distance in the event must be reached.

(5.75) *shatruu=ko hamaarii senaa=ne fauran seemaa=ke bahar*  
 Enemy=DAT our army=ERG immediately border=GEN outside  
*kʰaded-aa*  
 chase-M.SG:MV  
 ‘Our army immediately chased the enemy to outside the border.’ (Nespital, 1997)

(5.76) *shatruu=ko hamaarii senaa=ne fauran seemaa=ke bahar*  
 Enemy=DAT our army=ERG immediately border=GEN outside  
*kʰaded daal-aa*  
 chase:MV put-M.SG:LV  
 ‘Our army immediately chased the enemy all the way outside the border.’  
 (Nespital, 1997)

In the case of (5.75), the chase needs to have lasted until some definition of border is attained (with the assumption that the definition of border can be slightly fluid). But the presence of the light verb *daal* ‘put’ in (5.76) above suggests that the distance over which the enemy was chased was maximal. Again, notice that many of the path arguments here do not have a specific quantity. Finally, it should be noted that several examples with the light verb *daal* ‘put’ include adverbials, as illustrated below.

## 5.5 Light Verbs and Affectedness

- (5.77) *kamiiz par sabzii gir ga-yii hai, jaldii=se paanii*  
 shirt on vegetables fall go-F.SG be.PRES.3, quick=INST water  
*le-kar d<sup>h</sup>o ḍaal-o, nahii to nishaan pad jaa-yēē-g-ee*  
 take-ADV wash:MV put-IMP:LV, neg even mark fall go-PL-FUT  
 ‘Vegetables have fallen on the shirt, wash it quickly with water, otherwise  
 there will be a stain.’ (Nespital, 1997)

- (5.78) *naai=ne jitu=ke baal kaat-kar faṭaafaṭ rāṅg ḍaal-e*  
 barber=ERG Jitu=GEN hair cut-ADV quickly color:MV put-PL:LV  
 ‘The barber quickly cut and colored Jitu’s hair.’ (Nespital, 1997)

The above examples use adverbs like quickly (*jaldii* in 5.77 and *faṭaafaṭ* in 5.78) respectively to suggest haste/hurry. Perhaps the presence of such adverbials has led to the idea that the light verb *ḍaal* ‘put’ denotes haste or fastness.

### 5.5.2.1.2 Affectedness based on the consequence of the action (AFF-C).

When there is no quantity or atypicality attached to the theme/patient, the light verb *ḍaal* ‘put’ indicates how the patient/theme is affected by the nature of the action. In these case, the event participant is typically unexpected given the event type. For instance, in the following two examples, the light verb *ḍaal* ‘put’ is used to indicate that the patient was affected by the nature of the action.

- (5.79) *apnii gaay t<sup>h</sup>-ii, maar ḍaal-ii*  
 self.F cow.F be.PAST-F.SG, kill put-F.SG:LV  
 ‘It was my cow, I killed it.’ (Nespital, 1997)

- (5.80) *chorii nahii kar paa-ye to atm tod ḍaal-aa*  
 theft NEG do able-PL then atm break:MV put-M.SG:LV  
 ‘Couldn’t commit theft so (we) broke the ATM.’ (web)

In (5.79) the agent is discussing having killed his own cow and the use of the light verb *ḍaal* ‘put’ indicates that the action of killing unexpectedly targeted the agent’s cow. While it does suggest that the act itself was gruesome or violent, this is a pragmatic inference. Similarly, in (5.80) the ATM is broken because the thieves could not commit the original crime that was intended. Instead, the ATM was broken. The use of the light verb *ḍaal* ‘put’ is to suggest that the breaking of the ATM was an unexpected event given the circumstances. What we see from such attested examples is that the notion of expectedness really depends on world knowledge. It is the pragmatic consequence of such a statement conveys that the event of killing a cow is violent, or breaking an ATM is forceful. Similarly, the notion of forcefulness is also based on world knowledge, as illustrated by the following example.

- (5.81) *raamdev=ne is k<sup>h</sup>ulaase=ke baad sarkaar=se ek=ke*  
 Ramdev=ERG this revelation=GEN after government=INST one=GEN  
*baad ek kai savaal puuc<sup>h</sup> ḍaal-ee*  
 after one many questions ask:MV put-PL:LV  
 ‘After this revelation, Ramdev asked the government many questions one  
 after the other.’ (web)

The use of the light verb *ḍaal* ‘put’ above indicates that either the large number of questions, or perhaps the manner of questioning (*ek ke baad ek* ‘one after the other’) was not what is considered expected or appropriate. The notion of forcefulness, if it were to be attached to this sentence, would be a consequence of our world knowledge about how many questions ought to be asked; it would not be a semantic contribution of the light verb *ḍaal* ‘put’.

### 5.5.2.2 Interim Summary

The above data has shown that the notions typically attached to the light verb *daal* ‘put’ such as haste or violence are pragmatic inferences derived from context or world knowledge. The presence of the light verb *daal* ‘put’ denotes that there is a change in the patient/theme argument  $x$  that is unexpected. This affectedness can be described either by the type or quantity of the patient/theme (5.5.2.1.1), or by the consequences of the action conducted on the patient/theme (5.5.2.1.2).

## 5.6 Event-centered light verbs

The previous section (§5.5.1 and §5.5.2) discussed light verbs whose non-aspectual semantic content targeted the referent of the subject and the object respectively. This section discusses light verbs whose non-aspectual semantic content targets the nature of the event. The presence of a light verb indicates that the nature of the event can either be negative or sudden. The use of these light verbs also induces a bounded reading as we will now see.

### 5.6.0.3 Negative Consequence

This section discusses the light verb *baith* ‘sit’ which assigns a specific type of consequence to the action.

### 5.6.0.4 Analysis of *baith<sub>lv</sub>* ‘sit’

In most scholarly descriptions, the light verb *baith* ‘sit’ is typically considered to encode impudence (Kachru 1980:58) or, along similar lines, "regret, censurability, or undesirability" (Abbi 1991:165). However, the notion of regret that is usually considered to be encoded by this light verb is a pragmatic inference. I propose that the light verb *baith* ‘sit’ indicates that the action conducted on the subject’s referent is definitively negative. In this way, the light verb *baith* ‘sit’ is a subtype of malefactive. Semantically, the light verb *baith* ‘sit’ indicates that a negative consequence followed from the action denoted by the main verb. For instance, for verbs such as *ujaaḍ* ‘ruin’ or *maar* ‘hit/kill’ which might imply a negative consequence as main verbs it is possible to deduce a positive consequence by including a light verb such as *de* ‘give’ (5.82). But the same is not possible with the light verb *baith* ‘sit’ (5.83); here the consequence is still considered negative.

- (5.82) *mai=ne us=ko us=kii bhalaai ke liye maar di-yaa*  
 1SG=ERG 3SG=DAT 3SG=GEN.F benefit for hit:MV give-M.SG:LV  
 ‘I hit him for his own good.’ (constructed)

- (5.83) *mai us=ko us=kii bhalaai ke liye maar baith-aa*  
 1SG=ERG 3SG=DAT 3SG=GEN.F benefit for hit:MV sit-M.SG:LV  
 ‘I hit him for his own good (*lit.* benefit, but did not wish to).’ (Nespital, 1997)

What the contrast in the above examples shows is that while light verbs such as *de* ‘give’ (or *le* ‘take’) do not entail either a positive or negative consequence, the light verb *baith* ‘sit’ does. The negative consequence that is entailed by the light verb *baith* ‘sit’ is not entailed by any other light verb. The use of the light verb

*baith* ‘sit’ in (5.83) indicates that the act of hitting, even though it was done for the patient’s benefit (as suggested by *bhalaai ke liye* ‘for the benefit of’) had a negative consequence for the agent. In this case, a pragmatic inference might be that the negative consequence was the agent’s regret. It is not necessarily the case that the negative consequence is different from what is being naturally implied. Consider the following example where the light verb *baith* ‘sit’ combines with the main verb *ujaaD* ‘ruin’.

- (5.84) *us aurat=ke keh-ne mein aa-kar vah apnii*  
 3.SG woman=GEN.PL say-INF in come-ADV 3.SG self.F  
*grahastii ujaad bait<sup>h</sup>-aa, lekin phir vo aurat b<sup>h</sup>aag*  
 household.F ruin:MV sit-M.SG:LV but then 3.SG woman run:MV  
*ga-yii*  
 go-F.SG:LV  
 ‘He ruined his family for that woman but then she ran away (with someone else).’  
(Nespital, 1997)

In the above example, the light verb *baith* ‘sit’ informs the speaker/listener of a negative consequence which may otherwise only be implied. This is illustrated this example where although the man ruins his home, there is a negative consequence to it – that the woman he ruined his home for has left him.

In general, two types of actions can have negative consequences:

- (5.85)
- i. when the obtained outcome is not the desired outcome e.g., (5.86)
  - ii. when the action itself is considered by the speaker/narrator to not be a wise one and therefore a negative consequence is predicted e.g., (5.87)

The contrast between these two types of consequences is illustrated in the following examples.

- (5.86) *vah pakḍ-aa ga-yaa aur jail=kii havaa k<sup>h</sup>aa bait<sup>h</sup>-aa*  
 3.SG caught-M.SG go-M.SG and jail=GEN.F air eat:MV sit-M.SG:LV  
 ‘He got caught and ate jail’s air.’ (Nespital, 1997)

- (5.87) *be-khayaali mein vah itnaa jyaadaa dudh kaaḍh*  
 without-thought in 3.SG this much milk thicken:MV  
*bait<sup>h</sup>-ii ki rabḍii ban ga-yii*  
 sit-F.SG:LV that rabḌii make:MV go-F.SG:LV  
 ‘Without thinking she thickened the milk so much that it became custard.’  
 (Nespital, 1997)

In (5.86), the light verb appears with the main verb *k<sup>h</sup>aa* ‘eat’ but is being used to denote the negative consequence derived from the previous action of getting caught (*pakḍ-aa ga-yaa* ‘caught go’). The metaphorical meaning of the verb phrase, then, has a negative consequence. In contrast, in (5.87), the light verb indicates that the event denoted by the main verb, of thickening milk, has a negative consequence, that it has become custard instead of the outcome that was desired, namely some other threshold of warmth. The above examples show that the actual consequence of the denoted event need not be specified, and the presence of the light verb *bait<sup>h</sup>* ‘sit’ simply implies a negative consequence. When the actual consequence is described, it describes why the event was negative. This is illustrated in (5.88).

- (5.88) *vah jid kar-ke bazaar mein dher saare chaanee k<sup>h</sup>aa*  
 3.SG insistence do-ADV bazaar in many chickpeas eat:MV  
*bait<sup>h</sup>-aa aur ab dard mein hai*  
 sit-M.SG:LV and now pain in be.PRES.3  
 ‘He insistently ate a lot of chickpeas at the bazaar and is now in pain.’  
 (Nespital, 1997)

The eating of a lot of chickpeas has had a negative consequence, an inference which is further validated by the specification of the result in the second clause that the agent is *now* in a lot of pain. As an alternative to specifying the consequence, neither the event nor the result need to have already taken place, and can be part of a conditional. The negative consequence, then, simply comes true in some possible worlds. This is illustrated in (5.87).

- (5.89) *meraa xat peesh naa karee-g-aa, to naukri=se haat<sup>h</sup>*  
 my letter present NEG do-FUT-M.SG even servant=INST hand  
*d<sup>h</sup>o bait<sup>h</sup> ee-g-aa*  
 wash:MV sit-FUT-M.SG  
 ‘If he doesn’t present my letter, then he will lose the job (*lit.* wash his hands off the job).’ (Nespital, 1997)

The possibility of losing job in (5.89) in the metaphorical use is a main verb *d<sup>h</sup>o* ‘wash’. Such actions are regrettable, which is why, as noted previously, the light verb *bait<sup>h</sup>* ‘sit’ has often been considered to denote regret. However, as mentioned before, the notion of regret is a pragmatic inference deduced from the negative consequence that follows from the action. This is the case even when the result is unspecified. In fact, when the result is unspecified, the consequence can either be implied (5.90, 5.91) or can require additional context to be inferred (5.92, 5.93, 5.94).

- (5.90) *sheela kaḍaake=kii sardii mein tandee paanii=se sir*  
 Sheela brisk=GEN cold.weather in cold water=INST head  
*d<sup>h</sup>o bait<sup>h</sup>-ii*  
 wash:MV sit-F.SG:LV  
 ‘In brisk cold, Sheela washed her head with cold water.’ (Nespital, 1997)

- (5.91) *bimaarii mein us=kii yah halat ho ga-yii ki vah*  
 sickness in 3.SG=GEN.F this state be go-F.SG that 3.SG  
*bacchee=ko be-baat maar bait<sup>h</sup>-tii t<sup>h</sup>-ii*  
 child=DAT without-matter hit:MV sit-F.SG:LV  
 ‘In sickness her state was such that without reason she would hit the kid.’  
 (Nespital, 1997)

What is important is that the use of the light verb *bait<sup>h</sup>* ‘sit’ indicates that the consequence resulting from the action is negative. For instance, one will catch a cold by washing one’s head with cold water in cold weather (5.90), and similarly hitting one’s kid has a negative consequence (5.91). These are cases where the result is unspecified but the negative consequence can be inferred. But the following cases would require additional context in order to assess the exact negative consequence.

- (5.92) *simmi ancahee hii puuc<sup>h</sup> bait<sup>h</sup>-ii t<sup>h</sup>-ii*  
 Simmi unwilling Focus ask:MV sit-F.SG:LV be.PAST-F.SG  
 ‘Simmi asked unwillingly.’ (Nespital, 1997)

- (5.93) *mein biis mael peidal chal bait<sup>h</sup>-aa*  
 I twenty mile on foot walk:MV sit-M.SG:LV  
 ‘I walked 20 miles on foot.’ (Nespital, 1997)

- (5.94) *na jaa-ne vah kyaa puuc<sup>h</sup> bait<sup>h</sup>-e*  
 neg go-Inf 3.SG what ask:MV sit-PL:LV  
 ‘Who knows what s/he may ask?’ (Nespital, 1997)

In the above examples, it is unclear what the result of Simmi asking (5.92) or walking 20 miles (5.93) was, but in addition to a bounded reading, the presence of the light verb also indicates that the result was not positive. Similarly, with (5.94) the implication is that whatever s/he may ask is going to lead to an action that will have a negative consequence.

I now turn to light verbs that describe a sudden consequence.

### 5.6.1 Sudden Consequence

I now focus on the light verb *uth* ‘rise’ and the light verb *pad* ‘fall’ . While the use of the light verb *baith* ‘sit’ described in the previous section entailed that there is an impending negative consequence, the light verbs *uth* ‘rise’ or *pad* ‘fall’ conveys simply that there was a consequence to the preceding event. That is, these light verbs denote the sudden beginning of an event as a reaction to another event. I show that the event described by the main verb is taking place as a response to another event. Aside from certain selectional restrictions, the two light verbs appear to be in free variation.

It has been claimed that these two light verbs contribute a sense of suddenness and inception (Hook, 1975; Kachru, 1980; Butt, 1994; Nespital, 1997; Montaut, 2004). For instance, Montaut (2004:125) notes that these two light verbs “represent the process as sudden, impulsive or emotionally charged” and encode a “reactional connotation”. The notion of suddenness is defined by Butt (1994:121) in terms of inception. She proposes that the light verb *pad* ‘fall’ “serves to ‘pick out’ or *focus* on the point of inception of an action” (original emphasis). Her data indicates that when a verb describes an action which does not have a point of inception that can be readily identified, then the light verb *pad* ‘fall’ cannot combine with it. This is illustrated by the contrast between the following examples.

- (5.95) *anjum      uth      pad-ii*  
           anjum.F   rise:MV   fall-F.SG:LV

‘Anjum rose (suddenly) at that very instant.’ (Butt 1994:121)

- (5.96) *\*anjum baith pad-ii*  
           anjum.F sit:MV fall-F.SG:LV  
*Intended:* ‘Anjum sit (suddenly) at that very instant.’ (Butt 1994:121)

The contrast in grammaticality between examples (5.95) and (5.96) is explained by Butt in terms of whether or not the main verb has an identifiable point of inception. She posits that because there is an identifiable point of inception with the main verb *uth* ‘rise’, example (5.95) is grammatical. The idea is that it is possible for both the performer of the action and any observers in the room to agree on when the action of getting up began. On the other hand, (5.96) is infelicitous because, Butt argues, with the action of sitting, it is not clear when exactly it began.<sup>1</sup>

I conduct a more careful study, described below, which uses context-based data. I will show that from a non-aspectual perspective, the light verb *uth* ‘rise’ and the light verb *pad* ‘fall’ indicate that the event taking place is sudden. Following the definition suggested by Nespital (1997), *suddenness* is described here as involving either a) an abrupt action, or b) an event of short duration. Moreover, the sudden event is being sudden in the context of a background event.

### 5.6.1.1 Analysis of *uth<sub>lv</sub>* ‘rise’

The semantics of the light verb *uth* ‘rise’ denotes that the event taking place is sudden and comes about as a reaction to i.e., as a consequence of, another event. Each type of suddenness is exemplified below.

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<sup>1</sup>This contrast is not isolated to these two verbs. Based on the same reasoning, Butt (1994:121) contrasts the main verbs *jaag* ‘wake’ and *so* ‘sleep’ arguing that the former can combine with the light verb *pad* ‘fall’ but the latter cannot. The same facts presented here apply.

- (5.97) *raat=ke do baje telephone=kii g<sup>h</sup>antii baj uth-ii*  
 night=GEN two time telephone=GEN.F sound ring:MV rise-F.SG:LV  
 ‘The phone suddenly rang at two o’ clock at night.’ (web)

- (5.98) *meraa kuttaa dusre kuttee=ko apnii oor aa-t-e dekh-kar*  
 my dog other dog=DAT self towards come-HAB-PL see-ADV  
*gurraa uth-aa*  
 growl:MV rise-M.SG:LV  
 ‘My dog, upon seeing another dog coming its way, (suddenly) growled.’  
 (Nespital, 1997)

The suddenness of the event is cast within the context of a backgrounded event. In (5.97), the presence of the light verb *uth* ‘rise’ indicates that the event that took place, i.e., the phone rang at two o’ clock at night, and it was an event of a sudden nature i.e., it disrupted the evening and occurred as a result of another, backgrounded event. Similarly, the same light verb in (5.98) indicates that the event of growling by the dog was sudden; it only started when another dog started barking in its direction. Contrasting above examples with their main verb counterparts do not carry a notion of suddenness.

- (5.99) *raat=ke do baje telephone=kii g<sup>h</sup>antii baj-ii*  
 night=GEN two time telephone=GEN.F sound ring:-F.SG:MV  
 ‘The phone rang at two o’ clock at night.’ (constructed)

- (5.100) *meraa kuttaa dusre kuttee=ko apnii oor aa-t-e dekh-kar*  
 my dog other dog=DAT self towards come-HAB-PL see-ADV  
*gurraa-yaa*  
 growl-M.SG:MV  
 ‘My dog, upon seeing another dog coming its way, growled.’ (constructed)

The difference between the main verb usage in (5.99-5.100) and the complex predicate construction in (5.97-5.98) is that there is no entailed notion of suddenness when the light verb *uth* ‘rise’ is absent.

Given the restricted usage of these light verbs, it has also been easier to document the selectional restrictions they impose than to appropriately characterize their meanings. Kachru (1980:69) suggests that the light verb *uth* ‘rise’ “occurs with intransitive and transitive verbs of punctual action” and the light verb *pad* ‘fall’ occurs with “intransitive change of state verbs, and verbs of expression”. That is, according to Kachru the difference between the two light verbs is in terms of the main verbs that they combine with, but otherwise their semantic contribution is similar. In contrast to Kachru, Montaut (2004) claims that these two light verbs only appear with intransitive main verbs. As shown in Chapter 2, it is certainly the case, that these verbs appear primarily with intransitive verbs, but make exception for verbs of expression such as *bol* ‘speak’, *pukaar* ‘call out’.

The examples so far have focused on instances where the events denoted by the construction are instantaneous or durative. Additionally, the light verb *uth* ‘rise’ can also appear with stative predicates as exemplified in (5.101).

- (5.101) *achaanak itnaa badaa samman paa-kar us-kaa itraa*  
suddenly this much praise receive-ADV 3.SG-GEN be.deceit:MV  
*uth-naa svaabhaavik hai*  
rise-INF.M.SG:LV natural be.PRES.3  
‘His becoming conceited after suddenly receiving so much praise is natural.’  
(Nespital, 1997)

In (5.101), the stative verb *itraa* ‘be deceitful’ combines with the light verb *uth* ‘rise’. The context shows that the action of the agent becoming conceited began

suddenly after the receipt of a lot of praise. Non-stative predicates (5.102) indicate an activity similarly suddenly induced.

### Activities:

- (5.102) *yah sun=kar mere s<sup>h</sup>ariir mein k<sup>h</sup>uun daud uṭh-aa*  
 this listen=do.INF my body in blood run:MV rise-M.SG:LV  
 ‘Listening to this, electricity ran through my body.’ (Nespital, 1997)

While the light verb *uṭh* ‘rise’ can occur with both stative and non-stative predicates, it occurs most often with verbs depicting speech acts and physiological actions. Some such examples are shown below.

- (5.103) *faislaa sun-kar kasaab halke=se muskuraa uṭh-aa*  
 decision listen-ADV Kasaab slightly=INST smile:MV rise-M.SG:LV  
 ‘After listening to the decision Kasaab smiled slightly.’ (Nespital, 1997)

- (5.104) *sheela=kii aap-biitii t<sup>h</sup>-ii hii itnii dard-b<sup>h</sup>arii*  
 sheela=GEN.F life-story.F be.PAST-F.SG EMPH so-much painful  
*kii maayaa use sun-kar ro uṭh-ii*  
 that maya it listen-ADV cry:MV rise-F.SG:LV  
 ‘Sheela’s life’s story was so painful that after listening to it, Maya cried.’  
 (Nespital, 1997)

- (5.105) *apnii majbooriyôô=ke aage gopal be-bas t<sup>h</sup>-aa.*  
 self weakness.PL=GEN front Gopal without-help be.PAST.M.SG.  
*apnaa puraanaa zamaanaa yaad aa-t-e hii*  
 self old life remember come-HAB-PL EMPH  
*us-kaa man masos uṭh-t-aa*  
 3.SG=GEN.M mind pain:MV rise-HAB-M.SG:LV  
 ‘Gopal would be helpless in front of his weaknesses. When he remembers his past life, it pains him.’ (Nespital, 1997)

- (5.106) *d<sup>h</sup>uup mein baith-t-e hii, us=kaa badan khujl-aa*  
sun in sit-HAB-PL EMPH, 3.SG=GEN.M body itch-M.SG  
*uth-t-aa hai*  
rise-HAB-M.SG be.3.PRES  
‘Right away after sitting in the sun, his/her body starts to itch (immediate reaction).’  
(Nespital, 1997)

In each of the examples, the light verb *uth* ‘rise’ appears with a verb denoting a physiological action or state: *muskuraa* ‘smile’ in (5.103), *ro* ‘cry’ in (5.104), *masos* ‘to be in pain’ in (5.105), and *khulaj* ‘itch’ in 5.106). These examples showcase the general preference that the light verb *uth* ‘rise’ exhibits for verbs denoting physiological actions or states. So Perhaps the reason that the light verb *uth* ‘rise’ prefers verbs denoting physiological actions or states is that these usually happen in response to some other event. This is evident in the context in the above examples (5.104-5.106). For instance, Kasaab smiled after hearing a decision (5.103), Maya cried after hearing a story (5.104), Gopal is pained when he remembers something (5.105) and the person’s body itches after sitting in the sun. In each of the cases, the light verb is used to indicate that there was an action being performed as a result of another event in the background. I now present a similar analysis of the light verb *pad* ‘fall’ below.

### 5.6.1.2 Analysis of *pad<sub>v</sub>* ‘fall’

As indicated previously, the light verb *pad* ‘fall’ and the light verb *uth* ‘rise’ appears to be in free variation somewhat. The notion of inception that is typically attached to the light verb *pad* ‘fall’ (Butt, 1994) was proposed based on examples without, it appears, an examination of its context. But in fact the use of this verb requires

a context where the action is performed as a reaction to another. As noted before, the event described by the main verb combines with the light verb *paḍ* ‘fall’ is taking place as a response to another event. Consider the following example where the event of running has already begun.

- (5.107) *vah s<sup>h</sup>er k<sup>h</sup>argos<sup>h</sup>=ko choḍ kar hiran=ke piiche **daḍ***  
 that lion rabbit=DAT leave do deer=GEN behind run:MV  
***paḍ-aa***  
 fall-M.SG:LV  
 ‘That lion left the rabbit (and) ran after the deer.’

Here the lion is already running after the rabbit, but has abandoned its quest, for some reason, and is now running after the deer. In this case a new event has indeed begun, but it is the sudden change that is being targeted by the light verb – the lion saw the deer and as a result changed course and ran after it instead.

Similar to the data presented for the light verb *uth* ‘rise’ above, stative predicates when combined with the light verb *paḍ* ‘fall’ also convey the idea of sudden consequence for prior action or event.

- (5.108) *mai=ne us=kii zaraa sii taariif kyaa kar dii ki vah*  
 1SG=ERG 3SG=GEN.F little bit praise what do give that 3.SG  
*ekdam itraa **paḍ-aa***  
 completely be-conceit:MV fall-M.SG:LV  
 ‘I praised him just a little bit and he **became conceited** (reacted by becoming conceited).’ (Nespital, 1997)

In (5.108), the use of the light verb *paḍ* ‘fall’ indicates that the act of becoming conceited was a sudden reaction caused by being praised. In addition to the durative verbs that the light verb *paḍ* ‘fall’ combines with above, the same meaning is

conveyed when the sentence contains Achievements (5.109) or Semelfactives (5.110) main verbs.

- (5.109) *kuch der tak vah gundaa mujhe ghuur-t-aa*  
 some time until that ruffian me stare-HAB-M.SG  
*rah-aa aur phir mujh par kuud pad-aa*  
 stay.IMPV-M.SG and then me on jump:MV fall-M.SG:LV  
 ‘For some time that ruffian stared at me and then he **jumped** on me.’  
 (Nespital, 1997)

- (5.110) *jab umesh raakesh=ko kaafi der tak ciḍaa-t-aa*  
 when Umesh Rakesh=DAT much late until tease-HAB-M.SG  
*rah-aa, to rakesh kic<sup>h</sup>kic<sup>h</sup>-aa pad-aa*  
 stay.IMPV-M.SG, then Rakesh gnash-teeth:MV fall-M.SG  
 ‘When Umesh kept teasing Rakesh for a long time, then Rakesh **gnashed his teeth.**’  
 (Nespital, 1997)

The event of jumping in example (5.109) and similarly the gnashing of teeth in (5.110) takes place suddenly and it is caused by another event - being stared or being teased respectively. The crucial point with respect to both the light verb *uth* ‘rise’ and the light verb *pad* ‘fall’ is that the sudden reading triggered by the light verbs does not seem to be reducible to conversational implicatures. That is, there is no immediate way to derive the suddenness of an event taking place from the emphasis on its onset. What is being defined as a reactional connotation (Montaut, 2004) or inception (Butt, 1994) or abruptness (Kachru, 1980) can be more generally stated as the description of a sudden event that is a consequence of a backgrounded event.

## 5.7 Light Verbs and Deixis

This section discusses the following light verbs, all of which encode some form of spatial or temporal motion in their main verb forms.

- *aa* ‘come’
- *jaa* ‘go’
- *nikal* ‘leave’
- *nikaal* ‘remove’

I now look at the non-aspectual content of these verbs.

### 5.7.1 Analysis of *jaa<sub>lv</sub>* ‘go’ and *aa<sub>lv</sub>* ‘come’

The above list shows the main verb usages of the verb. For instance, *aa* ‘come’ indicates spatial motion towards the referent (5.111) and *jaa* ‘go’ indicates spatial motion away from the referent (5.112).

(5.111) *vo idhar aa-yaa*  
3.SG here come-M.SG:MV  
‘He came here.’

(5.112) *vo udhar ga-yaa*  
3.SG there go-M.SG:MV  
‘He went there.’

In the above examples, the deictic motion is oriented towards a referent. The main verbs can similarly orient the spatial motion towards a location, as shown below.

- (5.113) *mein dilli aa-yaa*  
1.SG here come-M.SG:MV  
'I came to Delhi.'

- (5.114) *mein dilli ga-yaa*  
1.SG Delhi go-M.SG:MV  
'I went to Delhi.'

Once again, the light verb *aa* 'come' is used above when the deictic orientation is towards the location (5.113), and the light verb *jaa* 'go' is used when the deictic orientation is away from the location (5.114).

So far I have only described main verb usages of these verbs. But when it come to light verb usages, it is not clear that these verbs have a meaning that is distinct from their main verb semantics. Kachru (1983:57) suggests that the light verb *aa* 'come' "occurs with intransitive verbs of motion and indicates that the action of the main verb is oriented towards a focal point which may be a person or which may be set in time or space." In contrast, she suggests that the light verb *jaa* 'go' "occurs with intransitive verbs of motion and other change of state verbs, and indicates motion away from the focal point; with dative subject verbs indicates definitive meaning; and with transitive verbs it expresses hurried, impulsive action" (*ibid*). Note that in her analysis the light verb *aa* 'come' has no meaning aside from depicting motion. The analysis of the light verb *jaa* 'go' is also based on motion as well as pragmatic inferences such as hurriedness. Her analysis is based on the fact that most supposed examples of light verb usages seem to be extensions of the deictic usages of the verb, as illustrated by the following example.

- (5.115) *mere rok-ne par bhii ratnaa g<sup>h</sup>ar calii ga-yii*  
 me stop-INF on EMPH Ratna home walk:MV go-F.SG:LV  
 ‘Even after I (tried to) stop her, Ratna **went** home.’ (Kachru 1983:59)

There is no meaning associated with the so-called light verb usage of *jaa* ‘go’ in the above example. However, one type of meaning associated with these light verbs that Kachru (1983) and other scholars writing on the subject (e.g., Abbi, 1991) do note is that these verbs entail whether or not a state still holds: the light verb *jaa* ‘go’ indicates that it does and the light verb *aa* ‘come’ indicates that it does not. This is exemplified below.

- (5.116) *t<sup>h</sup>iik=se k<sup>h</sup>aad aur paanii na mil-ne=se baag=ke*  
 proper=INST nutrition and water no receive-INF=INST garden=GEN  
*saare paudhe suuk<sup>h</sup> ga-yee haĩ*  
 all plants dry:MV go-PL be.PAST.M.SG  
 ‘From not having received nutrition and water properly, all the plants in the garden have dried.’ (Nespital, 1997)

- (5.117) *t<sup>h</sup>iik=se k<sup>h</sup>aad aur paanii na mil-ne=se baag=ke*  
 proper=INST nutrition and water no receive-INF=INST garden=GEN  
*saare paudhe suuk<sup>h</sup> aa-yee haĩ*  
 all plants dry:MV come-PL be.PAST.M.SG  
 ‘From not having received nutrition and water properly, all the plants in the garden have dried.’ (constructed)

In the above example, the usage of the light verb *jaa* ‘go’ in (5.116) indicates that the state of the plants continues to be dry – nothing has been done about it. Switching this light verb for the light verb *aa* ‘come’ indicates that the state of the plants’ staying dry has been done with. This does not necessarily indicate that the plants have been restored to a healthy state; instead, what it indicates is that there is nothing that the subject’s referent can do about the plants.

In addition, with verbs that denote a transition between two states, the light verb *jaa* ‘go’ is used metaphorically in the sense of entering into a state. This is exemplified below. We see that the agent transitioned into the state of sleep after completing the action of eating.

- (5.118) *k<sup>h</sup>aanaa k<sup>h</sup>aa-kar vah so ga-yaa*  
 food eat-do he sleep:MV go-M.SG:LV  
 ‘He fell asleep (*lit.* slept) after eating.’ (Nespital, 1997)

The above example indicates that the subject’s referent ‘went to sleep’. Additional research needs to be conducted in order to determine how temporal deixis can be easily identified and distinguished from examples of spatial deixis.

I now turn to the the light verb *nikal* ‘leave’ and the light verb *nikaal* ‘remove’, both of which appear to be the least semantically bleached. These light verbs seem to direct the action denoted by the main verb towards a particular metaphorical direction.

### 5.7.2 Analysis of *nikal<sub>lv</sub>* ‘exit’

The main verbs that the light verb *nikal* ‘leave’ typically combines with seem to refer to an emergence of some kind.

- (5.119) *ab to c<sup>h</sup>oṭe-choṭe paudhe ug nikl-e t<sup>h</sup>-e,*  
 now even little-little plants sprout:MV exit:PL:LV be.PAST-PL,  
*jo ab mujhe baḍe sundar lag rah-e t<sup>h</sup>-e*  
 which now me very pretty seem stay.IMPV-PL be.PAST-PL  
 ‘Now little plants had **sprouted (risen slowly)**, that seemed really pretty to me.’ (Nespital, 1997)

- (5.120) *subah-subah*      *suraj=kaa*    *ug*      *nikal-naa*    *kise*    *bhalaa*  
morning-morning    sun=GEN.M    rise:MV    exit-INF.M:LV    who    good  
*nahii*    *lag-t-aa*  
NEG    seem-HAB-M.SG  
‘Who doesn’t like the sun **rising** early morning!’      (Nespital, 1997)

In both the above examples, the light verb indicates that the theme, i.e., the plants and the sun respectively, have emerged and are rising in a particular direction. For instance, in the following sequence of *ro* ‘cry’ *nikal* ‘exit’, the light verb is referring to the emergence of tears from the eyes.

- (5.121) *jaise hii*      *mai=ne*      *bacchee=ko*    *saath*<sub>h</sub>      *le*      *jaa-ne=se*  
soon    EMPH    I=textscerg    child=DAT    together    take    go-INF=INST  
*manaa kiyaa, to*      *vah ro*      *nikl-aa*  
say.no    do,      then    he    cry:MV    exit-M.SG:LV  
‘As soon as the mother told the kid she wouldn’t take him with her, he **cried.**’      (Nespital, 1997)

In (5.121), there is emergence (of tears) but from an implicit theme. In some cases, the emergence from the main predication may seem to indicate completion of the event. However, this does not always have to be the case. This is illustrated by the following examples.

- (5.122) *Mohan tair-t-e*      *hue b<sup>h</sup>āvar*      *mein faans*      *ga-yaa*      *aur*  
Mohan swim-HAB-PL    be    whirlpool in    trap:MV    go-M.SG:LV    and  
*us mein=se bac<sup>h</sup> nikal-naa*      *us=ke*      *liye*      *namumkin*  
it in=INST    save    exit-INF.M:LV    him=GEN    impossible    be.PAST-M.SG  
*t<sup>h</sup>-aa*

‘While swimming Mohan got trapped in the whirlpool and to **escape** from it was impossible for him. (save exit = escape)      (Nespital, 1997)

- (5.123) *unkii baatein sun-kar mein aaj pinjre=se ud*  
their words listen-do.ADV in today cage=INST fly:MV  
*nikl-aa to unho-ne c<sup>h</sup>onche maar-maar-kar mujhe admaraa*  
exit-M.SG:LV then they peck hit-hit-do.ADV me half-alive  
*yahaan choḍ diyaa*  
here leave:MV give-M.SG-LV  
‘Under the influence of their words, I (the bird) had (tried to have) **flown**  
from the cage that the other birds pecked me to death and left me there.’  
(Nespital, 1997)

The combination of *bac<sup>h</sup>* ‘save’ and the light verb *nikal* ‘leave’ leads to a reading where the bird has escaped. But, the event does not always have to be completed as example (5.123) indicates. The bird which tried to fly away went as far as the top of the cage but ultimately it still remains in the cage. The main verb-light combination in example (5.123) have a much more compositional semantics and possibly indicate some form of idiomatic reading. The data for the light verb *nikaal* ‘remove’ shows a similar pattern.

### 5.7.3 Analysis of *nikaal<sub>lv</sub>* ‘remove’

The combination of the light verb *nikaal* ‘remove’ appears to involve some sense of removal or extraction, which is quite close to the main verb meaning of this verb. For instance, the combination of *k<sup>h</sup>oD* ‘dig’ and *nikaal* ‘remove’ in (5.124) conveys the idea of extraction. However, such a notion of extraction is literal, there can also be metaphorical extraction as with the combination of *ugalvaa* ‘causing to disclose’ and the light verb *nikaal* ‘remove’ in (5.125).

- (5.124) *enginiyaarõ=ne badii mehnat kar=ke us ks<sup>h</sup>etr=se tel*  
 engineers=ERG much hard-work do=GEN that region=INST oil  
*k<sup>h</sup>oḍ nikaal-aa*  
 dig:MV remove-M.SG:LV  
 ‘Engineers **extracted** oil from that region after much hard work.’ (dig  
 remove=extract) (Nespital, 1997)

- (5.125) *tum kisi tarah=se us=se yeh baat ugalvaa*  
 you any manner=INST 3.SG=INST this matter cause.disclose:MV  
*nikaal-o*  
 remove-IMP  
 ‘You (must) somehow make him/her disclose this matter.’ (Nespital, 1997)

While (5.124) suggests literal removal of an object, (5.125) suggests metaphorical removal of i.e., an extraction of information. It is unclear whether the two usages of these verbs are truly distinct enough for the former to be a main verb usage, and the latter to be a light verb usage. There is also syntactic evidence that the above verb combinations form serial verb constructions: the main verbs can appear within a matrix clause via the verb *kar* ‘do’ as illustrated below for (5.124).

- (5.126) *enginiyaarõ=ne badii mehnat kar=ke us ks<sup>h</sup>etr=se tel*  
 engineers=ERG much hard-work do=GEN that region=INST oil  
*k<sup>h</sup>oḍ kar nikaal-aa*  
 dig:MV do remove-M.SG:LV  
 ‘Engineers **extracted** oil from that region after doing much hard work.’ (dig  
 remove=extract) (?)

In (5.126), the verb *kar* ‘do’ embeds the main verb in an adverbial clause.

## 5.8 Summary

This chapter looked at both the aspectual and non-aspectual content of Hindi aspectual light verbs. I have argued that the meaning encoded by the light verbs is some kind of affectedness, which is either the *result* or the *consequence* of the event denoted by the main verb. With respect to aspect, light verbs are used in order to convey the notion of boundedness. This seems to be case in particular with the Hindi main verbs which do not include a result state. With respect to non-aspectual content, it was shown that the various semantic notions assigned to light verbs were in fact pragmatic inferences, and not all light verbs encode the same semantics. Rather, this chapter illustrated that Hindi verbs serve to indicate whether there is a result or consequence of the event, as well as who or what is being affected by the event. A formal semantic analysis of Hindi light verbs on the basis of the descriptions outlined in this chapter must await another venue.

# Chapter 6

## Conclusion

The enduring theoretical interest in complex predicates is undoubtedly due to the fact that in some aspects they pattern with prototypical words, whereas in other aspects they pattern with prototypical phrases. Complex predicates exhibit word-like properties in terms of argument structure, and in sometimes having lexicalized meanings. They exhibit phrase-like properties in allowing certain syntactic operations, such as element insertion, to manipulate their internal structure. Keeping the fluid nature of the light verbs in mind, this dissertation was formed around the following three questions.

(6.1)

- (6.2)
1. Is there any evidence for treating light verbs as a separate syntactic class from other functional elements, such as auxiliaries, in Hindi?
  2. Is there variation in the syntactic and semantic headedness in the various complex predicate constructions and can this variation be

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predicted (on the basis of semantics or other factors)?

3. What are the semantic contributions of light verbs?

To answer these questions, this dissertation has discussed the different types of Hindi verbal complex predicate constructions. The novel approach in this dissertation has been to view complex predicates not as a unique or isolating category of the language's verbal system, but instead to treat it as an integral part of the verbal system. This was done primarily by offering a comparison between a) light verbs and auxiliaries, a) Hindi verb constellations and aspectual complex predicate constructions, and c) main verb-auxiliary combinations to complex predicate-auxiliary combinations. Such a comparison has shown that the Hindi light verbs and auxiliaries differ primarily with respect to word order, and the combination of complex predicates and auxiliaries is somewhat more restricted than that of main verbs and auxiliaries.

Within complex predicates themselves, the standard aspectual complex predicate construction differs with respect to the reverse construction, not just in terms of syntactic structure, but also in terms of headedness. Functional properties of a clause, such as agreement and case assignment, are determined by the last verb in the combination, which leads to the conclusion that the light verb is the head of the standard construction and the main verb is the head of the reverse construction. This leads to different analyses with respect to the two constructions within HPSG – while the standard construction induces argument composition, the reverse construction does not. In this way, the syntactic and semantic structures in the Hindi aspectual complex predicate constructions are not isomorphic to each other. Similarly, even

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with the permissive construction, argument composition is induced only when the permissive verb subcategorizes for a V complement. In contrast, when the permissive verb is subcategorizing for the VP complement, the direct object and the infinitival main verb form a constituent, and there is no argument composition. These structures show that semantic scope need not be isomorphic to syntactic constituency or surface linear order at any level of representation.

From a semantic perspective, I have shown that aspectual light verbs contribute the notion of boundedness, as well as convey additional contribution which differs with respect to different light verbs. In the case of light verbs *de* ‘give’ *le* ‘take’ and *daal* ‘put’ this contribution can be defined in terms of affectedness. Such affectedness is driven either in terms of result or consequence. With the light verbs *baith* ‘sit’ *uth* ‘rise’ and *pad* ‘fall’ this contribution is noted on the basis of the nature of the consequence e.g., negative with respect to the light verb *baith* ‘sit’ or sudden with respect to the other two light verbs. The contribution of the light verbs *aa* ‘come’ and *jaa* ‘go’ is in terms of whether or not the state could be reversed. Finally, usages of the light verbs *nikal* ‘leave’ and *nikaal* ‘remove’ are primarily idiomatic.

The data in this dissertation has focused almost exclusively on Hindi. But as noted in Chapter 1, various works provide detailed data on constructions usually classified as ‘complex predicates’ in a range of languages (cf. Verma (1993); Alsina et al. (1997); Amberber et al. (2010)). I now briefly evaluate the Hindi data with data from other languages. My intention is not to repeat the information presented in other research, but instead to put into perspective the issues addressed in this dissertation. For the convenience of the readers, I format the discussion on cross-

linguistic data along the lines of the same three questions that were addressed in this dissertation.

## 6.1 Addressing Question 1

One of the most difficult issues with respect to complex predicate constructions is in terms of identifying light verbs and complex predicate constructions. As noted in Chapter 2, the Hindi light verbs are distinct from auxiliaries with respect to word order. Syntactic tests to identify these categories must be language specific.

Within the literature on Hindi, one of the arguments for treating light verbs as a distinct syntactic class is their persistence in the language through the various language changes. The standard complex predicate construction discussed in this dissertation has existed in the language at least since Old Indo-Aryan (c. 1200-200 BC). The construction becomes easier to identify in texts starting from Middle Indo-Aryan (1200-200 BC) and Old Hindi (200 BC-1100 AD), as pointed out by (Butt, 2005).<sup>1</sup> The following example is from Pali.

- (6.3) *daruni aharitva aggiṃ katva dassa-ti*  
sticks bring.GD fire.ACC.SG make.GD give-FUT.3.SG  
‘Bringing wood he will make fire.’ *Pali*

The translation of the above examples suggest that the verb *dâ* ‘give’ in Pali functions as a light verb.<sup>2</sup>

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<sup>1</sup>There is clearly still a need for a definitive historical study on the emergence of these forms in the textual record, which is beyond the scope of this dissertation.

<sup>2</sup>Whether the above example denotes benefactivity or induces subject-oriented affectedness cannot be discussed without additional data on the context. I leave this discussion for another venue.

The above discussion is on Indo-Aryan languages, but Bower (2008) and Butt (2010) have argued that light verbs form a distinct syntactic class from a cross-linguistic perspective. In Mandarin, for example, complex predicates are morphosyntactically distinct with respect to tone and licensing no argument structure (Butt, 2010). This is exemplified below for the verb *guo* ‘cross’. When it is used as a main verb, *guo* receives tone and is not subject to selectional restrictions (6.4), but when it is an aspect marker *guo* receives no tone and licenses no independent arguments (6.5).

(6.4) *qing ni liu xia nide ming-pian*  
 please you leave descend your name card  
 ‘Please leave your name card.’ *Mandarin* (Butt 2011:62)

(6.5) *wo chi guo le*  
 I eat cross CURR.REL.SIT  
 ‘I have eaten.’

The distinct tone and argument selection between the two examples above is taken as syntactic evidence that Mandarin treats light verbs (or more precisely, directional verbs) as a separate syntactic class.

The treatment of light verbs as auxiliaries as distinct syntactic categories also draws attention to the similarity of complex predicate construction, as in Hindi, and coverb constructions, in other languages. In a coverb construction, only the light verbs inflect and they do not share any characteristics with nouns and adverbs. Some examples of coverb constructions from Wagiman (Wilson, 1999a) are as follows.

(6.6) *liri-ma nga-ya-nggi munyaban*  
 swim-ASP 1SG-go-PAST other side

‘I swam to the other side.’

*Wagiman*, (Wilson, 1999b)

- (6.7) *ngarrmen lem du-ng*  
 hollow log be-inside.PFV 3SG.cut-PFV  
 ‘it (the goanna) entered the hollow log.’

*Wagiman*, (Wilson, 1999b)

- (6.8) *bewh-ma nga-bu-ni boran*  
 cross-ASP 1SG-hit-PAST river  
 ‘I crossed the river.’

(Wilson, 1999a)

Notice that in each of the examples, the coverb marks some form of aspect or directionality; this is particularly common for coverbs. The notion of directionality among coverb constructions mirrors the light verb *aa* ‘come’ and the light verb *jaa* ‘go’ in Hindi.

## 6.2 Addressing Question 2

The variation within the syntactic structure of the Hindi complex predicate construction was discussed at length in Chapters 3 and 4. As the contrast in headedness between the standard and the reverse construction indicates, the difference in constituent structures also impacted headedness. The reverse construction is also present in other Indian languages, though there does appear to be variation in its form and structure.

### 6.2.1 Indo-Aryan

As a case study for a sister Indo-Aryan language, I present data from Marathi, which has a similar set of light verbs as Hindi. Deoskar (2006) states that the main verb

is in an invariant participial form and the light verb takes all markers of tense and agreement features. The following examples illustrate the aspectual and permissive usages for the verb GIVE as shown below.

ASPECTUAL:

- (6.9) *Gita-ni Mohan-la patra lih-un dile*  
 Gita-ERG Mohan-DAT letter write-PRT give.PST.NEU  
 ‘Gita wrote a letter for Mohan.’ *Marathi* (Deoskar (2006), original gloss)

PERMISSIVE:

- (6.10) *Gita-ni Mohan-la patra lih-u dile*  
 Gita-ERG Mohan-DAT letter write-PERM give.PST.NEU  
 ‘Gita let Mohan write a letter.’ *Marathi* (Deoskar (2006), original gloss)

The above examples illustrate the aspectual and the permissive use of the light verb *di* ‘give’ in Marathi, respectively. With the permissive usage of the verb *dile* ‘give’, the main verb is marked by the suffix *-u*, glossed as PERM. With the aspectual usage of the light verb *dile* ‘give’, the main verb is marked by the suffix *-un*. In Marathi, the main verb-light verb combination can be reversed, with supposedly consistent semantics. Contrast the standard construction in (6.9) with the reverse construction (6.11) below.

### Reverse Construction in Marathi

- (6.11) *Gita-ni pustak taakla<sub>light</sub> waach-un<sub>main</sub>*  
 Gita-ERG book drop.NEU.PST read-PRT  
 ‘Gita read the book (anyhow, to finish it off).’ *Marathi* ((Deoskar, 2006), original gloss)

The above data shows that aspectual complex predicate constructions in Marathi can be reversed. In fact, the order of the main verb and light verb in Marathi appears to be more flexible than Hindi. Not only can the order of main and light verb in Marathi be reversed, but Deoskar (2006) states that the two verbs can also be separated by the direct object.

- (6.12) *Gita-ni      taakla<sub>light</sub>      pustak      waach-un<sub>main</sub>*  
           Gita-ERG   drop.NEU.PST   book    read-PRT  
           ‘Gita read the book (anyhow, to finish it off).’      *Marathi* ((Deoskar, 2006),  
           original gloss)

In (6.12) the light verb *taakla* is separated from the main verb *waach* ‘read’ by the direct object *pustak* ‘kitab’. Curiously, however, the main verb and light verb cannot be separated by the direct object in the standard construction as shown below.

- (6.13) *Gita-ni      waach-un<sub>main</sub>      pustak      taakla<sub>\*light</sub>*  
           Gita-ERG   read-PRT        book    drop.NEU.PST  
           ‘\*Gita read the book (anyhow)/ Gita dropped the book after reading it.’  
           *Marathi* ((Deoskar, 2006), original gloss)

When the direct object appears between the two verbs, the second verb cannot be light. That is, the only possible interpretation for (6.13) is one where the second verb is embedded in an adverbial clause – the book was dropped *after* it was read. Thus, the reverse construction in Marathi appears to be more flexible with respect to word order than in Hindi. Moreover, in all the example above, the light verb bears agreement morphology. This suggests that the light verb might be the head of the reverse construction as well in Marathi. A similar pattern emerges in Tamil, a Dravidian language.

### 6.2.2 Dravidian

The complex predicate construction has long been considered an areal feature of the Indian Sprachbund (Masica, 1991). Therefore, it is not surprising that the reverse construction exists in Tamil, a Dravidian language. The standard and reverse complex predicate constructions in Tamil are illustrated via the following set of examples.

#### Tamil Standard Construction

- (6.14) *avan vittu-kku oṭi poṇan*  
 he house-DAT run:MV go-PST-3SG.M:LV  
 ‘He went running into the house.’ (Steevers 2005:80-1, 119)

#### Tamil Reverse Construction

- (6.15) *avan vittu-kku poṇan oṭi*  
 he house-Dat go-PST-3SG.M:LV run:MV  
 ‘He went running into the house.’ (Steevers 2005:80-1, 119)

In the above Tamil examples, the light verb is *po* ‘go’ and the main verb is *oṭi* ‘run’. In the standard construction in the Tamil (6.14), the light verb follows the main verb, and in the reverse construction (6.15), the light verb precedes the main verb. Notably, the light verb agrees with the subject, in both constructions. That is, even when the light verb precedes the main verb, it must agree with the subject. Considering agreement as one of the criteria for headedness, and based on the sparse data presented above, it appears that in Tamil the light verb would be the syntactic head of the reverse construction. Whether the light verb also assigns case remains to be seen.

## 6.3 Addressing Question 3

Given their diachronic development, Hindi light verbs are similar in form and usage to light verbs found in other Indo-Aryan languages as well. Additionally, the data discussed below shows the presence of light verbs in Dravidian which are similar in form and function to Hindi light verbs.

### 6.3.1 Dravidian

The following set of examples are from Tamil illustrate the light verb usages of *konḍ* ‘give’ (6.16), (6.17), *po* ‘go’ (6.18), *viḍu* ‘leave’ (6.19), etc.

- (6.16) *kumar viḍ-u kaṭii-konḍ-aan*  
 kumar house-SD build-give-PAST-3SG.M  
 ‘Kumar built the house (for himself).’ *Tamil* (author’s dialect)

- (6.17) *kumar viji-ukku-k viḍ-u kaṭii-koṭu-tt-aan*  
 kumar viji-DAT-SD house-SD build-give-PAST-3SG.M  
 ‘Kumar built the house for Viji.’ *Tamil* (author’s dialect)

- (6.18) *vellari murri pooy- iṭ-ṛu*  
 cucumber.M mature:MV go-PAST-3SG.M:LV  
 ‘The cucumber has matured (too much).’ *Tamil* (author’s dialect)

- (6.19) *cankiliy-ai-p poottu viṭ-ṭ-aan*  
 chain-ACC put:MV leave:LV  
 ‘He put the chain on someone.’ *Tamil* (author’s dialect)

The translations of the above examples should remind the reader of the light verb usage in Hindi. Similar examples where the light verbs denote aspectual content and affectedness can be found in Telugu for the verbs *po* ‘go’ and *kon* ‘take’.

- (6.20) *guddalu anni aray poyay*  
 clothes all dry:DRY go  
 ‘All the clothes have dried.’

*Telugu*

- (6.21) *waḍu kalu wirucu konnaḍu*  
 he leg broke take  
 ‘He broke his leg.’

*Telugu*

The translations of the above examples should also remind the reader of the light verb usage in Hindi. In fact, most light verbs found in Hindi are also found in most Dravidian languages. Given the Sprachbund conjecture (Masica, 1976), this is not surprising. However, it is not necessarily the case that the light verb’s semantic contribution is the same in all languages. For instance, in Telugu the light verb *give* is only permissive and cannot be aspectual, and the light verb *put* instead function as a benefactive (Masica 1971:141, Krishnamurti in Verma 1993:149) .

No cross-linguistic comparison has been conducted specifically to verify the presence of the reverse construction. Though rare in token frequency, this construction actually appears with relative frequency cross-linguistically in languages that contain some form of complex predicate construction. While the same verb forms that are light verbs in Hindi also function as light verbs in Marathi and Tamil, there appear to be variability in both the syntactic structure and headedness. Gathering such data is the first step towards a larger study on whether the syntax-semantics isomorphism is maintained in multiple variants of a complex predicate construction.

In conclusion, I have presented an in-depth explanation of the structure and properties of two types of aspectual complex predicate constructions and contrasted it with a third complex predicate construction, namely the permissive. The discussion

of complex predicate formation in this dissertation accounted for properties of both the true complex predicate formation, as in the case of the standard construction, and head-modifier structure, as in the case of the reverse construction. By formulating the analysis within HPSG I addressed issues pertaining to agreement, case assignment, argument structure, and linking, from both a descriptive as well as a formal perspective. Additionally, I presented a semantic analysis based on affectedness that facilitates understanding of the semantic contribution of Hindi light verbs.

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