Unaccusativity, Unergativity and The Causative Alternation in Hindi: A Minimalist Analysis

Thesis submitted to Jawaharlal Nehru University in partial fulfillment of the requirements for the award of the degree of

DOCTOR OF PHILOSOPHY

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CERTIFICATE

This thesis titled **"Unaccusativity, Unergativity and The Causative Alternation in Hindi: A Minimalist Analysis"** submitted by **Richa**, Centre for Linguistics, School of Language, Literature and Culture Studies, Jawaharlal Nehru University, New Delhi, for the award of the degree of **Doctor of Philosophy**, is an original work and has not been submitted so far in part or in full for any other degree or diploma of any university or institution.

This may be placed before the examiners for evaluation for the award of the degree of **Doctor of Philosophy**.

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DECLARATION BY THE CANDIDATE

This dissertation titled **"Unaccusativity, Unergativity and the Causative Alternation in Hindi : A Minimalist Analysis"** submitted by me, for the award of the degree of **Doctor of Philosophy**, is my original work and has not been submitted so far in part or in full for any other degree or diploma in any other university.

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With regard to our conceptualization, causation is the centre of the creative.

John Carroll

Abbreviations (Based on Leipzig Glossing Rules)

ACC	**:**	**Accusative**
CAUS	**:**	**Causative**
CONJ	**:**	**Conjunctive**
DAT	**:**	**Dative**
DO	**:**	**Direct Object**
EMP	**:**	**Emphatic**
ERG	**:**	**Ergative**
F	**:**	**Feminine**
FUT	**:**	**Future**
GEN	**:**	**Genitive**
HAB	**:**	**Habitual**
INF	**:**	**Infinite**
INS	**:**	**Instrumental**
IO	**:**	**Indirect Object**
M	**:**	**Masculine**
NEG	**:**	**Negative**
NOM	**:**	**Nominative**
OBL	**:**	**Oblique**
PASS	**:**	**Passive**

PFV	**:**	**Perfective**
PL	**:**	**Plural**
PROG	**:**	**Progressive**
PRS	**:**	**Present**
PST	**:**	**Past**
PTCP	**:**	**Participle**
SG	**:**	**Singular**
SUB	**:**	**Subject**
TR	**:**	**Transitive**

Contents

Chapter 1

INTRODUCTION

This thesis investigates unaccusatives, unergatives and the transitive and causative alternation in Hindi within the minimalist framework.

1.1. The Research Problem

In Hindi, a modern Indo-Aryan language, verbs participate in transitive, causative alternations employing regular morphologically related forms:

1. **Unaccusatives**

Intransitive	Transitive	Causative
kʰɔlna 'boil'	kʰɔlana	kʰɔlwana
ɟəlna 'burn'	ɟəlana	ɟəlwana
bəɽʰna 'increase'	bəɽʰ ana	bəɽʰ wana
pʰɛlna 'expand'	pʰɛlana	pʰɛlwana
gəlna 'melt'	gəlana	gəlwana
ɟəmna 'freeze'	ɟəmana	ɟəmwana

2. **Unergatives**

Intransitive	Transitive	Causative
uɽna 'fly'	uɽana	uɽwana
ku:ɖ̲na 'jump'	kuɖ̲ana	kuɖ̲wana
kʰelna 'play'	kʰelana	kʰelwana
ɖ̲ɔɽna 'run'	ɖ̲ɔɽana	ɖ̲ɔɽana
ʈ̲ɛrna 'swim'	ʈ̲ɛrana	ʈ̲ɛrwana
cəlna 'walk'	cəlana	cəlwana
nɑcna 'dance'	nəcana	nəcwana

3. **Transitives**

Transitive	Ditransitive	Causative
kʰana 'eat'	kʰilana	kʰilwana
pi:na 'drink'	pilana	pilwana
cəkʰna 'taste'	cəkʰana	cəkʰwana
pəɽʰna 'read'	pəɽʰana	pəɽʰwana
likʰna 'write'	likʰana	likʰwana
ɖ̲ekʰna 'see'	ɖ̲ikʰ(l)ana	ɖ̲ikʰ(əl)wana
si:kʰna 'learn'	sikʰ(l)ana	sikʰ(əl)wana

Traditionally, the -*a* suffix is called the first order (direct) causative morpheme and -*wa* is the second order (indirect) causative morpheme. The two kinds of causatives is said to differ in terms of directness -- the suffix -*a* indicates that the causer acts directly and -*wa* that the causer acts indirectly (acting *indirectly* means involving an intermediary agent).

However, if we examine the formation of these variants in Hindi, we infer that -*a* is a transitivizer that adds a causing event, and -*wa* is a causativizer, which adds a caused event to the causing event. The causee in Hindi causatives usually surfaces as an instrumental/ablative Case-marked. For example:

4. i) somi hə̃sn̪ɑ hɛ
Somi laugh-HAB be-PRS
'Somi laughs.'

ii) nili somi ko hə̃sɑn̪i hɛ
Nili Somi ACC laugh-HAB.F be-PRS
'Nili makes Somi laugh.'

iii) nili (runɑ se) somi ko hə̃swɑn̪i hɛ
Nili Runa INS Somi ACC laugh-CAUS-HAB.F be-PRS
'Nili makes Runa make Somi laugh.'

This alternation raises a number of interesting questions. One issue is with regards to the picture of Hindi verbs that emerges on the basis of these facts – most Hindi verbs appear to be unaccusative at the base. However, there are interesting gaps in this apparent regularity – in particular internally caused verbs (in the sense of Levin & Rappaport Hovav 1995) do not have either transitive or causative variants:

5.

INTRANSITIVE	TRANSITIVE	CAUSATIVE
kəʈəknɑ 'thunder'	-	-
gurrɑnɑ 'roar'	-	-
cəmcəmɑnɑ 'glitter'	-	-
muskurɑnɑ 'smile'	-	-
ʃərmɑnɑ 'blush'	-	-
su:ɟnɑ 'swell'	-	-
kɑ̃pnɑ 'tremble'	-	-

Another issue is with regards to the instrumental/ablative Case *-se*. Besides the causative, this Case appears on the external argument in the Hindi inabilitative passive construction (which conveys the inability of an agent/initiator to initiate the event denoted by the predicate), on instrumental adjunct phrases, as well as source noun phrases:

6. i) pulis se bəcce ko mɑrɑ nəhĩ: gəjɑ
police-INS child ACC kill not go-PFV
'The police was not able to kill the child.'

ii)somi ne ru:nɑ-se vɑnkɑ-ko mərwɑjɑ
Somi-ERG Runa-INS Vanka-ACC kill-CAUS-PFV
'Somi made Runa kill Vanka.'

iii) rɑm ne (cɑku se) minɑ ko mɑrɑ
Ram-ERG knife-INS Mina-ACC kill-PFV
'Ram killed Mina with a knife.'

iii) wəsi:m ḍilli se ɑjɑ
Waseem Delhi-ABL come-PFV
'Waseem came from Delhi.'

The natural question here is whether all these occurrences of -*se* are in any way related. Traditionally, the ablative and instrumental uses are distinguished from each other as homophonous lexical Cases. The occurrences of the -*se* Case-marker on the external argument in the inabilitative passives and the causee argument in the morphological causatives therefore raises the question as to whether here too -*se* is a lexical Case-marker. Indeed much earlier work has assumed as much, holding the Case in both these instances to be a lexical/inherent instrumental Case. With particular regard to the causative, this has led to an analysis of the causee as an adjunct rather than an argument.

However, a closer look at the empirical facts of Hindi suggests that the issues of structural Case vs. lexical/inherent Case status for -*se* are far from settled, and neither is the analysis of the causee as an adjunct conclusive. Consider the facts of Hindi possessive reflexive binding. As is well known by now (Kidwai 1995, 2000, Richa 2003), possessive reflexives in Hindi can only be bound by a subject/external argument and not by a -*ko* marked internal argument or an instrumental adjunct:

7. i) rɑm$_i$ ne moni$_j$ ko əpni$_{i/*j}$ kiṯɑb lɔʈɑi
Ram ERG Moni ACC self'ɔ book return-TR.PFV.F
'Ram returned Moni his/*her book.'

ii) rɑm$_i$ ne moni$_{*j}$ ki c^{h}uri se əpnɑ$_{i/*j}$ gəlɑ kɑʈɑ
Ram ERG Moni GEN knife INS self'ɔ neck cut-TR.PFV
'Ram cut his/*her neck with Moni's knife.'

Interestingly, the -*se* marked arguments in inabilitative passives and causatives can bind the possessive reflexive in Hindi, suggesting that these arguments are in a subject-like position:

8. i) rɑm$_i$ se əpni$_i$ mɑ̃ ko mɑrɑ nəhĩ: gəjɑ
Ram-INS self'ɔ mother ACC kill-PFV not go-PFV
'Ram$_i$ was not able to kill his$_i$ mother.'

ii) ram$_i$ ne moni$_j$ se əpni$_{i/j}$ mã ko mərwaja

Ram ERG Moni INS self's mother ACC kill-CAUS-PFV

'Ram made Moni kill his/her mother.'

However, this position is merely subject-like, and not the subject position per se, given that Hindi pronouns show anti-subject orientation (Gurtu 1985, Mohanan 1990, Srivastava-Dayal 1993, Kidwai 1995, 2000):

9. ram$_i$ ne mili$_j$ ko uske$_{*i/j/k}$ g^{h}ər mẽ mara

Ram ERG Mili ACC his/her house in kill-PFV

'Ram$_i$ killed Mili in his$_{*i/k}$/her$_{j/k}$ house.'

The anti-subject orientation does not hold with the *-se* marked arguments, suggesting that it is not really in the subject position:

10. i) ram$_i$ se uske$_i$ g^{h}ər mẽ g^{h}usa nəhĩ: gəja

Ram-INS his house in enter-PFV not go-PFV

'Ram$_i$ was not able to enter into his$_i$ house.'

ii) sara$_i$ ne moni$_j$ se mili$_k$ ko uske$_{*i/j/k}$ g^{h}ər mẽ mərwaja

Sara ERG Moni INS Mili ACC her house in kill-CAUS-PFV

'Sara$_i$ made Moni$_j$ kill Mili$_k$ in her$_{*i/j/k}$ house.'

Furthermore, neither the causee argument nor the external argument of the inabilitative passive construction is optional in the way that adjuncts are. With causees in particular, *-se* marked arguments are licensed only when causative morphology is present:

11. i)*runa-ne mili-se g^{h}ənʈi bəɟ-a-i

Runa-ERG Mili-INS bell ring-TR-PFV.F

'Runa made Mili ring the bell.'

ii) runɑ-ne mili-se g^{h}ənʈi bəɟ-wɑ-i

Runa-ERG Mili-INS bell ring-CAUS-PFV.F

'Runa made Mili ring the bell.'

This complex of facts indicate that an analysis of Hindi causatives must explain not only the paradigmatic properties of the phenomenon, it must also provide a principled explanation of Case-marking and binding relations in causative (and inabilitative) constructions. Therefore, an analysis of Hindi causative must first begin with an examination of unaccusatives and unergatives.

1.2. Theoretical Preliminaries

Chomsky (1995) explores the properties of the computational component C_{HL} expressed in terms of output conditions and how closely C_{HL} is to minimalist conditions. The three major economy principles, the natural fallout from the minimalist assumptions, are -- Shortest Move, Greed and Procrastinate. Shortest Move restricts the movement of a constituent to the first position of the 'right kind' up from its source position. The principle Procrastinate prefers derivations to hold off on movement until after spell-out, so that the results of such movements do not affect PF. The principle of Greed states that movement is only to satisfy the needs of the moving constituent.

"Morphological features" are the features associated with tense, case and agreement. V, N, and Adj. are fully inflected in the lexicon. Features are ± interpretable. Categorial features and φ-features of noun are +interpretable and others are –interpretable. –interpretable features have to be eliminated for convergence. Failure to eliminate these features prior to an interface at which they are invisible causes the derivation to crash at this interface. So, the core property of C_{HL} is feature checking. Feature checking is reduced to deletion: a checked feature is marked "invisible" at the interface. Feature strength plays a major role in overt manifestation and language variation.

Operation "Select" selects a lexical item LI from the numeration N. Another operation "Merge" takes a pair of syntactic objects (SO_i, SO_j) and replaces them by a new combined syntactic object SO_{ij}. Operation "Move[1]" selects α and raises it, targeting K, where α and K are categories constructed for m one or more lexical items. Move α is replaced by Move F, F a feature because if the underlying idea is that the operation Move is morphology-driven and the requirement being the feature checking, the minimal operation should be to raise the feature F.

Chomsky (2000) in *Minimalist Inquiries (MI)* attempts to refine and solve some of the technical problems that existed in Chomsky (1995). The basic assumptions are as follows:

L (language faculty) is a device that generates expressions EXP and the computation maps Lexical Array LA to < PHON, SEM >, where PHON provides the "instructions" for sensorimotor systems and SEM for systems of thought.[2] It makes a one-time selection of a subset [F] of F. It also includes a one-time operation that assembles elements of [F] in a lexicon Lex, in which lexical items LIs are assembled.

Derivations make a one-time selection of a lexical array LA from Lex, then map LA to Exp, with no recourse to [F] for narrow syntax, simplifying computation far more. LA is selected and at each stage of the derivation, a subset LA_i is extracted, placed in active memory and submitted to the procedure L. When LA_i is exhausted, the computation can either proceed or may return to LA and extract LA_j. The process continues until it terminates.

[1]Operation Move reflects peculiarities of human language, e.g., morphology driven "last resort" properties.

[2]'Sensorimotor' is 'articulatory-perceptual' in *MP* (1995). Chomsky (1998:fn2) points out that 'one obvious error is the restriction to the articulation and auditory perception, plainly incorrect, as the study of sign language has shown. 'Systems of thought' is 'conceptual-intentional systems' in *MP* (1995).

There are three operations which enter into the component of C_{HL}. The first is Merge, which forms complex syntactic objects by taking two elements, combining them and assigning a label to the newly formed object. It takes two syntactic objects (α, β) and forms K (α, β). There can be two kinds of Merge: Set-Merge and Pair-Merge.

12. i) Set-Merge adjoins α and β to form the set {α, β}
    ii) Pair-Merge α and β to form the ordered pair <α, β>.

Set-Merge is a symmetrical operation that has a selector and it is obligatory. On the other hand, Pair-Merge is an asymmetrical operation which has no selector and is optional. Set-Merge has some properties of Agree, a feature F of one of the merged element must be satisfied for the operation to take place."

The second operation is Agree that Agree occurs overtly, without any kind of movement.

13. Agree establishes a relation (agreement, case-checking) between an LI α and a feature F in its search space (i.e. its domain).[3]

Unlike *MP*, where Agree is analyzed in terms of feature movement (Attract) and the concept of matching is not clear, here matching is taken to be identity and Attract is dispensed with. Checking reduces to deletion under matching with an active goal and then, deletion of the uninterpretable feature that render the goal active. Probe seeks a Goal, 'matching' features that establish agreement.

The third operation is Move, combining Merge and Agree. Pure merge is Merge that is not part of Move.

[3]Chomsky (2000:14) speculates that as this operation is language-specific, unlike Merge, it relates to the design conditions for human language.

The core functional categories (CFCs) are C (expressing force/mood), T (tense/event structure) and υ (light verb).

Movement is driven by an EPP-feature. The head of a phase may be assigned an EPP-feature / P(eriphery) feature. Derivation proceeds phase by phase. LA_i determines a natural syntactic object a SO, this is a 'phase'. Phases are propositions, including CP and υP, having full argument structure and φ -feature content. This choice is supported by considerations on the sound side: υPs and CPs, but not TPs can be fronted, extraposed, pseudoclefted, and can serve as response fragments. Phases satisfy a stronger cyclicity condition:

14. "The head of a phase is 'inert' after the phase is completed, triggering no further operations."

So, a phase cannot trigger Merge or Attract in a later phase.

Chomsky (2001) sharpens the idea that features deleted within the cyclic computation remain until the phase level, at which point the whole phase is 'handed over' to the phonological component. The deleted features disappear from the narrow syntax, allowing convergence at LF. So, until Spell-Out of the full syntactic object, uninterpretable features have to remain, because of their phonetic reflexes. Strengthening the notion of cyclic derivation, Chomsky proposes 'Phase-Impenetrability Condition' (P I C):

15. "In phase α with head H, the domain of H is not accessible to operations outside α, but only H and its edge."

Under P I C, accessibility of H and its edge is only up to the next strong phase. Strong phases are targets for movement (i.e. CP/ V*P, having an EPP-feature and full argument structure. Phasal heads that lack an EPP-feature are by definition weak. In unaccusatives, <u>v</u> lacks both an EA and an EPP-feature, hence weak. Local

head movement and successive cyclic A- and A'- movement are allowed, and the phonological component can proceed without checking back to earlier stages. The assumption, here, is that the phonological component spells out elements that undergo no further displacement, e.g.

16. $[_{ZP}\ Z\ldots\ldots[_{HP}\ \alpha\ [\ H\ \ YP\ ]]]$

Here, under P I C, H and its edge α belong to ZP for the purpose of Spell-Out. YP is spelled-out at the level of HP. H and α are spelled-out if they remain in-situ. Otherwise, at the next strong phase ZP, their status is determined. Chomsky proposes the guiding principle for phases PH_i :

17. Interpretation/evaluation for PH_1 is at the next relevant phase PH_2.

So, the effects of Spell-Out are determined at the next higher strong phase: CP or v*P. Therefore, a strong HP allows extraction to its outer edge; the domain of H can be assumed to be inaccessible to the extraction under P I C: an element to be extracted can be raised to the edge, the phonological component spells-out the domain at once, without waiting for the next phase. P I C is restated as:

18. The domain of H, for strong phase HP, is not accessible to operations at ZP, but only H and its edge (where edge is the residue outside of H').

19. $[_{ZP}\ \ Z\ldots\ldots[_{HP}\ \alpha\ [\ H\ \ \ YP\ ]]]$

After completion of HP, if computation L moves on to a stage Σ, it can access only the edge α and the head H of HP. But there is a distinction between Σ=ZP and Σ within ZP. If Z=T, the probe T can access an element of the domain YP of HP. But if Z=C, beyond CP, TP can not be extracted, only the edge of head of TP is accessible for extraction to C.

Chomsky assumes that the operations Agree/Move[4] apply freely. The probe-goal relation is evaluated for the Minimal Link Condition (M L C) at the strong phase level when the outer edge of the phase has become a trace, losing its phonological features.

1.3. Outline of the Thesis

Chapter 2 surveys the existing research on unaccusativity and unergativity. It starts with the early approaches to transitivity, and examines the progression to an articulated VP structure.

Chapter 3 examines notional verb classes in Hindi on the basis of the proposals by Levin & Rappaport Hovav (1995). It examines the behaviour of Hindi intransitives and their transitive and causative uses, and finds that ten verbs classes can be isolated for Hindi - Emission verbs, Verbs of Change of State, Verbs of Motion, Verbs of Spatial Configuration, Verbs of Existence, Appearance & Disappearance,Verbs of Contact / Attachment , Verbs of Bodily Process, Verbs of Consumption, Verbs of Perception and Verbs of Image Impression.

Chapter 4 explores the diagnostics that identify unaccusative and unergative verb classes crosslinguistically. It then applies these diagnostics to Hindi verb classes. Based on these observations, the chapter concludes that most Hindi verbs are unaccusative at the base.

Chapter 5 begins the process of analysing argument structure alternations in Hindi by first considering the passive. Presenting the empirical facts of Hindi regular passive and inabilitative passive, the chapter argues that the *-se* marked argument in the inabilitative passive must be analysed as a structural Case. In the analysis I present, I extend Collins (2005)'s approach to passives to argue that the light verb *jɑ*

[4] Chomsky also reconstrues operation Move as the operation Agree/ Pied-pipe/ Merge, where Agree holds of Probe H, Goal G and Mark identifies H as the head of an occurrence HP of the pied-pipe category K determined by G.

'go' is the Voice head in Hindi regular passives. In (In)abilitative passives, this light verb itself substitutes into Voice with the -*se* marked argument raising to the specifier of an (In)abP head between TP and Voice.

Chapter 6 initiates the movement towards an analysis of the transitive and causative alternation, by taking stock of the existing research on transitivity and causativisation.

Chapter 7 builds on the insights gained from this survey to present my analysis of Hindi causatives. It argues for an argument analysis of the causee providing evidence for a distinction between -*se* marked causees and -*se* marked instruments in Hindi. The analysis I present takes the causative to be a Voice, and analyses the -*se* marked causee as an argument of that Voice head. The chapter concludes with a discussion of the main results of the thesis and its implications for Case and binding in Hindi.

Chapter 2

A REVIEW OF EXISTING RESEARCH

This chapter reviews a sampler of existing research on transitivity and unaccusativity. Section 2.1 is concerned with early approaches to transitivity. Section 2.2 provides an insight into articulated VP structure in detail. Finally, section 2.3 discusses the paradigm shift in the standard approach to transitivity -- the dissociation of transitivity and case assignment. Section 2.4 presents the conclusion.

2.1. Classification of Verbs

Traditionally, verbs have been considered to be of two types – transitive and intransitive, where a transitive predicate is held to express a relation between two arguments, whereas an intransitive one is considered as a one-place predicate.

In *Aspects*, Chomsky (1965) initiates a more structural approach regarding the traditional classification of verbs, by employing the notion of 'subcategorisation' (or c-selection in Pesetsky's 1982 terminology) as a property of individual lexical items. S-selection information is essentially independent of this; however, the lexical entry establishes a mapping between c- and s-selection. Thus, the verb is classified according to the type of VP which the verb heads. For example:

1. i) *put* V : [+ ___ NP PP]
   ii) *try* V: [+ ___ S]
   iii) *run* V: [+ ___]

(1i) shows that *put* is a verb that is subcategorized for a certain context where it has to occur with both an NP and PP. Similarly, (1iii) shows that *run* is a verb that does not take any complement.

Following these proposals, the notions 'transitive' and 'intransitive' get encoded in distributional frames. In other words transitivity comes to be defined in terms of subcategorization, i.e. by the presence or absence of an object.

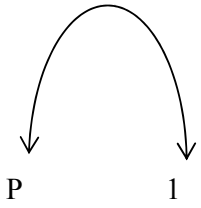
Intransitives are further subjected to internal categorization, as we see in the next subsection.

2.1.1. Classification of Intransitive Verbs: Early Approaches

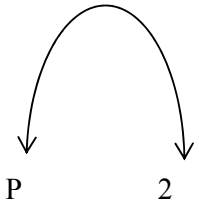
The earliest proposal for the categorization of intransitives is made by Hall (1965) who suggests that there is a subclass of intransitive verbs whose surface subjects are underlying objects.

In Relational Grammar, a distinction is made between verbs that take a final subject originating as an initial direct object and verbs taking a final subject that is also an initial subject. Perlmutter (1978) formulates the Unaccusative Hypothesis (in Relational Grammar) claiming that the class of intransitives consists of two subclasses -- unaccusatives and unergatives.[1] He suggests that the initial stratum of a monadic predicate (P) has either of the following structures:

2. a.



b.



Defining the initial stratum as the level of representation at which the predicate with its nominal dependents with their initial grammatical relations to this predicate is represented, the stratum in (2a) is "unergative" and the stratum in (2b) is "unaccusative." (2a) is the stratum with a subject and (2b) without a subject.

[1]Termed as pure intransitive by Burzio (1986).

However, this is not possible for all strata. There is a "Final-1-law" which requires that each final stratum must contain a subject.[2]

3. The Final-1-law

   The final stratum of every basic clause contains a 1-arc

Perlmutter therefore argues that in order to arrive at the final stratum observing the final-1-law, the initial 2 (direct object) must be advanced to subject. This process is called the "Unaccusative Advancement."

Perlmutter (1978) formulates another law "1-Advancement Exclusiveness Law" which states that only one promotion to subject is allowed within a single clause.

4. 1-Advancement Exclusiveness Law

   In a relational network in which A and B are neighbouring 1-arcs (i.e. 1-archs with the same tail), if A is an advancee arc B is not an advancee arc.

In other words, no clause can involve more than one element becoming a subject. That is, no more than one noun phrase may advance to the subject position.

Both these laws jointly predict that unaccusative verbs will not have a passive. Since analysis of unaccusatives involves the promotion of the initial direct object to subject by the rule of "Unaccusative Advancement" and passive is characterized as a universal rule that promotes the direct object to a subject with the subsequent demotion of the subject to the status of *chomeur*[3] (i.e. the noun phrase that has been demoted from its subject 'job'), passive of an unaccusative will involve two 1-advancements, in violation of the "1-Advancement Exclusiveness Law." Hence, the prediction is correct -- it is not possible for prototypical unaccusatives to have passives. This is true:

[2]Equivalent to EPP in GB theory.
[3]*Chomeur* in French means 'jobless.'

5. *kəl ʈuːʈa gəjɑ ʈ̪^{h}ɑ Hindi
yesterday break-PFV PASS-PFV be-PFV
'*Yesterday(it)was broken.' (cf. Balachandran 1973:46.47)

It should be noted here that the analysis of passive in Relational Grammar poses a problem for the impersonal passive construction where there is not a promotable direct object. But Perlmutter (1978) analyzes impersonal passives in Dutch as involving promotion of the dummy direct object *er*. Hence, impersonal passives of unaccusatives will also violate the "1-Advancement Exclusiveness Law." This prediction is proved correct too:

6. *er werd door het water snel verdampt Dutch
there was by the water very fast evaporated (cf. Perlmutter 1978)

The Unaccusative Hypothesis captures some important generalizations. It has been observed that the participles of unaccusatives and transitives share the same properties. Participles of both unaccusatives and transitives can be used as predicates over nouns only when the noun corresponds to the direct object of the predicate and also when it is the theme of the predicate as (7-8) show:

7. i) the fallen leaf
ii) the frozen ice
iii) the given book
iv) the eaten apple

8. i) *the danced girl
ii) *the slept baby
iii) *the given man
iv) *the eaten boy

The Unaccusative Hypothesis accounts for this difference in terms of the notion of 'initial direct object.' The generalization formed is as follows:

9. Participles can be used as predicates over nouns which correspond to their initial direct object.

Now compare (7iii) & (8iii). *book* in (7iii) corresponds to the initial direct object of the verb *give* but in (8iii), *man* is the initial indirect object, hence the participle can not be used as predicate over noun.

Though the Unaccusative Hypothesis captures a number of generalizations and correctly predicts others (e.g. no passives with unaccusative), serious doubts were cast about the validity of the approach.

Take the "1-Advancement Exclusiveness Law." Perlmutter (1978) does not provide any specific principle that predicts which predicate will select an initial unaccusative stratum, though he does note that the strongest hypothesis would be that "there exist universal principles which predict…….initial unaccusativity. […….]. The basic idea is that initial unaccusativity is predictable from the semantics of the clause." (Perlmutter 1978:161)

Besides this, the status of the laws as well as the status of relational notions remains unclear. How would the notion of unaccusative stratum (i.e. a level of representation that does not contain a subject) be represented in the Phrase Structure grammar? Furthermore, the predictions made by these laws could very well be derived from structural principles, and this is what was attempted by the GB approach.

2.1.2. The LGB Approach

Although Relational Grammar and the GB approach are similar in being derivational accounts, the crucial difference between the two lies in the fact that the GB framework abandons a construction specific approach altogether. Consequently, a

rule for “passive” does not exist in GB, there existing only a general rule of Move α (α = NP in this case). This rule extends to passivisation in that passive morphology suppresses accusative case, triggering the movement of an internal argument to the subject position. The existence of impersonal passives shows that the Relational Grammar approach to passivisation as involving ‘promotion’ is not correct.

Moreover, NP movement is not exclusive to passives, extending to raising and unaccusative predicates as well. In GB, the property of the absence of an initial subject is formalized in terms of a θ'-subject (i.e. a subject to which no θ-role is assigned).The Extended Projection Principle (EPP) requires that there must be a subject position that receives nominative case. Therefore, [Spec, IP] serves as the landing site for the categories that must be moved from Caseless argument positions. Thus, the ultimate subject in unaccusatives originates in object position. Now, given Burzio’s Generalization (1986), it is therefore predicated that an unaccusative internal argument will not receive accusative Case, and that therefore unaccusative internal arguments must always raise to [Spec, IP].

10. If the verb does not assign an external θ-role role, it does not assign Object Case.

An alternative definition of unaccusativity, that is sometimes adopted, is that an unaccusative verb is unable to assign a θ-role to its subject. These formulations replaced the traditional classification of verbs where transitivity was regarded as the property of combining with an NP to form a VP. Now transitivity came to be regarded as the property of having an external θ-role.

11. a) transitive: [$_{V'}$ NP __] intransitive: [$_{V'}$ __]

b) transitive: θ-subject intransitive: θ'-subject

2.2. Arguments and Articulated VP Structure

Following Williams (1981), a distinction came to be made between internal and external arguments of a verb, with Marantz (1984) making further distinction among the internal argument (direct vs. indirect objects). Moreover, as the VP became more articulated with the VP-internal subject hypothesis (Fukui & Speas 1986, Koopman & Sportiche 1991) and later by the introduction of VP-shells (Larson 1988), the earlier formulations of transitives and intransitives could no longer be maintained. Let us look at these developments in more detail.

2.2.1. Marantz (1984)

Distinguishing clearly between internal and external arguments, Marantz (1984) proposes that external arguments are not true arguments of the verb. He notes that objects and verbs may receive non-compositional interpretation, but subjects and verbs never can. This is why there are many verbs that receive idiomatic interpretation depending on the nature of their objects, but no verbs receive an idiomatic interpretation because of the nature of their subjects. Some of his examples are as following:

12. V+ Obj. (Non-compositional interpretation)
    i) kill a bug = cause the bug to croak
    ii) kill a conversation =cause the conversation to end
    iii) kill an evening = while away the time span of the evening
    iv) kill a bottle = empty a bottle

13. Subj.+ V (No non-compositional interpretation)
    i) The policeman threw NP
    ii) The bozer threw NP
    iii) The social director threw NP
    iv) Throw NP

For Marantz (1984), the subject is not an argument of the verb, but an argument of the predicate, hence the verb can not impose selectional restrictions on the subject to the exclusion of the object. He also distinguishes between the two internal arguments of a verb: the direct internal argument, θ-marked directly by the verb and the indirect internal argument, θ-marked by a preposition.

2.2.2. VP-Internal Subjects

Initially in the GB approach, the external argument (i.e. subject) was considered to be generated outside the VP, and the internal arguments were the only arguments dominated by a VP projection. This, however, raised a question as to whether such a distinction between arguments was legitimate, given that they were both arguments of verbs. Moreover, if all phrases were required to have a specifier by X-bar theory, why was VP exempt? Finally, why did [Spec, IP] receive a dual characterization, sometimes as a Case position (in object raising in passives) and sometimes a θ-position (as a base generated position for the external argument)?

Research in the mid 1980s showed that these problems could be overcome if we assume that subjects are base-generated as a specifier in the VP and then raise to the specifier of IP. This is called the VP-internal Subject Hypothesis (VISH) (Fukui & Speas 1986, Kitagawa 1986, Kuroda 1988, Koopman & Sportiche 1991). Now the external argument would be like other arguments of the verb in that it is generated like other arguments in the domain of its θ-licenser. The specifier of the VP now has a function, except that movement masks its effects -- this specifier is always empty because the subject always moves to the specifier of IP for case.

The VISH also allows the specifier of IP to be consistently a case position, as θ-roles now could be assigned only under government by V. Furthermore, such an understanding yields a principled theory of θ-marking, in which arguments are assigned θ-role by merger with a lexical category. Hence, the complement of a verb is θ-marked directly by the verb and its subject is θ-marked by V′.

As a consequence, the unaccusative/unergative distinction can no longer be stated as a specifier-complement asymmetry. Moreover, the conceptions of Case-driven A-movement changed as well. Whereas earlier the single argument of unaccusatives was generated as a D-structure object and moved to an A-position in IP (the position where the subject of unergative was generated), now in both unaccusatives and unergatives, the single argument came to be generated in the VP domain before moving to the functional domain.

2.2.3. VP-shells

Larson (1988) introduces VP-shells where in the lower VP the thematic elements are generated and there is an empty 'shell' of a VP generated on top of the thematic VP. His theory also helps to maintain the binary branching structure[4] for the *to*-dative constructions and double object constructions (DOC) in English. His analysis is based on Baker (1985)'s Uniform Theta Assignment Hypothesis (UTAH):

14. Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure.

Baker (1985:57)

In other words, theta roles are always assigned to the same positions across all structure types. Let us consider the following examples:

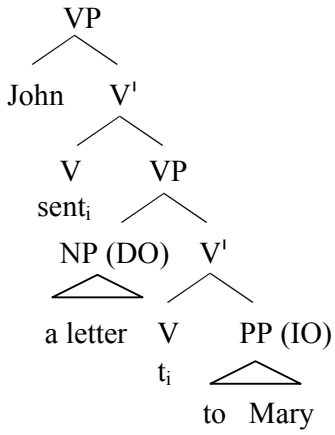
15. i) John sent a letter to Mary
    ii) John sent Mary a letter

In (15i), the theme precedes the goal, whereas in (15ii) the goal precedes the theme. If the UTAH holds, at least one of these surface orders must be derived by movement. Larson (1988) claims that the dative construction (15i) represents the underlying order between the two arguments, with the goal generated as complement of the verb in its underlying position within the inner VP and the theme

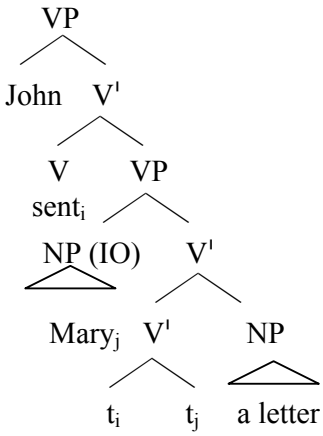
[4]Binary Branching Condition (Kayne 1984): Multiple complements cannot both be sisters to the head.

in the specifier position. The order of the double object construction in (15ii) is derived by a 'passive-like' movement of the goal from complement position to inner VP 'subject' position (i.e. specifier of the inner VP) with the theme being inserted as an adjunct in the inner VP (similar to the agent being inserted in a *by* phrase as an adjunct in passive constructions).The structures for (15 i & ii) are as following:

16. i)



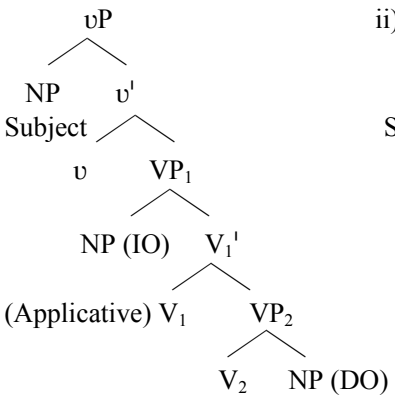
ii)



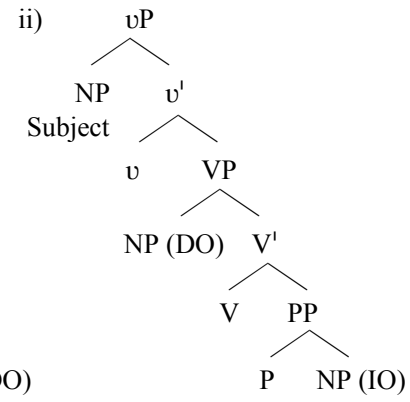
In (16i) above, the DO (theme) asymmetrically c-commands the IO (goal), while in (16ii) the IO (goal) asymmetrically c-commands the DO (theme). But in both the structures, the thematic hierarchy is the same at D-structure level (i.e. the goal is lower than theme).

Marantz (1993) suggests a different D-structure for the DOC (consisting of an applicative head) and a different one for *to*-dative construction (without the applicative head):

17. i)



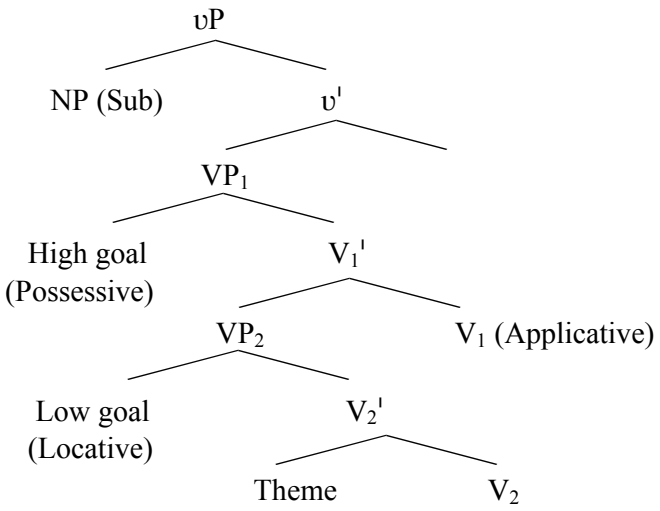
ii)



He argues that this is precisely because the DOC implies a causative interpretation unlike the *to*-dative and the dative argument in the DOC is different from the one in the *to*-dative (in the former it is a possessor and in the later it is a goal).

Based on Larson (1988) and Marantz (1993), Miyagawa & Tsujioka (2004) propose *high goal* and *low goal* positions in Japanese ditransitives. In the DOC, the goal is in *high goal* position and in the *to*-dative, the goal is in *low goal* position. Moreover, the two goals can exist simultaneously.

18.



2.2.4. Hale & Keyser (1993)

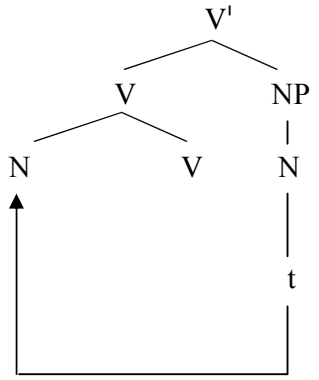
Hale & Keyser (1993) do away completely with the notion of thematic role assignment, and define thematic relations in terms of simple structural configurations. They claim that argument structure is necessarily syntactic "since it is to be identified with the syntactic structures projected by the lexical heads."

Hale & Keyser also modify the VP-shell analysis further, assuming that the specifier of the matrix VP is the thematic position of the external argument. They consider the syntactic relation between the matrix V and the inner VP corresponding uniformly to the "causal relation." The external argument of the matrix verb bears an

unambiguous syntactic relation to it and its semantic connection to the structure is also unambiguous as the "agent."

For Hale & Keyser (1993), the unergative verbs represent the class of denominal verbs derived by *incorporation* (cf. Baker 1988, which I will deal with later). The derivation is as following:

19.

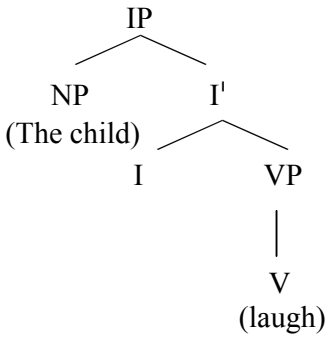


Hale & Keyser further suggest that an unergative verb has no subject in its Lexical Relational Structure (LRS) representation (i.e. the lexical VP), where LRS is the representation in which "each lexical head projects its category to a phrasal level and determines within that projection an ambiguous system of structural relations holding between the head, its categorial projections, and its arguments" (Hale & Keyser 1993:53). This is guaranteed by the principle of Full Interpretation (FI). If the subject is present in LRS of these verbs, it would be uninterpretable as there is no predicate in the complement position of these verbs to "force" the appearance of a subject in the inner VP.

Therefore, the S-structure subject of an unergative verb is a "true external argument" which appears in the Spec position of the functional projection IP to be "assigned the agent role." However, Hale & Keyser assume that this assignment is "constructional" as it is affected in a syntactic configuration defined in s-syntax (i.e., the derivation of s-structure from d-structure). The agent role is assumed to be a

function of s-syntactic predication. This view is in line with Chomsky (1981) and Marantz (1984) where the subject receives its semantic role not from the V but from the VP. Thus, (20) shows the structure of an unergative verb *laugh* that is the result of incorporation of the LRS object *laugh* into the abstract V with the expressed subject external to VP:

20.



What Hale & Keyser intend to show is that there are no linguistic mechanisms that are specific to argument structure. "There is no process of *thematic role assignment*, apart from predication; and there are no *thematic roles* apart from the lexical relations expressed in unambiguous, fully interpreted projections of the elementary lexical categories" (Hale & Keyser 1993:93-94). At the same time, not all subjects are "external" and not all subjects are "agents." Hale & Keyser consider unaccusative verbs[5] as having the property to project both transitive and intransitive s-syntactic verb phrases. When an unaccusative verb projects an intransitive s-syntactic verb phrase, the internal NP moves to subject position [Spec, IP], as we see in examples like those in (21),

21. i) The gravy is thinning nicely
    ii) The cinch finally tightened
    iii) The girth loosened

(Hale & Keyser 1993:82)

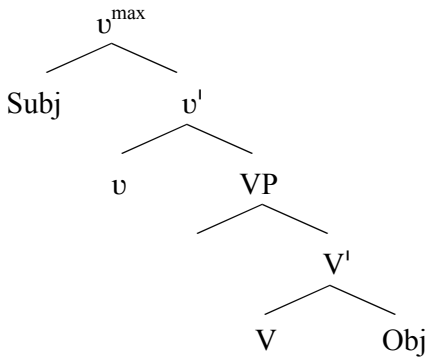
[5] "Ergative" in Burzio 1981, Keyser & Roeper 1984.

For Hale & Keyser (1993), the s-syntactic subject is the argument "internal" to the LRS representation of the verbs in the above examples. They also maintain that this internal subject is the "affected argument."[6] Therefore, the difference between unergatives and unaccusatives lies in the fact that the s-syntactic subject of an unergative is "external" and that of an unaccusative, "internal."

2.2.5. Chomsky (1995)

Chomsky (1995) maintains that if a verb has several internal arguments, a Larsonian shell must be postulated. The structure of the VP-shell in *MP (1995)* is as given below:

22.



Here υ is the light verb to which V raises overtly. The external argument is in the specifier position of υ, internal arguments are in the specifier and complement position of V. Chomsky (1995) assumes that the υ -VP configuration expresses the causative or agentive role of the external argument. So, the transitive verbs would have the structure like above in (22). Retaining Hale & Keyser's proposal that unergatives are hidden/ concealed transitives, Chomsky (1995) suggests that unaccusatives would lack the functional head υ and instead have simple VP structure as they lack agents.

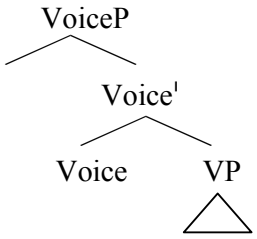
[6]"If the affected argument is an internal subject in l-syntax, …… the semantic notion 'affected' is correlated with a structural position in the l-syntactic representation of verbs" (Hale & Keyser 1993:82)

2.2.6. Kratzer (1996)

Building on Marantz (1984)'s proposal, Kratzer (1996) too assumes that the external argument is not a true argument of the verb. But she raises an important question--how is the external argument projected by the VP if the verb carries no information about the external argument? Kratzer (1996)'s proposal accounts for how external argument is syntactically introduced even though it is not projected by the verb. She proposes that the distinction between external and internal arguments can only be captured through an approach in which external arguments are introduced by a distinct head which she terms 'Voice.'

So, for Kratzer (1996) the external argument is not an argument of the verb; it is introduced/licensed by a separate head 'Voice',[7] a functional head that denotes a thematic relation between the external argument and the event described by the verb. The Voice head combines with the VP by a rule called Event Identification, a conjunction operation that allows one to relate a participant to the event described by the complement of υ . The nature of this thematic relation is generally predictable from the meaning of the VP. The structure of VoiceP is as given below:

23.



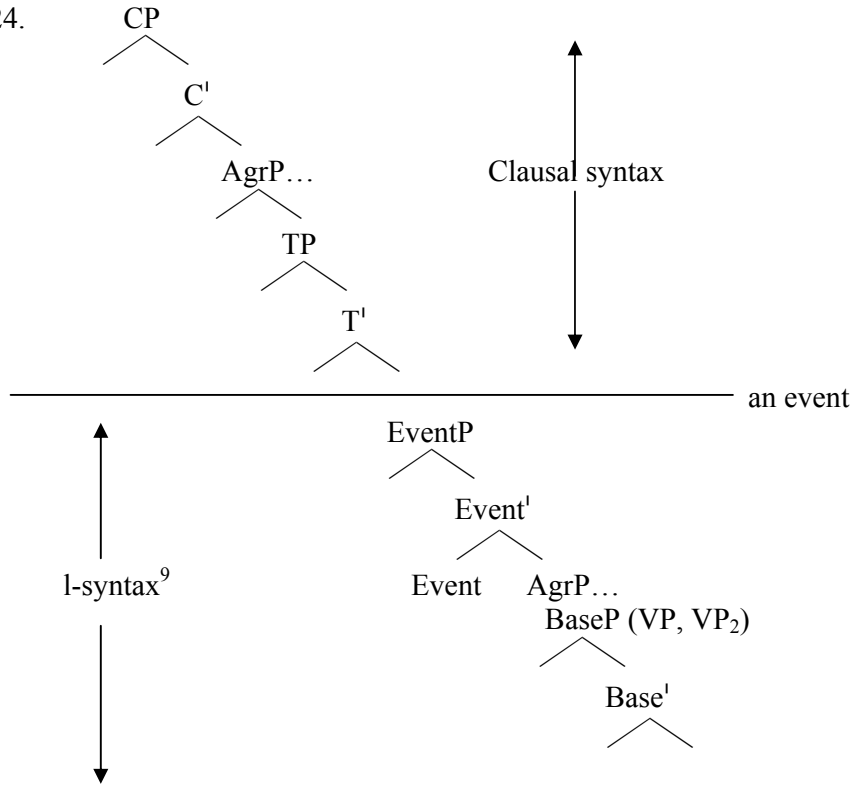
Through this semantic proposal, Kratzer (1996) takes the position that the verb classes can be distinguished syntactically through differences in functional structure. Thus, the presence or absence of the 'Voice' head determines the classification of intransitives into unaccusative or unergative.

[7]For Kratzer, Voice adds an agent/causer when combining with action predicates and an experiencer/possessor when combining with stative predicates.

2.2.7. Harley (1996)

Harley (1996) explores the relationship between the structure of the VP and the argument structure of the verbs. She argues that the VP, when eventive, contains at least two semantically contentful projections:[8]

24.



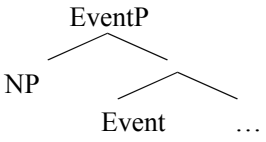
EventP contributes the information of "change of state" to the meaning of a verb and BaseP contributes the information of "Aktionsart" that is not related to the eventiveness of the verb. Specifier of EventP is the position for the initiators of the events (i.e. agent arguments or causers). Internal arguments, the true arguments of the verbal nucleus, or base, appear in the specifier and complement of the lower VP-shell.

[8]This is similar to Chomsky (1995)'s υP-VP, Kratzer (1994)'s VoiceP-VP distinction and Travis (1991) and Koizumi (1993)'s "Split-VP" proposals.

[9]The term "l(exical)-syntax", first proposed by Hale & Keyser (1994), is a syntactic structure that represents the argument structure of the verb and forms part of a verb's lexical entry.

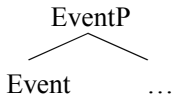
The Event head is interpreted as CAUSE when the event denoted by the head has an argument in its specifier. On the other hand, the Event head is interpreted as BECOME / HAPPEN when there is no argument in its specifier. The structures are as given below:

25. i)



Event= CAUSE

ii)



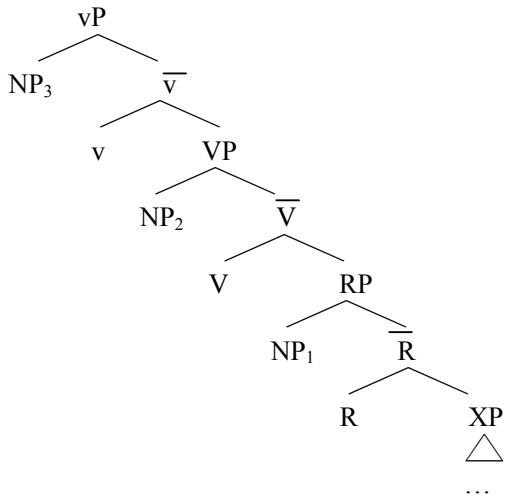
Event=BECOME / HAPPEN

Along these same lines, Collins (1995) proposes that external argument is not generated inside the VP but as the specifier of a functional head Tr (transitivity). In transitives, this head checks accusative case as well as assigns external θ-role to its specifier. In unaccusatives, though this head is present, it neither checks accusative case nor assigns external θ-role.

2.2.8. Ramchand (2003)

Ramchand (2003) extends the articulation of thematic structure further and ties the basic argument relations to a specific kind of event decomposition that includes a causing subevent, a transition and a result state. She argues that these relations are the only ones possible and they are syntactically represented in *first phase syntax*. Thus the verb phrase has the following structure:

26.



In structure (26), vP introduces the causing subevent and licenses external argument that is the subject of the cause. VP specifies the nature of the process or transition and licenses the subject of the process that undergoes transition. RP gives the result state (i.e. telos) and licenses the subject of the result. There are no thematic roles and no θ-criterion in this system. v assigns internal structural case and I (INFL) assigns nominative case.

The approaches examined in this section reflect the standard theory of argument structure where transitivity is dependent on the property of having an external argument. In the next section, we explore a major theoretical shift where transitivity is not contingent on external θ-role.

2.3. Dissociating Transitivity Properties of υ

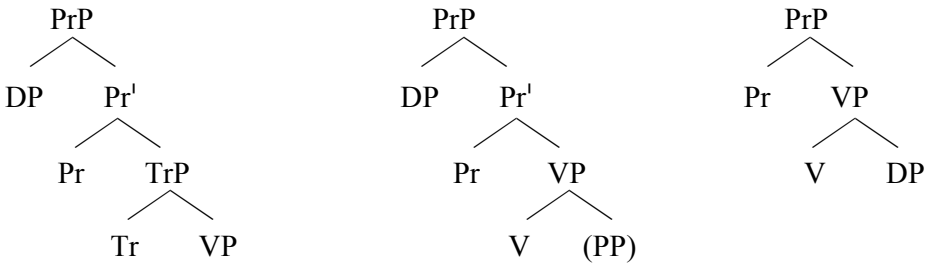
2.3.1. Bowers (2002)

Bowers (2002) argues that transitivity Tr (a term proposed earlier by Collins 1995) is a substantive syntactic category, one of the core functional categories located between υ / Pr and V and is universally present in all transitive sentences (active, passive, middle or impersonal). It may contain a probe with φ-features and assign accusative case. The predication relation is represented by a functional category Pr, a generalization of the light verb υ. Tr is similar to predication in the respect that it also has some irreducible content and in that both are essentially relational categories. While Pr is a relation between two syntactic objects, Tr brings two syntactic objects into a certain specified relation that is not decomposable into these other relations. Tr is different from Pr in that it is not obligatory -- not all sentences display transitivity, whereas all sentences display predication. In other words, υ / Pr assigns a θ-role in its specifier position but Tr does not.

For Bowers (2002), transitives are those verbs where PrP has an external argument in its specifier position and Pr selects a TrP; unergatives are those verbs where PrP has an external argument in its specifier position and Pr selects a VP, and;

unaccusatives are those verbs where there is no external argument in [Spec, PrP] and Pr selects a DP. The structures are as follows:

27. i) Transitive ii) Unergative iii) Unaccusative



Thus, this approach views transitivity as an independent property, not dependent on the property of having an external argument (unlike the standard theory of argument structure). This correctly predicts the existence of impersonal transitives with an expletive subject and intransitive passives in many languages.

2.3.2. Collins (2005)

The dissociation of the two features, Case checking and external θ-role, is further explored in Collins (2005). Collins argues for the existence of a Voice head in passives that checks accusative case, whereas it is υ that assigns external θ-role (*see chapter 5 for detail)*. Based on his analysis of passives, Collins adopts the following condition:

28. Suppose X (v or P) has a Case-checking feature of [μF], then it is possible for [μF] to be dissociated from X, and for [μF] to be added to the numeration as part of the functional head VoiceP.

(Collins 2005:96)

2.3.3. Harley (2007)

Harley (2007) also assumes this dissociation and lays out various implications of VoiceP. She argues that VoiceP explains the existence of v^o morphology coexisting with passive morphology in languages like Japanese and Hiaki where it is clearly evident that external argument is suppressed by change in Voice, not in v^o. English

event nominalizations clearly provide evidence for VoiceP. Harley argues that despite lacking a true external argument, English event nominalizations (e.g. *gratify, deafen, categorize, complicate* etc.) seem to include v^o morphology. For example:

29. i) gra**tifi**cation of desire
    ii) deaf**en**ing of a child
    iii) categor**iz**ation of names
    iv) complic**at**ion of matters

This can only be explained if the external argument is introduced by a VoiceP, not the event-introducing, verbalizing v° head. Other implications of VoiceP include different types of unaccusatives and passives cross-linguistically.

2.4. Conclusion

I have discussed in detail the existing research on transitivity and examined various approaches to it above. In this, I would like to conclude the chapter with a discussion of the general line of attack that this dissertation will pursue.

One of the most important research questions in the history of generative grammar has been the determination of the domains in which Case and theta theory hold/apply as distinct, related or disjoint. The main concern is whether Case is parasitic/derivative of thematic configurations, or whether Case and thematic relations involve different projections/configurations altogether. Although the research tradition has settled for the disassociation approach, it has met with variable degrees of success in achieving a complete severance of the domains in which theta and Case are assigned.

Very briefly, while the LGB framework assumes a disassociation between structural Case and θ-role (at the base structural Case being a configurational property of a formal configuration is disassociated from θ-role), the domain to which Structural case is assigned is configurationally identical to the one in which θ-roles are.

Although the VISH (Fukui & Speas 1986, Kitagawa 1986, Kuroda 1988, Koopman & Sportiche 1991) effects the disassociation of the external argument position ([Spec, VP]) from the one to which structural Nominative ([Spec, IP]) is assigned, structural Accusative and internal Theme theta-roles are assigned to the same position, the NP daughter of the lowest V'.

It is only with the postulation of two Agr elements in IP (Chomsky 1995) -- Agr_S associated with subject agreement and subject Case, and Agr_O with object agreement and object Case (the subject still originating from a VP internal position) – that the disassociation agenda appears to have reached its goal; however, as recent history has shown, with the significant cost of allowing LF-irrelevant functional projections.

Given that syntactic evidence does not support a relocation of internal argument Case to a VP-external position, the disassociation project can only be taken forward by further articulation of the structure internal to the vP/VP, or in more current terms, the verbal phase. This dissertation associates itself with this endeavour, as disassociation allows us to explore and understand argument structure alternations like passives and causatives in a more precise manner.

The existence of regular and (in)abilitative passives of unergatives in Hindi strengthens the need to dissociate Case assignment and θ-role assignment.

30. i) kəl ɖ̪ɔrɑ gəjɑ ʈ̪^{h}ɑ
yesterday run_{unerg}-PFV PASS-PFV be-PFV
'Yesterday (it) was run.'

ii) (rɑm ɖ̪wɑrɑ) hɑʈ̪^{h}i (ko) mɑrɑ gəjɑ
Ram by elephant ACC $kill_{TR}$-PFV PASS-PFV
'The elephant was killed (by Ram).'

iii) rɑm se g^{h}ər mẽ g^{h}usɑ nəhĩ: gəjɑ

Ram-INS house in $enter_{unerg}$-PFV not PASS-PFV

'Ram was not able to enter into the house.'

This data suggests that that accusative Case assignment is not a necessary condition for the application of passive. However, before I move onto a discussion of this in chapter V, it is necessary to appreciate the empirical facts of Hindi unaccusatives, unergatives and transitives that motivate such a disassociation. The next chapters 3 and 4 are devoted to such a study.

Chapter 3

VERB CLASSES IN HINDI

The vocabulary of Hindi language contains mostly *tatsam* (borrowed from Sanskrit and preserved intact) and *tadbhav* (derived from Sanskrit and modified) words. Irrespective of etymology, however, most of the verb roots would end up being listed as intransitives if one were to make reference to morphology alone in decisions about what constitutes the base form of a Hindi verb. Let us look at some examples (see also Hindi Verb Table in the Appendix):

1.

Intransitive	Transitive	Gloss	Root
pisnɑ	piːsnɑ	grind	√ piʃ (Sans.)
kʰuɳnɑ	kʰoɳnɑ	dig	kʃuɳ (Sans.)
luʈnɑ	luːʈnɑ	rob	√ lunʈʰ (Sans.)
mərnɑ	mɑrnɑ	die	√ mri (Sans.)
ɟɑgnɑ	ɟəgɑnɑ	wake up	√ ɟɑgr (Sans.)
suːkʰnɑ	sukʰɑnɑ	dry	√ suːkʰ (Hin)
bʰɑgnɑ	bʰəgɑnɑ	flee	√ bʰɑg (Hin.)

Bhatt & Embick (2004) argue that Hindi has two set of verbs -- the AA-class, where the transitive forms have an overt suffix -*a*, and the NULL-class that is without any overt suffix. In the AA-class, the intransitive form appears to be basic and in the NULL-class, it is the transitive form which is the basic. Let us look at their examples:

2. i) **AA-class**

Intransitive	Transitive	Gloss	Vowels
ɟɑgnɑ	ɟəgɑnɑ	wake up	ɑ/ə
biːɳnɑ	biɳɑnɑ	elapse/cause to elapse	iː/i
suːkʰnɑ	sukʰɑnɑ	dry/cause to dry	uː/u
ronɑ	rulɑnɑ	cry/cause to cry	o/u
leʈnɑ	liʈɑnɑ	lie/lay	e/i

ii) **NULL-class**

Transitive	Intransitive	Gloss	Vowels
mɑrnɑ	mərnɑ	die/kill	ɑ/ə
k^holnɑ	k^hulnɑ	open	i:/i
lu:ʈnɑ	luʈnɑ	be robbed	u:/u
pi:ʈnɑ	piʈnɑ	hit	o/u
g^hernɑ	g^hirnɑ	surround	e/i

(Bhatt & Embick 2004:23)

Bhatt & Embick come to the conclusion that one single rule of Vowel Simplification (shortening of the vowel) operates to derive transititives from intransitives in the AA class and intransitives from transitives in the NULL class. Moreover, there are no diagnostics to show "that the two classes are distinct in any syntactico-semantic way." Without going into the details of their analysis at this point, this suggests that whatever differences there may be in terms of the syntax and semantics of transitivity and intransitivity, Hindi morphology is not a reliable cue when one seeks to determine whether roots are at base transitive or intransitive.

Vajpayee (2045/1987) also argues that the intransitive *silna* is not the root form of the transitive verb *silana* 'to sew.' Consider the following sentence:

3. kəpɽe silt̪e hɛ̃
clothes stitch-HAB be-PRS.PL
'The clothes get stitched.'

In the above sentence 'clothes' cannot get stitched on their own, they need an agent. So, the root form would be the transitive variant *silana* 'to sew.' But it is not so easy to point out the basic variants in all the verbs. Vajpayee (2045/1987) remarks that the transitive verb *marna* is not derived from the intransitive *mərna* 'to die' because in the present tense, *marna* means 'to hit' and not 'to kill.' But in the past tense, *marna* can

mean both ‘to kill’ and ‘to hit.’ So, he argues that *mərna* and *marna* are separate verbs. Similarly, there are verbs that have both transitive and intransitive uses:

4. ɖəbnɑ ‘to get pressed’ ɖɑbnɑ ‘to press’

Here also, according to Vajpayee (2045/1987), both can be separate verbs instead of one being derived from the other.

Therefore, it is clear that arguments from morphology cannot be the basis to decide which form is the derived one and which is the basic. If there is a need to maintain a distinction between these forms, they must be distinguished on a syntactic or a semantic basis. In this chapter, I provide an encyclopaedic semantic classification of Hindi verb classes based on Levin & Rappaport Hovav (1995) that I will subject to further investigation in the next chapter.

3.1. Verb Classes: Levin’s Classification

Levin (1993) and Levin & Rappaport Hovav (1995), henceforth LRH, identify three broad classes of verbs, defined in terms of their lexical semantic representation and associated argument structure. The first class of verbs is the class of verbs that are *externally caused*, which include many verbs of change of state, and are basically dyadic causative verbs. The second class of verbs is the class of verbs that are *internally caused* verbs, and these are monadic in terms of their lexical semantic representation, and unergative in nature. The third class of verbs is the verbs of *existence and appearance*, which are dyadic unaccusative verbs with two internal arguments. Let us consider the three broad classes in detail.

3.1.1. Externally Caused Verbs

The externally caused class of verbs regularly participates in causative alternation:

5. i) Vasily broke the window.
   ii) The window broke.

Here, the subject of the intransitive variant and the object of the transitive variant bear the same semantic role. However, prototypical unergatives '*laugh*', '*play*', '*speak*' do not participate regularly in this alternation in languages like English, French, Italian and Russian:

6. i)The children laughed.
   ii)*The joker laughed the children.

LRH suggest that the alternating unaccusative verbs are basically causative. These verbs have a unique lexical semantic representation associated with both their unaccusative and transitive variants. They propose the following representation for the two types of verbs:

7. i) *break* : [[x DO – SOMETHING] CAUSE [y BECOME BROKEN]]
   ii) *laugh* : [x LAUGH]

A verb like '*break*', on both its transitive and intransitive uses, has a complex Lexical Semantic Representation (LSR) involving the predicate CAUSE. There are two sub-events involved: the *causing sub-event* and the *central sub-event*, the latter specifying the change associated with the verb. The causer argument is associated with the causing sub-event and the passive participant (patient / theme) with the central sub-event. The LSR associated with a non-alternating intransitive verb such as '*laugh*' does not involve the predicate CAUSE -- it has only one sub-event and is taken to be basically monadic.

The above representation of alternating ('*break*') verbs reflects that such verbs are externally caused, as these verbs involve two sub-events. Therefore, externally caused verbs are inherently dyadic predicates, which take both the external cause and passive participant in the eventuality as arguments. The core class of causative alternation verbs are verbs of change of state (describe changes in physical shape or appearance).[1]

It is, however, important to note that only externally caused verbs of motion and verbs of change of state participate in causative alternation. Levin (1993) suggests that there should be no externally caused verbs without a transitive variant. All externally caused verbs have a transitive and causative use, but not all of them have an intransitive use in which the external cause is unspecified. For example:

8. i) Shekharan wrote a new poem.
   ii)* A new poem wrote.

9. i) The girl cut the cake.
   ii)* The cake cut.

In English, many alternating verbs of change of state are deadjectival as those adjectives are used to describe states as shown in (10):

10. i) *open, loose, slim, shut, dry, empty, cool, clear, quiet, dirty,……*
    ii) *lighten, redden, ripen, toughen, tighten, loosen, lengthen, ……*

(B. Levin 1993)

[1]Jespersen (1927) characterised the class of alternating verbs as the 'move and change' class as it also includes verbs of change of state as well as verbs of motion.

3.1.2. Internally Caused Verbs

Internally caused verbs are monadic in terms of their lexical semantic representation. These verbs do not participate in the causative alternation and need not be agentive as they are internally caused. This class of verbs is referred to as 'verbs of emission'.[2] This class is divided into four subclasses:

11. i) Sound: *jingle, whistle, roar, ring, buzz, clank, hum, crackle*,……
    ii) Light: *glow, glitter, sparkle, flash, flicker, gleam, shine,*……..
    iii) Smell: *stink, reek, smell*
    iv) Substance: *ooze, gush, spout, squirt, puff, bubble*,…….

These verbs describe eventualities that are result of internal physical characteristics of their argument. Therefore, the kinds of entities that qualify as arguments of such emission verbs are limited. For example, consider the verb '*glitter*': because only certain substances have the inherent property to glitter, the choice of argument for such a verb is restricted to those substances. These verbs generally have no causative use:

12. i) The diamond sparkled.
    ii)*Mitako sparkled the diamond.

However, some emission verbs are compatible with a dual classification as either internally or externally caused. LRH argue that the transitive and causative uses of emission verbs represent the externally caused option and their intransitive uses represent internally caused option. The externally caused use arises only by direct manipulation of the emitter. For example:

13. i) The doorbell rang.

[2]Perlmutter (1978) describes these verbs as verbs of "[n]on-voluntary emission of stimuli that impinge on the senses".

ii) The postman rang the doorbell.

14. i) The light flashed.
ii) The kid flashed the light.

In addition, there are some verbs of change of state which are internally caused. The changes of state they describe are inherent to the natural course of development of the entities and do not need to be brought about by any kind of external cause. This class includes verbs such as '*flower*', '*bloom*', '*blossom*', '*decay*', '*rust*', '*sprout*', '*swell*' etc. These verbs, too, do not participate in the causative alternation:

15. i) The rose bloomed / blossomed early.
ii)*The gardener bloomed / blossomed the rose early.

Verbs of bodily process are also internally caused and do not participate in the causative alternation:

16. i) Anna coughed.
ii)*Katharine coughed Anna.

Agentive verbs like '*laugh*', '*play*', '*speak*' also do not participate in causative alternation as the property inherent to the argument of the verb which is responsible for bringing the eventuality is the will or volition of the performing the activity.

3.1.3. Verbs of Existence, Appearance and Disappearance

The third class of verbs includes verbs of existence, appearance and disappearance. LRH though agree that these verbs are associated with a theme and a location, they

propose that these verbs are dyadic and take two internal arguments.[3] This class of verbs requires a location argument (even an understood argument). These verbs do not participate in causative alternation:

17. i) A solution exists.
    ii)* The mathematician existed a solution.

18. i) A picture appeared (on the screen)
    ii)* The lady appeared a picture (on the screen).

These verbs are among the prototypical unaccusative verbs of many languages. They are particularly stable in their unaccusativity. For example, in English, these verbs cannot assign accusative case; in Italian, they select the auxiliary *essere* 'be', the auxiliary found with unaccusatives. They are not internally caused. LRH propose that these verbs belong to a class of verbs for which the notion of external and internal causation is irrelevant.

In the following section we identify the verb classes in Hindi.

3.2. Verb Classes in Hindi

Based on LRH (1995)'s classification, Hindi verb classes can be broadly divided into the following ten classes: 1. Emission verbs 2. Verbs of Change of State (includes Verbs of Non-volitional Change of State and Verbs of Change of State) 3. Verbs of Motion (includes Agentive Verbs of Manner of Motion, Verbs of Manner of Motion and Verbs of Inherently Directed Motion) 4. Verbs of Spatial Configuration 5. Verbs of Existence, Appearance & Disappearance 6. Verbs of Contact / Attachment 7. Verbs of

[3]Mulder & Wehrmann (1989) recognise that verbs of existence describe eventualities that involve two participants: a theme (i.e. an entity whose existence is asserted) and a location. They treat these verbs as monadic verbs taking a small clause internal argument containing a theme and a location.

Bodily Process 8. Verbs of Consumption 9. Verbs of Perception 10. Verbs of Image Impression

3.2.1. Emission Verbs in Hindi

Some of these verbs in Hindi are compatible with a dual classification as either internally or externally caused whereas some are only internally caused. The verbs, which are exclusively internally caused, do not have a transitive, causative use. These verbs are *expressives*[4] in Hindi, e.g. kəʈəknɑ‘thunder,’ gurrɑnɑ ‘roar,’ ʈərrɑnɑ ‘croak,’ gungunɑnɑ‘hum,’ fusfusɑnɑ ‘murmur,’ cəmcəmɑnɑ ‘glitter.’ The verbs with the externally caused option have transitive and causative use and involve direct manipulation of the (animate) emitters. Therefore, just as LRH have noted for English, Hindi verbs too have transitive and causative uses of emission verbs that corresponds to the externally caused option, with intransitive uses of such verbs corresponding to the internally caused option as shown in (19):

19. i) g^{h}ənʈi bəɟ-i
bell ring-PFV.F
‘The bell rang.’

ii) runɑ-ne g^{h}ənʈi bəɟ-ɑ-i
Runa-ERG bell ring-TR-PFV.F
‘Runa rang the bell.’

[4]This can be further divided into onomatopoeic expressions and expressives as done in literature since expressives are not sound symbolic in the strict sense whereas onomatopoeic expressions are.
However, onomatopoeic expressions and expressives share the general property that neither of the two halves of the expression is independently meaningful, whereas the base of an echo expression forms a lexical item in its own right, and this is true of both elements of paired words. Therefore, in order to avoid any confusion, I have used the term *expressives* to include both onomatopoeic expressions and expressives, based on Abbi (1992). Asher (1985) refers to both onomatopoeic expressions and expressives as *ideophones*, whilst Gnanasundaram (1972) groups onomatopoeics, expressives and echo expressions together under the general heading of ‘*echo words.*’

iii) runɑ-ne mili-se g^{h}ənʈi bəɟ-wɑ-i

Runa-ERG Mili-INS bell ring-CAUS-PFV.F

'Runa made Mili ring the bell.'

Moreover, transitive and causative uses of these verbs do not permit instruments/natural forces. For example:

20. i) *həwɑ-ne cɑims bəɟ-ɑ-jɑ

wind-ERG chimes ring-TR-PFV

*'Wind rang the chimes.'

ii) * ɑg-ne t̪el kəʈk-ɑ-jɑ

fire-ERG oil boil-TR-PFV

'*Fire boiled the oil.'

3.2.2. Verbs of Change of State[5]

This class of verb can be subdivided into two classes -- Verbs of Non-volitional Change of State and Verbs of Change of State.

Verbs of Non-volitional Change of State (henceforth verbs of NVCS): "The change of state described by these verbs are inherent to the natural course of development of the entities that they are predicated of and do not need to be brought about by an external cause (although occasionally they can be, and in such instances, causative uses of these verbs are found." (LRH 1995:97)

[5]Levin (1993) has further divides this class into subclasses like *break* verbs, *bend* verbs, *cooking* verbs, -*en* verbs, -*ify* verbs, -*ize* verbs, -*ate* verbs etc. As this is only useful for English verbs, I do not pursue this in the text.

Some of the verbs in this class describe a state as well as a change-of-state, e.g. kʰilnɑ ‘bloom.’ Let us consider the following sentences:

21. i) je pʰu:l ek d̪in t̪ək kʰil-ɑ (in a state interpretation)
this flower one day till bloom-PFV
‘This flower bloomed for a day.’

ii) je pʰu:l ek d̪in mẽ kʰil-ɑ (change-of-state interpretation)
this flower one day in bloom-PFV
‘This flower bloomed in a day.’

In (21i) the verb describes being in a state and in (21ii) it has an interpretation of ‘come to bloom’ (i.e. a change-of-state interpretation). These verbs have transitive and causative uses, though the semantics of these uses are slightly different than verbs of other classes. For example, consider (22-23), comparing with example (19ii):

22. məni-ne pʰu:l kʰil-ɑ-jɑ
Mani-ERG flower bloom-TR-PFV
‘Mani made the flower bloom’.

23. *məni-ne is pɔd̪ʰe mẽ pʰu:l kʰil-ɑ-jɑ
Mani-ERG this plant in flower bloom-TR-PFV
‘*Mani made the flower bloom in this plant.’

In (22), the initiator of the causing sub-event, *Mani,* does not directly affect the central event of the flower blooming; rather, he creates conditions favourable for the internally caused event to come about (by planting / watering the shrub etc.). Therefore (23), which requires him to externally cause the natural course of development of the flower,

is unacceptable. Thus, although these verbs do have transitive and causative uses, there are also restrictions, with the transitive and causative use denoting a semantically distinct eventuality.

Other verbs like murɟʰɑnɑ‘wither’, sikuɽnɑ‘shrink’, ə̃kurnɑ‘sprout’, muskurɑnɑ‘smile’, ʃərmɑnɑ ‘blush’, su:ɟnɑ ‘swell’ etc. have only the change-of-state interpretation as (24) shows:

24. i) *je pʰu:l ek d̪in ʈək murɟʰ-ɑjɑ (in-a-state interpretation)
this flower one day till bloom-PFV
‘*This flower bloomed for a day.’

ii) je pʰu:l ek d̪in mẽ murɟʰ-ɑjɑ (change-of-state interpretation)
this flower one day in bloom-PFV
‘This flower bloomed in a day.’

Moreover, these verbs do not have transitive and causative uses[6] unlike verbs like ‘bloom.’

25. *məni-ne pʰu:l murɟʰ-ɑ-jɑ
Mani-ERG flower wither-TR-PFV
‘*Mani withered the flower’.

Verbs of Change of State: These verbs are externally caused[7] change of state verbs unlike NVCS verbs which are internally caused. Some verbs of change of state in Hindi

[6]Smith (1970) explains the lack of transitive and causative uses for these verbs in terms of the presence of *internal control*.
[7]Smith (1970) makes a slightly different proposal. He suggests that these verbs describe eventualities that are under control of some external cause and these have transitive uses where the external cause is expressed as a subject.

are ɡirnɑ 'fall', su:k^{h}nɑ 'dry', ɖu:bnɑ 'sink', ɡəlnɑ 'melt', ɟəmnɑ 'freeze', ʈu:ʈnɑ'break', k^{h}ulnɑ'open' etc. These have transitive and causative uses that differ from the transitive and causative uses of verbs of NVCS verbs in that the eventuality brought out here is direct not indirect:

26. ɟoʃuɑ-ne ɟəhɑɟ ɖub-ɑ-jɑ
Joshua-ERG ship sink-TR-PFV
'Joshua sank the ship.'

Compare the above example (26) with (22). Moreover, note that while in (22), the eventuality of blooming is not directly brought about by *Mani*, in (26) the eventuality of sinking is directly brought about by *Joshua*.

3.2.3. Verbs of Motion in Hindi

Agentive Verbs of Manner of Motion: Reinhart (1991) & Cruse (1972) point out that the "cause" argument in transitive and causative uses of these verbs can only be an agent in true sense, never an instrument or a natural force. This is true in Hindi as (27) shows:

27. i)*həwɑ-ne pət̪əŋg-ko uɽɑjɑ
wind-ERG kite-ACC fly-TR-PFV
'*The wind flew the kite.'

ii)*somi-ne həwɑ-se pət̪əŋg-ko uɽwɑjɑ
Somi-ERG wind-INS kite-ACC fly-TR-PFV
'*Somi made the wind flew the kite.'

In Hindi, directional phrases are not obligatory in the transitive and causative uses of these verbs as they are in languages like English. For example:

28. i)*We ran the mouse
ii) We ran the mouse through the maze

29. i) runɑ-ne cu:he-ko ɖɔɽɑjɑ
Runa-ERG mouse-ACC run-TR-PFV
'Runa ran the mouse.'

Verbs of Manner of Motion: These verbs specify a manner of motion but not direction, inherently involving a kind of change which is not directed. In Hindi, most of these verbs have transitive and causative uses:

30. i) cəkkɑ g^hu:m rəhɑ hɛ
wheel rotate PROG be-PRS
'The wheel is rotating.'

ii) somi cəkkɑ g^hum-ɑ rəhɑ hɛ
Somi wheel rotate-TR PROG be-PRS
'Somi is rotating the wheel.'

ii) somi runɑ-se cəkkɑ g^hum-wɑ rəhɑ hɛ
Somi Runa-INS wheel rotate-CAUS PROG be-PRS
'Somi is making Runa rotate the wheel.'

Verbs of Inherently Directed Motion: These verbs are achievement verbs, as they specify an achieved end point in terms of direction. Dowty (1991) argues that in the

verbs, it is the path argument, not the theme, that is the incremental theme.[8] Like other verbs of motion, these also have transitive and causative uses in Hindi:

31. i) mili pəhaʈ pər cəʈʰi
Mili mountain up climb-PFV.F
'Mili climbed up the mountain.'

ii) ʃerpɑ-ne mili-ko pəhaʈ pər cəʈʰ-ɑ-jɑ
Sherpa-ERG Mili-ACC mountain up climb-TR-PFV
'Sherpa made Mili climb up the mountain.'

iii) ɟoʃuɑ-ne ʃerpɑ-se mili-ko pəhaʈ pər cəʈʰ-wɑ-jɑ
Joshua-ERG Sherpa-INS Mili-ACC mountain up climb-TR-PFV
'Joshua made Sherpa make Mili climb up the mountain.'

3.2.4. Verbs of Spatial Configuration

These verbs specify the position of an entity that bears a particular spatial configuration with respect to that position. LRH suggest that languages associate up to three types of non-causative meanings and one type of causative meaning with a particular spatial configuration of these verbs. The first is "maintained position", the second is "assumed position" and the third is "simple position." For example:

32. i) Yvonne stood alone (in the hallway) for six hours.
ii) Yvonne stood up.
iii) The picture is hanging on the wall. (Levin & Rappaport Hovav 1995:127)

[8]The argument of certain predicates involved in defining homomorphism from its own physical extent to the temporal progress of the event it participates in (Rappaport Hovav & Levin 2002).

In Hindi, unlike in English, the locative phrase is not obligatory in the "simple position" sense (though the Ground on which the entity is located is implicit):

33. t̪əswi:r (d̪i:wɑr pər) ləʈək rəhi hɛ
picture wall on hang PROG be-PRS
'The picture is hanging (on the wall).'

In Hindi, these verbs also have transitive and causative uses:

34. i) bənd̪ər-ne ɖɑli ɟʰuk-ɑ-i
monkey-ERG twig bend-TR-PFV.F
'The monkey bent the twig.'

ii) mili-ne runɑ-se ɖɑli ɟʰuk-wɑ-i
Mili-ERG Runa-INS twig bend-CAUS-PFV.F
'Mili made Runa bent the twig.'

3.2.5. Verbs of Existence, Appearance & Disappearance

Mulder & Wehrmann (1989) define verbs of existence as verbs describing eventualities that involve two participants: a theme (i.e. an entity whose existence is asserted) and a location. Verbs of existence and verbs of appearance are semantically related. Kimball (1973:267) states, "The concept of existence is… formed semantically (grammaticality) as perfective of coming into being." Verbs of disappearance are the verbs of coming not to exist.

LRH observe that for this class of verbs external and internal causation are apparently not relevant. In Hindi as well, these verbs lack transitive and causative variants, as (35) shows:

35. i) wo is gʰər mẽ rəhṯa ṯʰa
he this house in live-HAB be-PST
'He lived in this house.'

ii)*runɑ-ne mili-ko is gʰər mẽ rəh-ɑ-jɑ
Runa-ERG Mili-ACC this house in live-TR-PFV
*'Runa made Mili live in this house.'

3.2.6. Verbs of Contact / Attachment

These are accomplishment verbs (consisting of a process and a result state). With these verbs, the result state describes the attained location of some physical object. In Hindi, these verbs do have transitive and causative variants:

36. i) wɑhiḏ-ne posʈər cipk-ɑ-jɑ
Wahid-ERG poster paste-TR-PFV
'Wahid pasted the poster.'

ii) wɑhiḏ-ne runɑ-se posʈər cipək-wɑ-jɑ
Wahid-ERG Runa-INS poster paste-CAUS-PFV
'Wahid made Runa paste the poster.'

3.2.7. Verbs of Bodily Process

LRH suggest that these verbs are internally caused; hence they do not have transitive and causative uses. There are few instances of transitive and causative uses of these verbs which they term as "spurious", i.e. the causative variant is not derivationally related. Smith (1990) points out that the choices of objects for transitive use of these verbs are very limited. For example:

37. i) The baby burped.
ii) The nurse burped the baby.
iii) The doctor burped.
iv)*The nurse burped the doctor. (Smith 1990:107)

These verbs are denominal verbs (see Clark and Clark 1979), also called conflation (Talmy 1985) verbs, a term used to refer to the derivation of nominal verbs. Hale & Keyser (1993) argue that these verbs are formed by *incorporation*.[9] These verbs have initially an abstract V with a nominal complement. Thus, they are similar to verbs like *make* (make a trouble), *do* (do a dance) etc., but here, the nominal complement gets incorporated into the abstract V in these denominal verbs. In Hindi, these verbs form causatives but not transitives. This is explained by the fact that they contain a complement in their strucuture (e.g., *spit a spit*, *sneeze a sneeze* etc.):

38. i) romɑnov (t̪ʰu:k) t̪ʰu:kt̪ɑ hɛ
Romanov spit-HAB be-PRS
'Romanov spits (a spit).'

ii) iljɑ romɑnov-ko t̪ʰukɑt̪ɑ hɛ
Ilya Romanov-ACC spit-TR-HAB be-PRS
'Ilya causes Romanov to spit.'

iii) iljɑ romɑnov-ko t̪ʰukwɑt̪ɑ hɛ
Ilya Romanov ACC spit-CAUS -HAB be-PRS
'Ilya causes Romanov to spit.'

[9]See Baker (1988) for theoretical details of incorporation process.

3.2.8. Verbs of Consumption

These are transitive verbs that describe atelic (nondelimited) activities, i.e. which does not include a goal, aim or conclusion. These are also incremental theme verbs. In Hindi, they have ditransitive and causative variants:

39. i) mɑ̃-ne bəcce-ko p^{h}əl k^{h}il-ɑ-jɑ
mother-ERG child-ACC fruit eat-TR-PFV
'Mother fed fruit to the child.'

ii) mɑ̃-ne nɔkər-se bəcce-ko p^{h}əl k^{h}il-wɑ-jɑ
mother-ERG servant-INS child-ACC fruit eat-CAUS-PFV
'Mother made the servant feed food to the child.'

3.2.9. Verbs of Perception

According to LRH (1995), these verbs, in their active use, describe the act of perceiving a state or an event. Frequently, the state asserts the existence of a physical object at some location. In Hindi, these verbs are transitive and form ditransitives and causative variants:

40. i) d̪id̪i somi-ko gɑnɑ sun-ɑ-ʈi hɛ
sister Somi-ACC song listen-TR-HAB.F be-PRS
'Sister makes Somi listen to the song.

ii) d̪id̪i mili-se somi-ko gɑnɑ sun-wɑ-ʈi hɛ
sister Mili-INS Somi-ACC song listen-CAUS-HAB.F be-PRS
'Sister makes Somi listen to the song.

3.2.10. Verbs of Image Impression

These verbs are also transitive and have causative variants too along with forming ditransitives. For example:

41. i) ɟoʃuɑ-ne somi-ko hisɑb pəʈʰ-ɑ-jɑ
Joshua-ERG Somi-ACC maths read-TR-PFV
'Joshua taught Somi maths.'

ii) ɟoʃuɑ-ne mɑsʈər-se somi-ko hisɑb pəʈʰ-wɑ-jɑ
Joshua-ERG teacher-INS Somi-ACC maths read-CAUS-PFV
'Joshua made the teacher teach Somi maths.'

3.3. Conclusion

This chapter provides the base for semantico-syntactic investigation of Hindi verbs and their argument structure. Although Hindi exhibits the same classes as those detailed for English by LRH, there are also significant differences between the two languages. While in English, only externally caused verbs participate in the transitive/causative alternation, in Hindi, all externally caused verbs, and many internally caused verbs have both transitive, ditransitive and morphological causatives. This can be seen by a comparison of the verb classes we have isolated for both Hindi and English.

VERBS OF	***ENGLISH***	***HINDI***
Emission	Have a transitive use	Have a transitive as well as causative use.
Change of State	Have a transitive use	Have a transitive as well as causative use.
Agentive Manner of Motion	Have a transitive use but that obligatorily requires a directional phrase	Have a transitive as well as a causative use but a directional phrase not required
Manner of Motion	Have a transitive use	Have a transitive as well as a causative use.

Inherently Directed Motion	Do not have a transitive use.	Have a transitive as well as a causative use.
Spatial Configuration	Have a transitive use.	Have a transitive as well as a causative use.
Existence, Appearance & Disappearance	Do not have a transitive use.	Do not have a transitive or a causative use.
Contact / Attachment	Have a transitive use.	Have a transitive as well as causative use.

The next chapter identifies the diagnostics for unaccusative, unergative and transitive verb classes and applies these diagnostics to the Hindi verb classes.

Chapter 4

UNACCUSATIVE AND UNERGATIVE DIAGNOSTICS

This chapter explores the diagnostics that identify unaccusative, unergative and transitive verb classes. Section 4.1 deals with crosslinguistic unaccusative diagnostics. In section 4.2 we turn to their Hindi counterparts. Section 4.3 applies these diagnostics to Hindi verb classes. Section 4.5 examines the implications the results of these diagnostics have for Hindi argument structure and clausal relations.

4.1. Unaccusatives vs. Unergatives: Diagnostics

The diagnostics for the unaccusative / unergative distinction tend to yield different results in different languages. It is also debatable exactly what these diagnostics identify -- a syntactic difference between the two classes or a semantic distinction between two predicates. LRH argue that only those diagnostics that reveal syntactic differences between unaccusatives and unergatives, are *actual* unaccusative diagnostics. In other words, a convincing unaccusative diagnostic must test for a syntactic property "whose explanation is tied to the unaccusative syntactic configuration" (Levin & Rappaport Hovav 1995: 16) because unaccusativity is essentially a *syntactic* property, even as it is also semantically predictable.

Perlmutter (1978) proposes that verbs of change of state are unaccusative while agentive verbs are unergative. However, Chierchia (1989) suggests that unaccusative verbs are derived from basically dyadic verbs while unergative verbs are basically monadic. He points out that unaccusative verbs 'tend to oscillate in valence from transitive to intransitive and vice versa, both diachronically and across dialects'. For example, the Italian verb *crescere* 'grow' is only transitive in standard Italian, but there are dialects where it has a transitive and causative use also with the meaning 'raise (children)'. This is not expected of unergative verbs.

Some of the diagnostics[1] used for in various languages are as following-

A. Verbs that regularly participate in causative alternations are usually unaccusatives:

1. i) Vasily broke the window. English
   ii) The window broke.
   iii) Vasily laughed.
   iv)*Vasily laughed the little girl.

B. Verbs that fail to passivize are usually unaccusatives:

2. Personal Passive
   i)*kəl ʈuːʈɑ gəjɑ ʈ̪^{h}ɑ Hindi
   yesterday break$_{unacc}$-PFV PASS-PFV be-PST
   '*Yesterday (it) was broken.' (Balachandran 1973:46.47)

   ii) kəl ɖ̪ɔrɑ gəjɑ ʈ̪^{h}ɑ
   yesterday run$_{unerg}$- PFV PASS-PFV be-PST
   'Yesterday (it) was run.'

   Impersonal Passive
   iii)*baruda öl-ün-ür Turkish
   here die$_{unacc}$-PASS- PRES
   '*Here it is died

   iv) baruda çaliş̧-il-ir
   here work$_{unerg}$- PASS- PRES
   'Here it is worked.' (Wikipedia)

[1]We can also find in literature the notion of *deep* and *surface* unaccusative diagnostics. *Surface* unaccusative diagnostics apply only when the argument of an unaccusative verb is in its deep-structure position, whereas *deep* unaccusative diagnostics apply where the surface position of the argument is irrelevant (see L & R 1995, Bresnan & Zaenan 1990).

Pseudo-passive

v)*The bed was shrunk in by Doll man. English

vi) The bed was slept in by the Shah. (Bruening 2002)

C. Verbs that fail to take cognate objects are unaccusatives:

3. i)John laughed a hearty laugh. English

ii)*John arrived an arrival.

D. Use of *be* marks unaccusativity in languages using two auxiliary verbs (*have*, *be*) in compound past tense:

4. i) molte ragazze sono arrivate *(be)* Italian

many girls are arrived$_{unacc}$.3pl.

'Many girls have arrived.'

ii) molte ragazze hanno telefonato *(have)*

many girls have phoned $_{unerg}$.3sg

'Many girls have phoned.' (Linguist 601, 2006:17)

E. Unaccusatives permit *ne*-cliticization in Italian but unergatives do not:

5. i) ne arrivano molti Italian

of-them arrive$_{unacc}$ many

'Many of them will arrive.'

ii)*ne telefonano molti

of-them telephone$_{unerg}$ many

'Many of them call.' (Burzio 1986)

F. Incorporation can be possible only out of subjects of unaccusatives but not out of subjects of unergatives:

6. Non-incorporated Onondaga

i) ka- hi- hw- i ne?o-**hsahe?t**-a?
3N-spill$_{unacc}$-caus-Asp the-PRE-bean-SUF
'The beans spilt.'

Incorporated

ii) ka- **hsahe?t-** ahi- hw- i
3N-beans- spill$_{unacc}$-caus-Asp
'The beans spilt.'

Non-incorporated

iii) h- ate- ?se:- ? ne?o-**tsi?kt**-a?
3MS-Refl-crawl$_{unerg}$ -Asp the-PRE-louse-SUF
'The louse crawls.'

Incorporated

iv)*h- ate- **tsi?kti**- ?se:- ?
3MS-Refl-louse-crawl$_{unerg}$-Asp (Baker 1988:87-89)

G. Unaccusatives can appear in resultative constructions but unergatives cannot:

7. i) The river froze solid.
ii) The bottle broke open.
iii)*Dora shouted hoarse.
iv)*My mistress grumbled calm. (Levin & Rappaport 1995)

H. A possessor dative can only associate with subjects of unaccusatives but not with subjects of unergatives:

8. i) le-mi ha-mitriya nafla Hebrew
to-who the-umbrella $fell_{unacc}$
'Whose umbrella fell?'

ii)*le-mi ha-xatulim yilelu
to-who the-cats $whined_{unerg}$
'*Whose cats whined?' (Borer & Grodzinsky 1986)

I. The perfective participle of an unaccusative, unlike of an unergative, can be used as a reduced relative:

9. i) The frozen chocolate.

ii)*The swum man.

These unaccusative diagnostics depend either on the absence of an external thematic role or on the movement from an internal argument position to the subject position. However, there do exist some irregularities as far as these diagnostics are concerned. These diagnostics are not valid cross linguistically. As Rosen (1984) argues, unaccusativity is not really predictable: "There is no *single* criterion that decides universally/within a single language whether a mono-argument verb is unaccusative or unergative." She cautions, "We need not expect a *single* diagnostic to do all the work" because then it would be difficult to accumulate the evidence for the hypothesis that unaccusativity is syntactic. L & R (1995) also point out that we should not expect all unaccusative verbs to test positive to all unaccusative diagnostics because "an unaccusative classification is often a necessary, but not a sufficient, condition for a verb to test positive with respect to certain unaccusative diagnostics."

With this note of caution in mind, let us turn to a consideration of possible diagnostics for unaccusatives in Hindi.

4.2. Unaccusative Diagnostics in Hindi

Most of the following unaccusative diagnostics are taken from Bhatt (2003).

A. Unaccusative verbs cannot be passivized: Unaccusatives do not appear in passive constructions because passivization deletes the 'logical' subject argument. Given that unaccusatives are defined as a class that lacks a logical subject argument, they are expected to be insensitive to passivization as shown in (10):

10. i) ʃi:ʃɑ kəl ʈu:ʈɑ ʈ̪^{h}ɑ Active
glass yesterday break$_{unacc}$-PFV be-PST
'The glass broke yesterday.'

ii)*kəl ʈu:ʈɑ gəjɑ ʈ̪^{h}ɑ Passive
yesterday break$_{unacc}$-PFV PASS-PFV be-PST
'*Yesterday (it) was broken.' (Balachandran 1973:46.47)

However, unergatives can appear in passive constructions:

11. kəl ɖ̪ɔrɑ gəjɑ ʈ̪^{h}ɑ Passive
yesterday run$_{unerg}$- PFV PASS-PFV be-PST
'Yesterday (it) was run.'

B. Unaccusative verbs do not allow for inabilitative passive[2] constructions: Passives in Hindi can also appear in *inabilitative* construction that has an additional modal meaning of 'someone lacking certain ability.' Unaccusatives do not appear in the inabilitative passive construction. Unergatives, on the other hand, like transitives, can appear in the inabilitative passives. For example:

12. i) ci:ni: pɑni mẽ gʰulʈ̪i hɛ (Basic Unaccusative)
sugar water in dissolve$_{unacc}$-HAB.F be.PRS
'Sugar dissolves in water.'

[2]Also termed as 'capabilitative passive' (Balachandran 1973), 'passive of incapacity' (Hook 1979), 'inability passive' (Davison 1982), 'capacity passive' (Rosen & Wali 1989).

ii)* ci:ni:-se pɑni mẽ g^{h}ulɑ nəhĩ: gəjɑ (Inabilitative Passive)
sugar- INS water in dissolve$_{unacc}$-PFV NEG PASS-PFV
'Sugar was not able to dissolve (itself).'

iii) ɟoʃuɑ cəl rəhɑ hɛ (Basic Unergative)
Joshua walk$_{unerg}$ prog. be.PRS
'Joshua is walking.'

iv) ɟoʃuɑ-se cəlɑ nəhĩ: gəjɑ (Inabilitative Passive)
Joshua-INS walk$_{unerg}$-PFV NEG PASS-PFV
'Joshua was not able to walk.'

C. Unaccusative verbs do not take cognate objects: This is because the D-structure object position of a transitive or unaccusative is already filled with a complement argument and is thus unavailable for taking a cognate object. However, unergatives do not take complements at the D-structure and the position is thus available for taking a cognate object[3] (Massam 1990). In other words, as cognate objects are taken to be direct internal arguments,[4] unaccusatives cannot take cognate objects; but unergatives can, as (13) shows:

13. i)* ɑis kri:m əcc^{h}i ɟəmɑv ɟəmi
Ice cream good freezing freeze$_{unacc}$-PFV.F
*'Ice cream froze a good freezing.'

ii) rɑvəɳ b^{h}əjɑnək hə̃si hə̃sɑ
Ravan horrifying laugh laugh $_{uerg}$-PFV
'Ravan laughed a horrifying laugh.'

[3]Hale & Keyser (1993) analyze unergative verbs are always associated with an abstract cognate object.
[4]Hale & Keyser (1987,1993), Macfarland (1995), Massam (1990).

iii) mihir ek ɖərɖnɑk mɔʈ mərɑ

Mihir one painful death die_{unerg}-PFV

'Mihir died a very painful death.'

D. Unaccusatives do not allow ergative subjects: Hindi is an example of split ergativity where the ergative Case is restricted to the perfective aspect. Unaccusatives in Hindi never allow ergative subjects but unergatives do, though marginally:

14. i)*ɟəhɑɟ-ne du:bɑ

ship-ERG $sink_{unacc}$-PFV

'The ship sank.'

ii) mili-ne zor-se $c^hĩ:kɑ$

Mili-ERG force-with $sneeze_{unerg}$-PFV

'Mili sneezed forcefully.'

E. Light verb selectional restrictions: It has been observed in Hindi that not every light verb combines with every main verb (See Butt 2003). Unaccusative 'go' (*ɟana*) can only combine with unaccusatives. Transitive 'take (i.e. self-benefactive)' (*lena*) combines with most transitives and unergatives, but unaccusatives do not. For example:

15. i) bərf ɑsɑni-se gəl ɟaʈɑ hɛ

ice easy-INS $melt_{unac}$ go-PFV be-PRS.SG

'Ice melts easily (completely).'

ii)*bərf ɑsɑni-se gəl leʈɑ hɛ

ice easy- INS $melt_{unac}$ take-PFV be-PRS.SG

'*Ice (is able to) melt easily.'

iii) ru:nɑ əcc^{h}ɑ nɑc leṯ̪i hɛ

Runa well dance $_{unerg}$ take-PFV.F be-PRS.SG

'Runa dances well (is able to).'

iv)*ru:nɑ əcc^{h}ɑ nɑc ɟɑṯ̪i hɛ

Runa well dance $_{unerg}$ go-PFV.F be-PRS.SG

'Runa dances well (is able to).'

F. The perfective participle of unaccusatives can be used as a reduced relative: Reduced relatives represent one environment where a participle can occur without an auxiliary. These constructions supply another syntactic context that distinguishes between external and internal arguments. Reduced relatives with the perfective participle do not allow predicates with an external argument.[5] Hence, the predicate can be a passive or an unaccusative, but not an unergative one.[6] In Hindi too, the perfective participle of an unaccusative, unlike unergative, can be used as a reduced relative:

16. i) kɑʈɑ gəjɑ peʈ

cut-PFV PASS-PFV tree

'The cut tree.'

ii) ɟəmi hui cɔkleʈ

freeze$_{unacc}$-PFV be-PFV chocolate

'The frozen chocolate.'

iii) *ṯ̪ɛrɑ huɑ ɑḏ̪mi

swim$_{unerg.}$-PFV be-PFV man

*'The swum man.'

[5]In auxiliary-selection languages (e.g., Italian), reduced relatives containing perfect participles are possible with verbs whose participles in the perfect combine with 'be' (supposedly unaccusatives) but impossible with verbs whose participle combines with 'have' (supposedly transitives and unergatives; Burzio 1981, 1986).

[6]See Siloni (1995, 1997).

G. The imperfective participles of unaccusatives can occur with or without the genitive marker on the agent:[7] The participles of unaccusatives in Hindi can occur both with as well as without the genitive marker *ke.* Unergatives, on the other hand, cannot occur without the genitive marker. For example:

17. i) [dʰu:p (ke) nikəl̪te hi], cəmgaɖ̪əɽ bʰag gəe
sun GEN appear-PRS.PTCP EMP bat go away go-PFV.PL
'Bats went away as soon as the sun appeared.'

ii) [miku */ ke muskuraṭ̪e hi], bəcca bhi mukuraja
Miku GEN smile-PRS.PTCP EMP child also smile-PFV
'As soon as Miku smiled, the child also smiled.'

4.3. Diagnosing Hindi Verb Classes

We now evaluate these diagnostics vis-à-vis the broad classes in Hindi.

4.3.1. Verbs of Emission

With respect to passivization, most emission verbs in Hindi do not appear in passive constructions:

18. i)*kəl cəmka gəja ṯ̪ʰa
yesterday shine-PFV PASS-PFV be-PST
'*Yesterday (it) had been shone.'

ii)*juŋgəl mẽ gurraja gəja ṯ̪ʰa
jungle in roar-PFV PASS-PFV be-PST
'*In jungle,(it) had been roared.'

[7]Rajesh Bhatt. p.c.

Most emission verbs do not allow for inabilitative passives:

19. i) *ʈ̪arõ-se cəmkɑ nəhĩ: gəjɑ
star.PL-INS shine-PFV NEG PASS-PFV
'*The stars were not able to shine (themselves).'

However, emission verbs that involve direct control of an animate emitter, allow inabilitative passives:

ii) ʃer-se gurrɑjɑ nəhĩ: gəjɑ
lion-INS roar-PFV NEG PASS-PFV
'The lion was not able to roar.'

Emission verbs in Hindi do not accept cognate objects:

20. *je ʈ̪ɑrɑ zor se cəmək cəməkʈ̪ɑ hɛ
this star bright shine shine-HAB be-PRS
'*This star shines a bright shine.'

Most emission verbs in Hindi do not allow for ergative subjects:

21. i)*ʃer-ne gurrɑjɑ
Lion-ERG roar-PFV
'The lion roared.'

ii)*ʈ̪ɑre-ne cəmkɑ
star-ERG shine-PFV
'The star shined.'

Most emission verbs in Hindi easily combine with the light verb *ɟana* 'go' but not with *lena* 'take':

22. i) pɛsɑ kʰənək ɟɑʈɑ / *leʈɑ hɛ

coin clink go-PFV take-PFV be-PRS

'The coin clinks (completely) / *is able to clink.'

ii) ʃi:ʃɑ cəmək ɟɑʈɑ / *leʈɑ hɛ

glass shine go-PFV take-PFV be-PRS

'The glass shines (completely) / *is able to shine.'

iii) kuʈʈɑ ʈʰərʈʰərɑ ɟɑʈɑ / *leʈɑ hɛ

dog shiver go-PFV take-PFV be-PRS

'The dog shivers (completely) / *is able to shiver.'

iv) ɖʰol bəɟ ɟɑʈɑ / *leʈɑ hɛ

drum sound go-PFV take-PFV be-PRS

'The drum sounds (completely) / *is able to sound.'

v) ʈel cu: ɟɑʈɑ / *leʈɑ hɛ

oil drip go-PFV take-PFV be-PRS

'Oil drips (completely) / *is able to drip.'

The perfective participle of emission verbs in Hindi cannot be used as a reduced relative:

23. i)*cəmkɑ huɑ ʈɑrɑ

shine-PFV be-PFV star

'*The shone star.'

ii)*gurrɑjɑ huɑ ʃer

roar-PFV be-PFV lion

'*The roared lion.'

The imperfective participles of most of Hindi emission verbs can occur without the genitive marker on the agent:

24. i) [bɑd̪əl (ke) gərəɟ̪te hi] vɑnjɑ ɖ̪ər gəi
cloud GEN thuder-PRS.PTCP EMP Vanya scare go-PFV.F
'Vanya got scared as soon as clouds thundered.'

But with an animate subject, the participle cannot occur without the genitive marker on the agent:

ii) [ʃer * / ke gurrɑ̪te hi] bənd̪ər $b^hɑg$ gəjɑ
lion GEN roar-PRS.PTCP EMP monkey go away go-PFV
'The monkey went away as soon as the lion roared.'

Unlike English, Dutch, Italian and other languages,[8] emission verbs in Hindi are unaccusatives according to most of the unaccusatives diagnostics, except for one: the use of a perfective participle as a reduced relative. Although this diagnostic uniformly identifies unergative behaviour, the emission verbs actually show mixed results. As mentioned, animacy conditions this behaviour: with inanimate arguemnts, emission verbs behave as unaccusatives, but with animates, they pattern with unergatives.

4.3.2. Verbs of Non-volitional Change of State

Verbs of non-volitional change of state (NVCS) do not allow passives:

25. i)*kəl $k^hilɑ$ gəjɑ $ʈ̪^hɑ$
yesterday shine-PFV PASS-PFV be-PST
'*Yesterday (it) had been bloomed.'

[8]See C.Rosen (1984), Levin, B. & Rappaport (1988), Levin, B. (1989), Zaenan (1993).

ii) *pɑrʈi mẽ muskurɑjɑ gəjɑ ʈ̪^{h}ɑ

party in smile-PFV PASS-PFV be-PST

'*At the party,(it) had been smiled.'

However, there are some NVCS verbs like 'smile' which may also be conceived as a volitional change of state. These allow the inabilitative passive:

26. i) ɑʈ̪jɑ-se muskurɑjɑ nəhĩ̤ gəjɑ

Atya-INS smile-PFV NEG PASS-PFV

'Atya was not able to smile.'

But, the NVCS verbs like 'bloom' and 'tire', that may be conceived as non-volitional change of state verbs, do not allow inabilitative passives:

ii)*p^{h}u:lõ-se k^{h}ilɑ nəhĩ̤ gəjɑ

Flowers-INS bloom- PFV NEG PASS-PFV

'*Flowers were not able to bloom.'

iii)*mɑ̃-se ʈ̪^{h}əkɑ nəhĩ̤ gəjɑ

Mother-INS tire-PFV NEG PASS-PFV

'*Mother was not able to tire (herself).'

NVCS verbs do not accept cognate objects:

27. i) *je p^{h}u:l ɑcc^{h}ɑ k^{h}ilnɑ k^{h}ilʈ̪ɑ hɛ

this flower good bloom bloom-HAB be-PRS

'*This flower blooms a good bloom.'

ii)*vɑnkɑ zjɑdɑ ʈ̪^{h}əkɑn ʈ̪^{h}əkɑ

Vanka extreme tiredness tire-PFV

'*Vanka tired extreme tiredness.'

NVCS verbs do not usually allow ergative subjects:[9]

28. i)*pʰu:l-ne murɟʰaja
Flower-ERG wither-PFV
'The flower withered.'

ii)*ʃekʰar-ne ʈʰəka
Shekhar-ERG tire-PFV
'Shekar tired.'

NVCS verbs easily combine with the light verb *ɟana* 'go' but not with the light verb *lena* 'take':

29. i) pʰu:l kʰil ɟaʈa / *leʈa hɛ
Flower bloom go-PFV take-PFV be-PRS
'The flower (completely) blooms / *is able to bloom.'

ii) bəcca ʈʰək ɟaʈa / *leʈa hɛ
child tire go-PFV take-PFV be-PRS
'The child tires (completely) / *is able to tire.'

iii) vanka ʃərma ɟaʈa / *leʈa hɛ
vanka blush go-PFV take-PFV be-PRS
'Vanka blushes (completely) / *is able to blush.'

However, NVCS verbs that also receive a volitional interpretation prefer *lena* and cannot occur with ɟana:

[9]Some speakers accept ergative subjects with those verbs (e.g. *smile*, *blush*) that may also be perceived as volitional activities:
1. ʔmihir-ne muskuraja / ʃərmaja
Mihir-ERG smile-PFV / blush-PFV
'Mihir smiled / blushed.'

iv) vʌnkɑ muskurɑ *ɟɑ̤ʈɑ / ??leʈ̤ɑ / ɖ̤eʈ̤ɑ hɛ

vanka smile go-PFV take-PFV / give-PFV be-PRS

'Vanka smiles / *(completely) / ??is able to smile .'

The perfective participles of NVCS verbs can be used as reduced relatives:

30. i) ʈ̤^{h}əkɑ huɑ ɑɖ̤mi

tire-PFV be-PFV person

'The tired man.'

ii) k^{h}ilɑ huɑ p^{h}u:l

bloom-PFV be-PFV flower

'The bloomed flower.'

However, NVCS verbs that can be conceived of as volitional change of state predicates cannot be used as participial relatives:

iii)*muskurɑjɑ / *ʃərmɑjɑ huɑ bəccɑ

smile-PFV / blush-PFV be-PFV child

'*The smiled / blushed child.'

The imperfective participles of NVCS verbs in Hindi can occur with or without the genitive marker on the inanimate subject, but cannot occur without the genitive marker with an animate subject:

31. i) [p^{h}u:l (ke) k^{h}ilʈ̤e hi] b^{h}ə̃wre ɑ gəje

flower GEN bloom-PRS.PTCP EMP drone come be-PFV-PL

'The drones came as soon as the flower bloomed.'

ii) [mili */ ke muskurɑ̤ʈe hi] mə̃ k^{h}uʃ ho gəi

Mili GEN smile-PRS.PTCP EMP mother happy happen be-PFV-F

'Mother became happy as soon as Mili smiled.'

NVCS verbs, thus, largely behave as unaccusatives, particularly if we discount verbs like 'smile' and 'be shy' as actually instantiating volitional change of state verbs. The only unexpected behaviour is with regards to the diagnostic regarding the imperfective participles occurring with/ without the genitive marker on the agent, where once again, we see unergative behaviour with animates and unaccusative behaviour with inanimates.

4.3.3. Verbs of Change of State

Verbs of change of state also do not allow passives:

32. i)*kəl ɟəmɑ gəjɑ ʈ̪^{h}ɑ
yesterday freeze-PFV PASS-PFV be-PST
'*Yesterday (it) had been frozen.'

ii) *nəɖ̪i mẽ ɖ̪u:bɑ gəjɑ ʈ̪^{h}ɑ
river in sink-PFV PASS-PFV be-PST
'*In the river,(it) had been sunk.'

Verbs of change of state in Hindi do not allow for inabilitative passives:

33. i)*pɑni-se ɟəmɑ nəhĩ: gəjɑ
Water-INS freeze-PFV NEG PASS-PFV
'*Water was not able to freeze.'

ii)*nɑw-se ɖ̪u:bɑ nəhĩ: gəjɑ
boat-INS sink-PFV NEG PASS-PFV
'*The boat was not able to sink.'

iii)*rɑm-se mərɑ nəhĩ: gəjɑ
Ram-INS die-PFV NEG PASS-PFV
'*Ram was not able die.'

Hindi verbs of change of state do not accept cognate objects:

34. i)*ɑis kri:m əcc^{h}i ɟəmɑv ɟəmi
Ice cream good freezing freeze- PFV.F
'*Ice cream froze a good freezing.'

ii)*ɖ̪u:ɖ̪^{h} ek ubɑl ublɑ
Milk one boil boil-PFV
'*Milk boiled up to one boil.'

Verbs of change of state in Hindi do not allow ergative subjects:

35. i)*pɑni-ne ɟəmɑ
pani-ERG freeze-PFV
'The water froze.'

ii)*bɔl-ne p^{h}u:lɑ
Ball-ERG inflate-PFV
'The ball inflated.'

Verbs of change of state combine freely with the light verb *ɟana* 'go' but not with the light verb *lena* 'take':

36. i) nɑw ɖ̪u:b ɟɑ̪ṭi / *le̪ṭi hɛ
Boat sink go-PFV.F take-PFV.F be-PRS
'The boat sinks completely / * is able to sink.'

ii) pɑni k^{h}ɔl ɟɑ̪ṭɑ / * le̪ṭɑ hɛ
Water boil go- PFV take- PFV be-PRS
'Water boils completely / *is able to boil.'

The perfective participles of verbs of change of state in Hindi can be used as reduced relatives:

37. i) pickɑ huɑ bɛlu:n
deflate-PFV be- PFV balloon
'The deflated balloon.'

ii) ɟəmi hui ɟʰi:l
freeze-PFV.F be-PFV.F lake
'*The frozen lake.'

The imperfective participles of verbs of change of state in Hindi can occur with or without the genitive marker on the agent:

38. i) [nɑw (ke) ɖu:bt̪e hi] bəccɑ rone ləgɑ
boat GEN sink-PRS.PTCP EMP child cry-INF attach-PFV
'The child started crying as soon as the boat sank.'

ii) [bɛlu:n (ke) picəkt̪e hi] ciku muskurɑjɑ
balloon GEN deflate-PRS.PTCP EMP Chiku smile-PFV
'Chiku smiled as soon as the balloon deflated.'

However, with an animate subject the participles of verbs of change of state cannot occur without the genitive marker on the agent:

iii) [pit̪ɑ */ ke mərt̪e hi] sohən bʰɑg gəjɑ
father GEN die-PRS.PTCP EMP Sohan fled go-PFV
'Sohan fled as soon as the father died.'

Verbs of change of state behave as unaccusatives, except that with the diagnostic regarding the imperfective participles occurring with/ without the genitive marker on the agent, in that if we have an animate subject some verbs behave as unergatives.

4.3.4. Verbs of Inherently Directed Motion

Verbs of inherently directed motion (henceforth IDM verbs) in Hindi do not form passives:

39. i)cor us ʈ̪ərəf bʰɑgɑ ʈ̪ʰɑ Active
thief that direction flee-PFV be-PST
'The thief had fled in that direction.'

ii)*us ʈ̪ərəf bʰɑgɑ gəjɑ ʈ̪ʰɑ Passive
that direction flee-PFV PASS-PFV be-PST
'*In that direction (it) had been fled.'

IDM verbs that involve volitional agents allow for inabilitative passives:

40. i) rɑm-se bʰɑgɑ nəhĩ̤ gəjɑ
Ram-INS flee-PFV NEG PASS-PFV
'Ram was not able to flee.'

ii) cor-se gʰusɑ nəhĩ̤ gəjɑ
Thief-INS enter-PFV NEG PASS-PFV
'Thief was not able to enter.'

However, verbs like 'fall' which do not involve volitional agents bar the inabilitative passive:

iii)*bɔl-se girɑ nəhĩ̤ gəjɑ
ball-INS fall-PFV NEG PASS-PFV
'*The ball was not able to fall.'

Only a few IDM verbs have cognate path arguments, such as 'climb' *cəɽʰ-* which has a derived nominal form *cəɽʰai* as a loose cognate as shown in (41):

41. rəmən ləmbi cəɽʰɑi cəɽʰɑ
Raman long-F climb climb-PFV
'Raman climbed a long climb.'

As regards ergative subjects, IDM verbs in Hindi do not allow for ergative subjects:

42. i)*cor-ne uɖ̈hər bʰɑgɑ
Thief-ERG there flee-PFV
'The thief fled there.'

ii) *rɑm-ne gʰər mẽ gʰusɑ
Ram-ERG house into enter-PFV
'Ram entered into the house.'

IDM verbs in Hindi easily combine with both the light verbs *lena* 'take' and *ɟana* 'go':

43. i) cor cʰəʈ̈ pər cəɽʰ ɟɑɖ̈ɑ / leɖ̈ɑ hɛ
Thief roof on climb go-PFV / take-PFV be-PRS
'The thief climbs completely / is able to climb on the roof.'

ii) vɑnkɑ ɟəldi bʰɑg ɟɑɖ̈ɑ / leɖ̈ɑ hɛ
Vanka early flee go-PFV / take-PFV be-PRS
'Vanka flees early (completely) / is able to flee early.'

Perfective participles of IDM verbs in Hindi can be used as reduced relatives:

44. i) gʰusɑ huɑ bəccɑ
enter-PFV be-PFV child
'The entered child.'

ii) bʰɑgɑ huɑ cor
flee-PFV be-PFV thief
'The fled thief.'

iii) girɑ huɑ pʰəl
fall-PFV be-PFV fruit
'The fallen fruit.'

The imperfective participles of IDM verbs in Hindi cannot occur without the genitive marker on the agent:

45. i) [pulis */ ke ɑt̪e hi] cor bʰɑg gəjɑ
Police GEN come-PRS.PTCP EMP thief flee go-PFV
'The thief fled as soon as the police came.'

ii) [somi */ ke cəʈʰt̪e hi] wɑhid̪ ni:ce ɑ gəjɑ
Somi GEN climb-PRS.PTCP EMP Wahid down come go-PFV
'Wahid came down as soon as Somi climbed.'

However, with an inanimate subject the participle can occur without the genitive marker on the agent:

iii) [bɔl (ke) gird̪e hi] bəccɑ ɖər gəjɑ
ball GEN fall-PRS.PTCP EMP child fear go-PFV
'The child was afraid as soon as the ball fell.'

IDM verbs as appear to be unaccusatives, except with respect to two diagnostics. By the light verb diagnostic, the verbs allow both the light verbs 'go' and 'take' and in the optionality of genitive Case on subjects in the imperfective participles diagnostic, the animacy distinction noted earlier shows up once again.

4.3.5. Verbs of Manner of Motion

Verbs of manner of motion in Hindi do not appear in passive constructions:

46. i)səɽək pər bəccɑ pʰislɑ ʈ̪ʰɑ Active
Road on child slip-PFV be-PST
'The child had slipped on the road.'

ii)*səɽək pər pʰislɑ gəjɑ ʈ̪ʰɑ Passive
Road on slip-PFV PASS-PFV be-PST
'*On the road, (it) was slipped.'

Verbs of manner of motion in Hindi allow for inabilitative passives:

47. i) rɑm-se pʰislɑ nəhĩ̞ gəjɑ
Ram-INS slip-PFV NEG PASS-PFV
'Ram was not able to slip.'

ii) vɑnkɑ-se jʰuːlɑ nəhĩ̞ gəjɑ
Vanka-INS swing-PFV NEG PASS-PFV
'Vanka was not able to swing.'

However, with inanimate subjects, inabilitative passives are barred:

ii)*bɔl-se luɽʰkɑ nəhĩ̞ gəjɑ
ball-INS roll-PFV NEG PASS-PFV
'*The ball was not able to roll.'

Verbs of manner of motion in Hindi do not accept cognate objects:

48. i) *bʰu:p pʰislən pʰislɑ
Bhoop slip slip-PFV
'*Bhoop slipped a slip.'

ii)*ciku ũ:ci ɟʰu:lən ɟʰu:lɑ
Chiku high swing swing-PFV
'*Chiku swung a high swing.'

Verbs of manner of motion in Hindi do not allow for ergative subjects:

49. i)*nilɑ-ne pʰislɑ
Nila-ERG slip-PFV
'Nila slipped.'

ii)*bɔl-ne luɽʰkɑ
ball-ERG roll-PFV
'The ball rolled.'

Verbs of manner of motion in Hindi can easily combine with the light verb *ɟana* 'go' but not with the light verb *lena* 'take':

50. i) vɑnkɑ pʰisəl ɟaṯɑ / * leṯɑ hɛ
Vanka slip go-PFV take-PFV be-PRS
'Vanka slips (completely) / *is able to slip.'

ii) bɔl luɽʰək ɟaṯi / * leṯi hɛ
ball roll go-PFV.F take-PFV.F be-PRS
'The ball rolls (completely) / *is able to roll.'

Perfective participles of verbs of manner of motion in Hindi cannot be used as reduced relatives:

51. i)*pʰislɑ huɑ bəccɑ
slip-PFV be-PFV child
'*The slipped child.'

ii)*luɽʰki hui bɔl
roll-PFV be-PFV ball
'*The rolled ball.'

The imperfective participles of verbs of manner of motion in Hindi can occur with the genitive marker on the inanimate subject, while others with animate subjects cannot:

52. i) [bɔl (ke) luɽʰəkt̪e hi] somi muskurɑjɑ
ball GEN roll-PRS.PTCP EMP somi smile-PFV
'Somi smiled as soon as the ball rolled.'

ii) [ciku */ ke pʰisəlt̪e hi] wɑhid̪ ɑ gəjɑ
Chiku GEN slip- PRS.PTCP EMP Wahid come go-PFV
'Wahid came as soon as Chiku slipped.'

iii) [pərd̪e (ke) sərəkt̪e hi] hi:ro sɑmne ɑjɑ
curtain GEN slide- PRS.PTCP EMP hero in front come-PFV
'The hero came in front as soon as the curtain slid.'

However,

iv) [mikɯ * / ke sərəkt̪e hi] somi sɑmne ɑjɑ
Miku GEN slide- PRS.PTCP EMP Somi in front come-PFV
'Somi came in front as soon as Miku slid.'

The verbs of manner of motion can also be identified as unaccusatives except three diagnostics. With the perfective participles being used as reduced relatives, the manner of motion verbs uniformly behave as unergatives. With the diagnostic regarding the imperfective participles occurring with/ without the genitive marker on the agent, if we have an animate subject, manner of motion verbs behave as unergatives, and with inanimate subjects, they exhibit unaccusative behaviour. Vis-à-vis the inabilitative diagnostic, with animate/volitional subjects, the manners of motion verbs behave as unergatives.

4.3.6. Agentive Verbs of Manner of Motion

Agentive verbs of manner of motion in Hindi form passives:

53. i)səɽək pər bəccɑ ɖ̤ɔɽɑ ʈ̤^{h}ɑ Active
Road on child run-PFV be-PST
'The child had run on the road.'

ii)səɽək pər ɖ̤ɔɽɑ gəjɑ ʈ̤^{h}ɑ Passive
Road on run-PFV PASS-PFV be-PST
'*On the road, (it) had been run.'

iii)bəccõ-ne bisṭ̤ər pər ku:ɖ̤ɑ ʈ̤^{h}ɑ Active
children-ERG bed on jump-PFV be-PST
'The children had jumped on the bed.'

iv) bisṭ̤ər pər ku:ɖ̤ɑ gəjɑ ʈ̤^{h}ɑ Passive
bed on jump-PFV PASS-PFV be-PST
'*On the bed, (it) had been jumped.'

Agentive verbs of manner of motion in Hindi allow for inabilitative passives:

54. i) rɑm-se ɖ̤ɔɽɑ nəhĩ: gəjɑ
Ram-INS run-PFV NEG PASS-PFV
'Ram was not able to run.'

ii) mohən-se ku:d̪ɑ nəhĩ: gəjɑ

Mohan-INS jump-PFV NEG PASS-PFV

'Mohan was not able to jump.'

Agentive verbs of manner of motion in Hindi mostly accept cognate objects:

55. i) vɑnkɑ ũ:ci ku:d̪ ku:d̪ɑ

Vanka high jump jump-PFV

'Vanka jumped a high jump.'

ii) ivɑn ləmbi d̪ɔɽ d̪ɔɽɑ

Ivan long run run-PFV

'Ivan ran a long run.'

Agentive verbs of manner of motion in Hindi do not take ergative subjects:[10]

56. ??? somi-ne ɑcc^{h}ɑ cəlɑ

Somi-ERG well walk-PFV

'Somi walked well.'

Most agentive verbs of manner of motion in Hindi quite easily combine with both the light verbs *ɟana* 'go'and *lena* 'take'(if the activity is conceived of as self-benefactive, *lena* 'take'is used): [11]

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[10]But if an ergative is allowed at all, it seems to be pragmatic rather than grammatical. It occurs only with humans to add extra agentivity. For example:

1. i) venkəʈ-ne ɑcc^{h}ɑ nɑcɑ
Venkat-ERG well dance-PFV
'Vankat danced well.'

ii) ninɑ-ne ɑcc^{h}ɑ ʈ̪ɛrɑ
Nina-ERG well swim-PFV
'Nina danced well.'

But we cannot say:

iii)*bɔl ne ɑcc^{h}ɑ nɑcɑ
ball-ERG well dance-PFV
'*The ball danced well.'

[11] The only exception is the verb 'dance':

iii) ru:nɑ nɑc *ɟɑ̃ti / leʈ̪i hɛ
Runa dance go-PFV / take-PFV be-PRS
'Runa dances * (completely) / is able to run.'

57. i) bənɖər ku:ɖ ɟaṭa / leṭa hɛ

Monkey jump go-PFV / take-PFV be-PRS

'Monkey jumps (completely) / is able to climb.'

ii) miku ɖɔʈ ɟaṭa / leṭa hɛ

Miku run go-PFV / take-PFV be-PRS

'Miku runs (completely) / is able to run.'

Perfective participles of agentive verbs of manner of motion in Hindi cannot be used as reduced relatives:

58. i)*ɖɔʈa huɑ bəccɑ

run-PFV be-PFV child

'*The ran child.'

ii)*nɑci: hui ləʈki

dance-PFV be-PFV girl

'*The danced girl.'

The imperfective participles of agentive verbs of manner of motion in Hindi cannot occur without the genitive marker on the agent:[12]

59. i) [ru:nɑ * / ke nɑcṭe hi] somi muskuraja

Runa GEN dance-PRS.PTCP EMP somi smile-PFV

'Somi smiled as soon as the Runa danced.'

ii) [vɑnkɑ */ ke ɖɔʈṭe hi] rahul ci:k^{h}ɑ

Somi GEN run- PRS.PTCP EMP Rahul scream-PFV

'Rahul screamed as soon as Somi ran.'

This may be because *ɟana* 'go' in Hindi seems to be licensed by a path component and unlike other agentive verbs of manner of motion, 'dance' has no path component.

[12] Agentive verbs of manner of motion in Hindi cannot have inanimate subjects.

Agentive verbs of manner of motion can be uniformly identified as unergatives.

4.3.7. Verbs of Spatial Configuration

Verbs of spatial configuration in Hindi form passives:

60. i) kursi pər miku bɛʈʰɑ ʈ̪ʰɑ Active
chair on Miku sit-PFV be-PST
'Miku had sat on the chair.'

ii) kursi pər bɛʈʰɑ gəjɑ ʈ̪ʰɑ Passive
chair on sit-PFV PASS-PFV be-PST
'*On the chair, (it) had been sat.'

Verbs of spatial configuration in Hindi allow for inabilitative passive:

61. i) rɑm-se bɛʈʰɑ nəhĩː gəjɑ
Ram-INS sit-PFV NEG PASS-PFV
'Ram was not able to sit.'

However, with an inanimate subject inabilitative passives are barred:

ii)*ʈəhni-se ɟʰukɑ nəhĩː gəjɑ
branch-INS bend-PFV NEG PASS-PFV
'*The branch was not able to bend.'

Verbs of spatial configuration in Hindi never accept cognate objects:

62. *ɟoʃuɑ ɑɟiːb ɟʰukɑw ɟʰukɑ
Joshua awkward bend bend-PFV
'*Joshua bent an awkward bend.'

Verbs of spatial configuration in Hindi do not allow ergative subjects:

63. i)*vini-ne us ʈ̈ərəf ɟʰukɑ
Vini-ERG that side bend-PFV
'*Vini bent that side.'

ii)*mɑ̃-ne bisʈ̈ər pər leʈɑ
Mother-ERG bed on lie-PFV
'*Mother lay on bed.'

Most verbs of spatial configuration in Hindi easily combine with the light verb *ɟana* 'go' and marginally with the light verb *lena* 'take':

64. i) ɟoʃuɑ ɟʰuk ɟɑʈ̈ɑ / ?leʈ̈ɑ hɛ
Joshua bend go-PFV take-PFV be-PRS
'Joshua bends (completely) / ? is able to bend.'

ii) mohən bɛʈʰ ɟɑʈ̈ɑ / ?leʈ̈ɑ hɛ
Mohan sit go-PFV take-PFV be-PRS
'Mohan sits (completely) / ? is able to sit.'

Perfective participles of verbs of spatial configuration in Hindi can be used as reduced relatives:

65. i) bɛʈʰɑ huɑ bəccɑ
sit-PFV be-PFV child
'*The sat child.'

ii) ɟʰuki hui ʈəhni
bend-PFV be-PFV branch
'The bent branch.'

The imperfective participles of verbs of spatial configuration in Hindi cannot occur without the genitive marker on the animate subject:

66. i) [ɟoʃuɑ * / ke ɟʰukt̪e hi] bənd̪ər ɟʰukɑ
Joshua GEN bend-PRS.PTCP EMP monkey bend-PFV
'The monkey bent as soon as the Joshua bent.'

ii) [ʈi:cər */ ke bɛʈʰt̪e hi] rɑhul kʰɑ̃sɑ
Teacher GEN sit-PRS.PTCP EMP Rahul cough-PFV
'Rahul coughed as soon as the teacher sat.'

However, with an inanimate subject the participles can occur with/without the genitive marker on the agent:

iii) [ʈəhni (ke) ɟʰukt̪e hi] bənd̪ər ɟɑgɑ
branch GEN bend-PRS.PTCP EMP monkey awake-PFV
'The monkey awoke as soon as the branch bent.'

Verbs of spatial configuration show variable behaviour. With four of the diagnostics, they behave as unaccusatives; with light verb diagnostics they marginally behave as unergatives but mostly as unaccusatives. Vis-à-vis the passive diagnostics, they behave as unergatives. However, with the diagnostic regarding the imperfective participles occurring with/ without the genitive marker on the agent, only if we have an animate subject do verbs of spatial configuration behave as unergatives. Vis-à-vis the inabilitative diagnostic, with animate subjects, the spatial configuration verbs behave as unergatives.

4.3.8. Verbs of Existence, Appearance & Disappearance

Verbs of Existence, Appearance & Disappearance (henceforth Verbs of EAD) in Hindi do not form passives:

67. i)vaŋkɑ ḍilli mẽ cɑr sɑl rəhɑ Active

Vanka Delhi in four years live-PFV

'Vanka lived in Delhi for four years.'

ii)*ḍilli mẽ cɑr sɑl rəhɑ gəjɑ Passive

Delhi in four years live-PFV PASS-PFV

'*In Delhi, (it) had been lived.'

iii)æksiḍenṭ jəhĩ huɑ Active

accident here happen-PFV

'The accident happened here.'

iv)*jəhĩ huɑ gəjɑ Passive

here happen-PFV PASS-PFV

'*Here, (it) was happened .'

Verbs of EAD in Hindi marginally allow for inabilitative passives:

68. i) mohən-se rəhɑ nəhĩ: gəjɑ

Mohan-INS live-PFV NEG PASS-PFV

'Mohan was not able to live.'

However, with an inanimate subject, i.e. a non-volitional agent, inabilitative passives are not allowed:

ii)*kɑm-se huɑ nəhĩ: gəjɑ

work-INS happen-PFV NEG PASS-PFV

'*The work could not (not able) to happen.'

iii)*təswi:r-se skri:n pər ub^{h}rɑ nəhĩ: gəjɑ

Picture-INS screen on appear-PFV NEG PASS-PFV

'*The picture was not able to appear on the screen.'

Hindi Verbs of EAD never accept cognate objects, in fact, no nominal cognate forms exist. They also do not allow ergative subjects:

69. i)*æksiɖenʈ-ne huɑ
accident-ERG happen-PFV
'The accident happened.'

ii)*rɑm-ne ɖ̈illi mẽ rəhɑ
Ram-ERG Delhi in live-PFV
'Ram lived in Delhi.'

Most verbs of EAD in Hindi easily combine with the light verb *ɟana* 'go' and marginally with the light verb *lena* 'take':

70. i) æksiɖenʈ ho ɟaʈ̈a / *leʈ̈a hɛ
accident happen go-PFV take-PFV be-PRS
'The accident happens (by chance) / * is able to happen.'

ii) rɑm ɑ ɟaʈ̈a / *leʈ̈a hɛ
Ram come go-PFV take-PFV be-PRS
'Ram comes (by chance) / * is able to come.'

However,

iii) rɑm ɖ̈illi mẽ rəh ɟaʈ̈a / leʈ̈a hɛ
Ram Delhi in live go-PFV take-PFV be-PRS
'Ram lives in Delhi (by chance) / is able to live in Delhi.'

Perfective participles of verbs of EAD in Hindi can be used as reduced relatives:

71. i) ʈ̈i:n sɑl jəhɑ̃ rəhɑ huɑ ɑɖ̈mi
three year here live-PFV be-PFV man
'The man who lived here for three years.'

ii) kəl huɑ æksiɖenʈ
yesterday be-PFV accident
'The accident that happened yesterday.'

The imperfective participles of verbs of EAD in Hindi can occur without the genitive marker on the agent:

72. i) [təswi:r (ke) ub^{h}ərt̪e hi] log cɔ̃ke
picture GEN appear-PRS.PTCP EMP people suprise-PFV.PL
'People were surprised as soon as the picture appeared.'

However, with an animate subject the participles of EAD verbs cannot occur with/without the genitive marker on the agent:

ii) [ɟoʃuɑ * / ke rəhț̪e hi] log k^{h}uʃ hue
Joshua GEN live-PRS.PTCP EMP people happy be-PFV.PL
'The people became happy as soon as Joshua lived.'

EAD verbs behave as unaccusatives with all the diagnostics. Regarding imperfective the participles, we observe unergative behaviour with animate arguments.

4.3.9. Verbs of Contact / Attachment

Verbs of contact / attachment (henceforth Verbs of C/A) in Hindi do not form passives:

73. *posʈər səʈɑ gəjɑ ʈ̪^{h}ɑ
poster stick-PFV.F PASS-PFV.F be-PST.F
'The picture was seen .'

Verbs of C/A in Hindi do not allow for inabilitative passives:

74. i) *posʈər-se səʈɑ nəhĩ: gəjɑ
poster-INS stick-PFV NEG PASS-PFV
*‘The poster was not able to stick.’

Verbs of C/A in Hindi do not accept cognate objects (examples not possible). They also do not allow ergative subjects:

75. *posʈər-ne səʈɑ
poster-ERG stick-PFV
*‘The poster stuck.’

Verbs of C/A in Hindi cannot combine with the light verb *lena* ‘take’ but with *ɟana* ‘go’:

76. i) posʈər səʈ ɟaɳɑ / *leɳɑ hɛ
poster stick go-PFV / take-PFV be-PRS
‘The poster sticks completely / *is able to stick.’

ii) pərɖɑ həʈ ɟaɳɑ / *leɳɑ hɛ
curtain see go-PFV / take-PFV be-PRS
‘The curtain moves away completely / *is able to move away.’

The perfective participles of verbs of C/A can be used as reduced relatives:

77. i) səʈɑ huɑ posʈər
stick-PFV be-PFV poster
‘The stuck poster.’

ii) həʈɑ huɑ pərɖɑ
move-PFV be-PFV curtain
‘The moved curtain.’

The imperfective participles of verbs of C/A in Hindi can occur with or without the genitive marker on the agent:

78. i) [posʈər (ke) səʈʈe hi] log ɑ gəe
poster GEN stick-PRS.PTCP EMP people come go-PFV-PL
'People came as soon as the poster was stuck.'

However, with an animate subject the participles of C/A verbs cannot occur without the genitive marker on the agent:

ii) [bəcce */ ke həʈʈe hi] miku ɑ gəjɑ
child GEN sneeze- PRS.PTCP EMP Miku come go-PFV
'Miku came as soon as the child went away.'

Verbs of C/A in Hindi can be uniformly identified as unaccusatives.

4.4. Conclusion

The behaviour of the verb classes in Hindi as per the unaccusative diagnostics can be summed up in the following table below:

	REGULAR PASSIVE	INABILITATIVE PASSIVE		COGNATE OBJECTS	ERGATIVE SUBJECTS	LIGHT VERB	REDUCED RELATIVE	OPTIONAL GENITIVE ON IMPERF		CONCL
Emission	×	×	✓vol	×	×	*jaa*	×	×	✓INAN	UNACC
NVCS	×	×	✓vol	×	×	*jaa*	✓	×	✓INAN	UNACC
IDM	×	×	✓vol	×	×	*jaa/le*	✓	×	✓INAN	UNACC
MoM	×	✓	×-vol	×	×	*jaa*	×	×	✓INAN	UNACC
VCS	×	×		×	×	*jaa*	✓	×	✓INAN	UNACC
Spat Config	✓	✓	×-vol	×	×	*jaa/?le*	✓	×	✓INAN	UNACC/UNERG
EAD	×	✓	×-vol	×	×	*jaa/?le*	×	×	✓INAN	UNACC/UNERG
C/A	×	×		×	×	*jaa*	✓	×	✓ INAN	UNACC
Ag MoM	✓	✓		✓	×	*jaa/le*	×	×	×INAN	UNERG

Thus, the evaluation of the unaccusative diagnostics vis-à-vis Hindi verb classes show that verbs of change of state, verbs of non-volitional change of state, verbs of inherently directed motion, manner of motion verbs and verbs of contact and attachment behave as unaccusatives. Only Agentive manner of motion verbs show unergative behaviour. Verbs of spatial configuration and verbs of disappearance and appearance show variable behaviour.

This evaluation reveals some important facts about the diagnostics. It shows that lack of passives is a strong diagnostic as it is one of the definitional properties of unaccusatives. The light verb *jana* vs. *lena* is a broad unaccusative diagnostic-- unaccusatives always take *jana* 'go', except with volitional mixed verbs -- if there is volitionality, then *lena* 'take' is allowed. The participial reduced relative is a diagnostic for unergativity: true unergatives never allow reduced relatives. However, it cannot be used for diagnosing unaccusatives because they can show variable behaviour with respect to it. As inabilitative passive involves only volitionality feature (entailed by animacy), this diagnostic cannot be used for unaccusative/unergative distinction. The optionality of the genitive marker in the imperfective is also based on animacy, though unaccusatives can be differentiated from unergatives in that it is optional for inanimates only for unaccusatives. Ergativity, on the other hand, is too rough a diagnostic as it only separates transitives from intransitives. The cognate object diagnostic is the poorest of all, as it relies on lexical entries for cognate nouns.

In terms of argument structure, the diagnostics reveal that lack of passive correlates with unaccusativity as there is no spec, υP in unaccusatives. True unergatives never yield a structure that *ɟa* can be merged with as that relies on an unaccusative configuration. If the event/state can be interpreted as agentive, then *le* is also allowed. In other words, *ɟa* must select a υP without a specifier, but *le* selects for such a feature.

Reduced relatives never allow predicates with external argument as they require the gap in the participial to be in the VP and unergatives would have a gap in the external argument position (υP). As unergatives do not allow either inanimates or animates without genitive case, it provides evidence that in the imperfective participle, only if the argument comes from inside the VP and is inanimate, can it occur without a genitive marker.

The inabilitative passive involves the promotion of an argument that is [+volitional], or if animacy entails volitionality, then the promoted argument is [+animate]. The next chapter on Hindi passives explores this in a much detailed manner.

Chapter 5

PASSIVES

This chapter focuses on another important argument structure alternation -- passives. Section 5.1 reviews the smuggling approach to passives. The next section 5.2 discusses in detail the types of passive constructions in Hindi and the empirical facts. Section 5.3 follows up with my analysis for Hindi passives, and section 5.4 concludes the chapter.

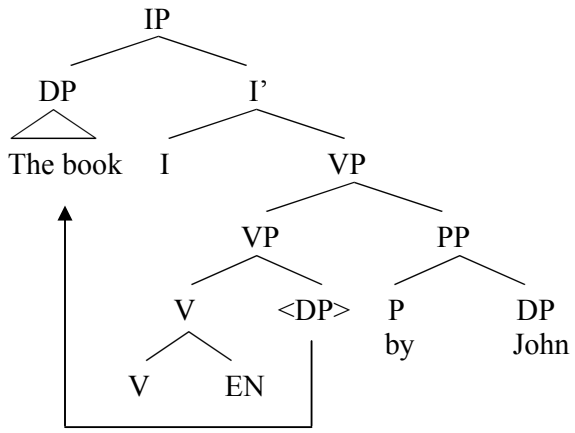
5.1. The Smuggling Approach to Passivisation

Since the earliest time in generative syntax (Chomsky 1957), passivisation has been treated as an operation on argument structure. Its definitional property has been assumed to be the inversion of the syntactic relation in actives and passives via the promotion of the internal argument in the subject position and the demotion of the logical subject to an adjunct. Consider the following example:

1. (i) John wrote the book.
   (ii) The book was written by John.

In the Principle & Parameters (P & P) framework (See Chomsky 1982, Baker 1988, Jaeggli 1986, Roberts 1987, and others), it was proposed that the passive suffix *-en* absorbs the accusative Case and external θ-role of the verb, making it necessary (given theta theory and legibility requirements) for the internal argument, *the book*, to move to the subject (i.e. Spec, IP) position. This is based on strong empirical evidence that the external argument is still present in verbal passives and thus, it has been argued that the passive participle morphology is the external argument in passives. The passive suffix *-en* also assigns the PP the external θ-role. This θ-role assigned to the PP percolates to P, and which in turn, assigns the external θ-role to its DP complement.

2.



There were, however, at least two problems posed by this analysis. The first was of a lack of clarity as to how the passive participle was to be morphologically and syntactically distinguished from the homophonous active past participle. The second problem arose from the fact that the external theta role was assigned in two different positions in actives and passive constructions, leading to a violation of the Uniformity of Theta Assignment Hypothesis (UTAH) (Baker 1988).

5.1.1. Collins (2005)

To solve these problems, Collins (2005) proposes an analysis that combines aspects of both the *Syntactic Structure* and the P & P analysis. He argues that the active past participle suffix and the passive participle suffix are not different. Neither one absorbs the external theta role or accusative Case. In his analysis, the participle morpheme *-en* heads a PartP[1] that selects VP and this PartP is the complement of v. He also claims that there is movement of PartP to Spec, VoiceP in passives.

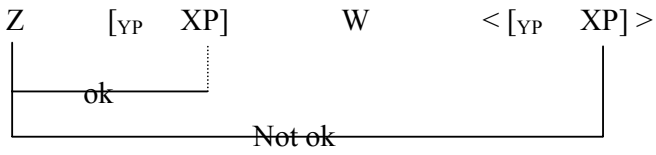
An immediate problem that arises here is one of locality. The movement of the internal argument over the external argument should trigger a minimality effect. Collins provides the following solution to this problem: Smuggling "of the VP over the vP makes the internal argument the closest to Spec TP allowing for its promotion" to subjecthood, without any violation of Relativised Minimality.

[1]This is parallel to Embick (1997)'s proposal that passives have an agentive head that has no Case feature and no DP in its specifier.

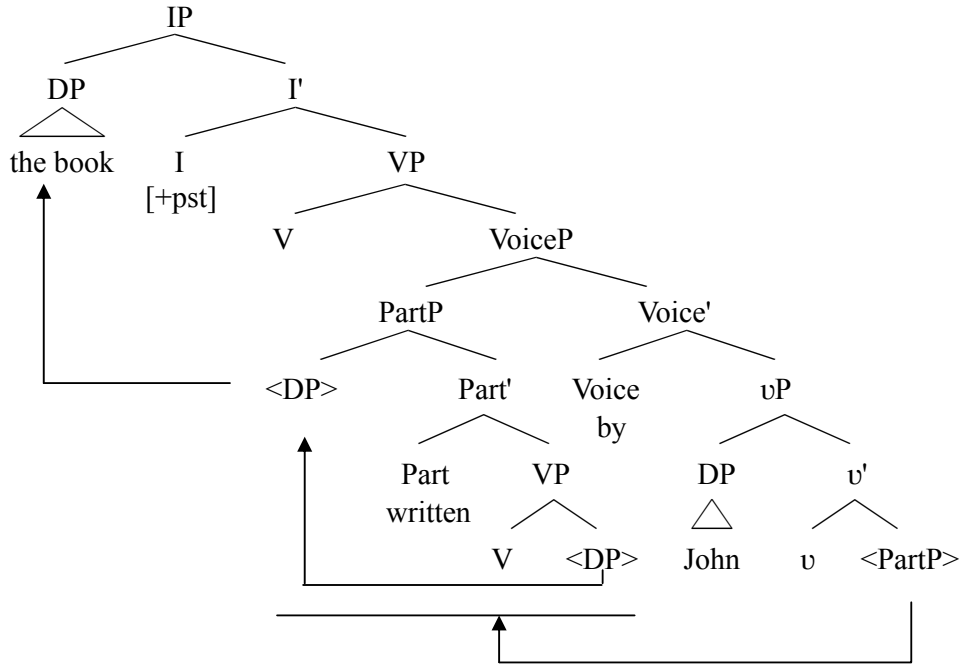
Smuggling is defined as follows:

3. Smuggling:

> Suppose a constituent YP contains XP. Furthermore, XP is inaccessible to Z because of the presence of W, some kind of intervener that blocks any syntactic relation between Z and XP. If YP moves to a position c-commanding W, we say that YP smuggles XP past W. (Collins 2005:97)

4. 

Furthermore, given the impossibility of a sentence like **John was written by the book,* he argues that *by* is the head of VoiceP, which does not form a constituent with the DP *John*. The structure he proposes for passives is as follows:

5. 

In this analysis, Collins (2005) dissociates the Case checking and external θ-role features and projects them on two different heads.

6. (i) Active: υ assigns external θ-role
υ checks accusative Case
(ii) Passive: υ assigns external θ-role
Voice *by* checks accusative Case

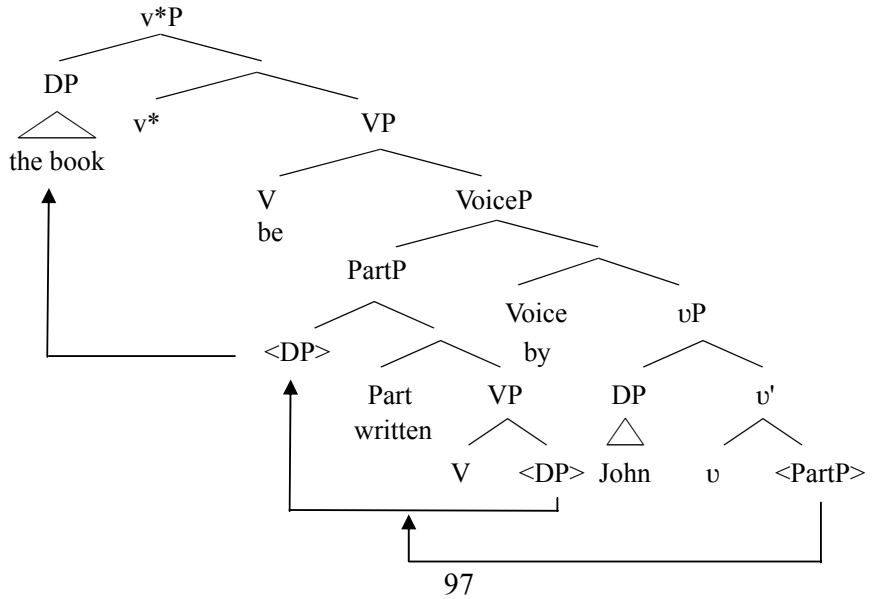
5.1.2. Roberts (2008)

Roberts (2008) exploits Chomsky (2005)'s proposal of feature inheritance and reformulates Collins's disassociation theory in terms of it. Chomsky (2005) argues that the Agree-features of the phase heads are inherited by the LI they select. Thus, Roberts (2008) claims that because Voice selects v*P, the feature of Voice is inherited by v* in actives, but is withheld by Voice in passives. His alternative proposal regarding disassociation of the 'transitivity' properties of υ is as follows:

7. (i) Active: [uφ] features realized as accusative Case are inherited by v*
(ii) Passive: [uφ] features are withheld by Voice

Hence, Roberts' (2008) alternative structure for Collins' (2005) passive structure would be:

8.



In (8), VoiceP is c-selected by V and Voice selects υP. PartP is selected by this υ head as complement. Roberts (2008) too assumes that there is movement of PartP to Spec, VoiceP. He argues that Voice has an EPP feature triggering the movement of PartP. Voice withholds its φ-features from υ. Hence, DP *the book* moves out of PartP to get Case.

This analysis can explain impersonal passives too. If Voice [uφ] withholds its features exclusively from v* [trans], we have passives of transitives only (e.g. English) and if it does not, we have passives of any v* (including unergatives) as shown in (9):

9. i)*It/there was danced. English
   ii) Es wurde getanzt. German

Passives of unaccusatives are impossible as there is no Voice in unaccusatives:

10. i)*It/there was arrived. English
    ii)*Es wurde angekommer. German
    (Roberts 2008:3)

Roberts' analysis can explain object shift, too. If V acquires υ's accusative Case feature by inheritance, the object does not need to move but if υ withholds accusative Case feature, the object needs to move in its specifier to get Case.

In section 5.3, I will be build an analysis of Hindi passives exploiting both Collins' (2005) and Roberts' (2008) proposals. Before turning to the analysis, let us examine the empirical facts of Hindi passives.

5.2. Passives in Hindi

The traditional literature attests the existence of three kinds of passives in Hindi: Regular, Impersonal and Inabilitative.

5.2.1 Regular "passives"

In this construction, the internal argument of a transitive verb surfaces as the subject of the sentence. The verb is in its agreeing perfective participial form, followed by the auxiliary verb *ɟa* 'go':

11. rɑm juɖɖ^{h} mẽ mɑrɑ gəjɑ
    Ram battle in kill- PFV go-PFV
    'Ram was killed in the battle.'

Usually, the agent of the action is not overtly realised with a *by* phrase; however, when it is, it is marked by the instrumental marker *-ɖ̈wara* or *-ke ɖ̈wara* 'by.' Although its optionality of expression has led to the view that it is an adjunct, actually it is not. Consider the following sentence:

12. mili ɖ̈wɑrɑ rɑm juɖɖ^{h} mẽ mɑrɑ gəjɑ
    Mili by Ram battle in kill-PFV go-PFV
    'Ram was killed in the battle by Mili.'

Mahajan (1995) argues that this construction is only passive-like and not actually passive. He terms it ACTIVE Passive as he claims that the underlying object does not become the surface object and at the same time, the underlying subject remains an active subject.

To prove this claim he applies some tests based on anaphor binding, pronominal coreference, control etc. (mostly based on Keenan (1976) and used by others like Verma (1976), Wali & Rosen (1989), Mohanan (1990)).

Possessive reflexives in Hindi must be bound by the matrix subject:

13. i) səlmɑ$_{i}$ əpne$_{i}$ g^{h}ər kɑ nirikʃəɳ kəregi
    Salma self's home GEN examination do-FUT-FEM
    'Salma will examine self's house.'

Similarly, the agentive phrase in Hindi passives binds the possessive reflexive:

ii) səlmɑ$_i$ d̪wɑrɑ əpne$_i$ g^{h}ər kɑ nirikʃəɳ kijɑ gəjɑ
Salma by self's home GEN examination do-PFV go-PFV
'Self's house was examined by Salma.'

It has been noted in Hindi that pronouns have an anti-subject orientation (Gurtu 1985, Mohanan 1990, Srivastav-Dayal (1993), Kidwai (1995, 2000):

14. i) səlmɑ$_i$ uske$_i$ g^{h}ər kɑ nirikʃəɳ kəregi
Salma her home GEN examination do-FUT-FEM
'Salma$_i$ will examine her$_{*i}$ house.'

The agentive phrase in passives also shows anti-subject orientation:

ii) səlmɑ$_i$ d̪wɑrɑ uske$_i$ g^{h}ər kɑ nirikʃəɳ kijɑ gəjɑ
Salma by her home GEN examination do-PFV go-PFV
'Her$_{*i}$ house was examined by Salma$_i$.'

Hindi subjects can control into argument clauses:

15. i) səlmɑ$_i$ [PRO$_i$ g^{h}ər ɟɑnɑ] cɑhṯ̪i ṯ̪^{h}i
Salma home go-INF want-IMP-FEM be-PST-FEM
'Salma wanted to go home.'

The agentive phrase in passives also behaves similarly in the subject control construction:

ii) səlmɑ$_i$ d̪wɑrɑ [PRO$_i$ g^{h}ər ɟɑnɑ] cɑhɑ gəjɑ
Salma by home go-INF want-PFV go-PFV
'It was wanted by Salma to go home.'

Kachru (1976), Bhatia (1976) and Mohanan (1990) noted that subjects can control into conjunctive participle adverbial clauses in Hindi:

16. i) səlmaᵢ [PROᵢ gʰər ɟa kər] mohən ko ɖaʈegi
Salma home go do Mohan ACC scold-FUT-FEM
'Salma will scold Mohan after going home.'

The agentive phrase in Hindi passives, too, can control into an adverbial as well:

ii) səlmaᵢ ɖ̪wara [PROᵢ gʰər ɟa kər] mohən ko ɖaʈa gəja
Salma by home go do Mohan ACC scold-PFV go-PFV
'Mohan was scolded by Salma after she went home.'

(Mahajan 1995:289-291)

Furthermore, Mahajan (1995) provides examples to show that the object in the ACTIVE Passive behaves just like as it does in active constructions:

17. i) raɟa ɖ̪wara sare ʃerõ ko mar ɖ̪ija gəja
King by all tigers ACC kill give-PFV go-PFV
'All the tigers were killed by the king.'

ii) siːʈaⱼ ɖ̪wara səlmaᵢ ko uskeᵢ/*ⱼ gʰər bʰeɟ ɖ̪ija gəja
Sita by Salma ACC her home send give-PFV go-PFV
'Salma was sent to her home by Sita.'

iii) ram ɖ̪wara mohənᵢ ko [PROᵢ gʰər ɟane ke lije] kəha gəja
Ram by Mohan ACC home go-INF GEN for tell-PFV go-PFV
'Mohan was told by Ram to go home.'

(Mahajan 1995: 289-291)

In (17i), the object can retain the *-ko* marker in the passive (first noted by Hook 1979). (17ii) shows that the pronoun in passive can corefer with the object as the latter has not moved to the subject position and (17iii) indicates that the object has not been promoted as it can still control into the complement.[2]

Contrary to Mahajan (1995), Bhatt (2003) claims that the object is promoted in passives; however such promotion is optional.[3] Alongside (18i), we also find (18ii), where there is no *-ko*. As pronominal direct objects must be overtly Case marked in Hindi, the grammaticality of (18ii) can only be explained by an analysis that promotes the logical object ("I") to a structural Case position.

18. i) muɟʰ ko fɔrən pehcɑn lijɑ ɟɑegɑ
me-OBL-ACC immediately recognize take-PFV go-PFV-FUT
'I will be recognized immediately.'

ii) mɛ̃ fɔrən pehcɑn li ɟɑũŋi
I.F immediately recognize take-PFV go-PFV-FUT.F
'I will be recognized immediately.'

Moreover, unlike unpromoted objects, promoted objects obviate pronominal possessors in passives:

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[2]It has been proposed by Magier (1990) that this retention of the *-ko* marker is related to intentionality of the agent. So, one may predict that the passive, a *-ko* marked object must not co-occur with the demoted agent and adverbs like *ənɟɑne mɛ̃* 'unintentionally.' This is true:

1. ???rɑm ɖʱwɑrɑ ənɟɑne mɛ̃ hɑʈʰi ko mɑrɑ gəjɑ
Ram by ignorance in elephant ACC kill-PFV go-PFV
'The elephant was killed by Ram in ignorance.'

Without the *-ko* marker, however, the demoted agent can occur with *ənɟɑne mɛ̃* 'unintentionally':

2. rɑm ɖʱwɑrɑ ənɟɑne mɛ̃ hɑʈʰi mɑrɑ gəjɑ
Ram by ignorance in elephant kill-PFV go-PFV
'The elephant was killed by Ram in ignorance.'

[3]This is in contradiction to Bhatt & Anagnostopoulou's (1996) claim that in ingesto-reflexive ditransitives and true ditransitives *-ko* indicates that obligatory object shift has taken place.

19. i) sit̪ɑ$_i$ us ke$_{j/*i}$ g^{h}ər ke pɑs d̪ek^{h}i gəi
Sita she.OBL.GEN home-GEN near see-PFV go-PFV
'Sita$_i$ was seen near her$_{j/*i}$ home.'

ii) sit̪ɑ$_i$ ko us ke$_{j/i}$ g^{h}ər ke pɑs d̪ek^{h}ɑ gəjɑ
Sita ACC she.OBL.GEN home-GEN near see-PFV go-PFV
'Sita$_i$ was seen near her$_{j/i}$ home.'

Bhatt also notes that promotion blocks the implicit agent from controlling the PRO subjects of the participial adjuncts:

20. i) sit̪ɑ$_i$ [PRO$_{i/??imp\ arg}$ roṭe roṭe] g^{h}ər se b^{h}eɟi gəi
Sita.f crying-crying home from send-PFV.F go-PFV.F
'Sita was sent home while she was crying.'

ii) sit̪ɑ$_i$ ko [PRO$_{i/imp\ arg}$ roṭe roṭe] g^{h}ər se b^{h}eɟɑ gəjɑ
Sita ACC crying-crying home from send-PFV.F go-PFV.F
'Sita was sent home while she was/ the people who sent her were crying.'

Bhatt's observations raises a further question that relates to the strength and value of the diagnostics – how clear and sharp are they in diagnosing subject positions? It turns out that at least the control into participial adjunct test needs to be carefully framed. While Bhatt's examples in (20i-ii) correctly distinguish a promoted object from a non-promoted one, they do not diagnose what the promoted position is.

There is reason to believe that the promoted object is not in subject position. Hindi has one participial adjunct, called the conjunctive participle, which is marked by the suffix *kər* (i.e. the root of the verb *kərna* 'to do') on a bare (tenseless) verb stem. It obligatorily requires an overt controller in subject position as (21) shows:

21. ciku$_i$ ne monu$_j$ ko [PRO$_{i/*j}$ hə̃skər] mɑrɑ
Chiku ERG Monu ACC laugh-do hit- PERF
'Chiku$_i$ hit Mohan$_j$ while he$_{i/*j}$ was laughing.'

Now, let us introduce the conjunctive participle in passives. As (22i-ii) show, 'Sita' can never control the *-kər* adjunct as the conjunctive participle clause requires an overt controller in subject position.

22. i)siṯɑ$_i$ [PRO$_{*i/*imp\ arg}$ rokər] g^{h}ər se b^{h}eɟi gəi
Sita crying home from send-PFV.F go-PFV.F
'Having cried, Sita was sent home.'

ii)siṯɑ$_i$ ko [PRO$_{*i/*imp\ arg}$ rokər] g^{h}ər se b^{h}eɟɑ gəjɑ
Sita ACC crying home from send-PFV go-PFV
'Having cried, Sita was sent home.'

The conjunctive participle test therefore suggests that the direct object is never in a subject position, even when it is promoted.

A similar conclusion arises from a closer study of the binding facts, which are more complicated than Bhatt (2003) assumes. Let us consider the following active examples with a complement PP and a non-human direct object.

23. i) rɑm$_i$ ne cu:hɑ$_j$ uske$_{*i/*j/k}$ bɛg mə̃ rək^{h}ɑ
Ram ERG rat his bag in keep-PFV
'Ram$_i$ kept the rat$_j$ in his$_{*i/*j/k}$ bag.'

ii) rɑm$_i$ ne cu:he$_j$ ko uske$_{*i/j/k}$ bɛg mə̃ rək^{h}ɑ
Ram ERG rat ACC his bag in keep-PFV
'Ram$_i$ kept the rat$_j$ in his$_{*i/j/k}$ bag.'

In (23i), the direct object (DO) cannot bind the pronominal, but in (23ii), it can. As the *-ko* marking in Hindi is specificity marking (Deising 1992, Kidwai 1995, 2000), we can safely assume that the DO without *-ko* is in the base position. Thus, the binding facts of the base structure indicate that a possessive pronominal in a complement PP cannot be bound by an adjunct in a DP complement. The same situation holds of adjuncts as well:

24. i) rɑm$_i$ ne cu:hɑ$_j$ uske$_{*i/*j/k}$ bil mẽ ḍ̤ekʰɑ
Ram ERG rat his hole in saw-PFV
'Ram$_i$ saw the rat$_j$ in his$_{*i/*j/k}$ hole.'

ii) rɑm$_i$ ne cu:he$_j$ ko uske$_{*i/j/k}$ bil mẽ ḍ̤ekʰɑ
Ram ERG rat ACC his hole in saw-PFV
'Ram$_i$ saw the rat$_j$ in his$_{*i/j/k}$ hole.'

The conclusion we can draw here is that the promoted position is the one that licenses a bound reading of the pronominal in the adjunct. Let us take the passive counterpart of (23):

25. i) cu:hɑ$_j$ uske$_{*j/k}$ bɛg mẽ rəkʰɑ gəjɑ
rat his bag in keep-PFV go-PFV
'The rat$_j$ was kept in his$_{*j/k}$ bag.'

ii) cu:he$_j$ ko uske $_{j/k}$ bɛg mẽ rəkʰɑ gəjɑ
rat ACC his bag in keep-PFV go-PFV
'The rat$_j$ was kept in his$_{j/k}$ bag.'

In (25) too, we get the same binding relations as in (24). This proves that Bhatt's (2003) conclusion that the DO with *-ko* marking is in a lower position is incorrect. Rather, the opposite conclusion holds -- the *-ko* marked DO is in a higher position.

However, this is not a subject position as antisubject orientation does not hold here (see 25ii). Let us introduce *ram ḏ̪wara* in (25) to see this:

26. i) rɑm$_i$ ḏ̪wɑrɑ cu:hɑ$_j$ uske$_{*i/*j/k}$ bɛg mẽ rək^{h}ɑ gəjɑ
Ram by rat his bag in keep-PFV go-PFV
'The rat$_j$ was kept in his$_{*i/*j/k}$ bag by Ram$_i$.'

ii) rɑm$_i$ ḏ̪wɑrɑ cu:he$_j$ ko uske$_{*i/j/k}$ bɛg mẽ rək^{h}ɑ gəjɑ
Ram by rat ACC his bag in keep-PFV go-PFV
'The rat$_j$ was kept in his$_{*i/j/k}$ bag by Ram$_i$.'

In (26i), we have two obviations, one from the passive agent and second from the DO. In (26ii), as the DO is in a promoted position, it can bind the pronominal in the PP complement, which must obviate only from the passive agent.

In sum, then, two facts about the regular passive in Hindi emerge as salient. The first is that the external argument in these constructions retains many subject properties even as it surfaces with as postposition (adjunct) equivalent to the English 'by'. The second fact is that the *-ko* marked object is in a higher position and it is the promoted object not the *-ko* less one as claimed by Bhatt (2003).

However, the fact about the passive agent raises further question that if the *-ḏ̪wara* phrase is indeed a subject, why is it preferentially left unexpressed. Other oblique subjects do not have this property; on the contrary, null arguments of oblique subjects require significantly more contextual motivation as they do not trigger agreement on the verb. The *-ḏ̪wara* phrase, on the other hand, seems to be null as default, overtly expressed only in functional contexts when the doer of the action needs to be specified.

5.2.2. Inabilitative "passives"

Hindi has another passive construction which conveys the inability of an agent/initiator to initiate the event denoted by the predicate -- the inabilitative

passive (Pandharipande 1979).[4] The inabilitative passives can be formed on eventive predicates intransitives and transitives both. For example:

27. i) vʌnkɑ-se jʰu:lɑ nəhĩ: gəjɑ
Vanka-INS swing-PFV not go-PFV
'Vanka could not swing.'

ii) mohən-se kʰɑjɑ nəhĩ: gəjɑ
Mohan-INS eat-PFV NEG PASS-PFV
'Mohan was not able to eat.'

However, with stative predicates, we cannot have inabilitative passives as shown in (28):

28. *mohən-se bʰu:k nəhĩ: ləgi gəi
Mohan-INS hunger NEG happen-PFV PASS-PFV
'*Mohan was not able be hungry.'

As various linguists (Pandharipande 1979, Kachru 1980, Davison 1982) have observed, despite similarities with the regular passive, the Hindi inabilitative passive differs significantly from it. Unlike regular passives in Hindi, a light verb cannot be used with inabilitative passives:

29. i) pulis ɖ̪wɑrɑ bəcce ko mɑr ɖɑlɑ gəjɑ
police by child ACC kill pour-PFV go-PFV
'The police killed the child.'

ii)*pulis se bəcce ko mɑr ɖɑlɑ nəhĩ: gəjɑ
police-INS child ACC kill pour-PFV not go-PFV
'The police was not able to kill the child.'

[4]Other terms for this are- capabilitative passive (Balachandran 1973), passive of incapacity (Hook 1979), inability passive (Davison 1982) and capacity passive (Rosen & Wali 1989).

Moreover, as noted by linguists (Hook 1979, Pandharipande 1979, Bhatt 2003), for most native speakers, inabilitative passives can only occur in affective environments, such as those with negation, question, conditional etc. For example:

30. i) ??rɑm se je citʈʰi pəʈʰi gəi
ram-INS this letter read-PFV go-PFV
'Ram was able to read this letter.'

ii) rɑm se je citʈʰi pəʈʰi nəhĩ: gəi
ram-INS this letter read-PFV not go-PFV
'Ram was not able to read this letter.'

iii) kjɑ rɑm se je citʈʰi pəʈʰi gəi ?
what ram-INS this letter read-PFV go-PFV
'Was Ram able to read this letter?'

In (30iii), although there is no negation, there is some doubt with regards to the agent's ability to read the letter. Compare this with (30ii) where there is complete negation of agent's ability to read the letter. This shows that in (In)abilitative passives there is either a doubt on ability or complete negation of ability. If there is no doubt on the agent's ability, the modal *səkna* 'can' is used:

31. rɑm je citʈʰi pəʈʰ səkɑ
ram this letter read can-PST
'Ram could read this letter.'

Mohanan (1993) argues that it is syntactically different from regular passive:

32. i) ravi-ne ram ko nahin piita
Ravi-E Ram-A not beat-PERF
'Ravi didn't beat Ram.'

ii) ravi-se ram-ko piita nahin gaya
Ravi-I Ram-A beat-PERF not go-PERF
'Ravi couldn't (bring himself to) beat Ram.'

iii) ram (ravi-se) piita nahin gaya
Ram-N Ravi-I beat-PERF not go-PERF
'Ram wasn't beaten (by Ravi).' (Mohanan 1993:152)

She observes that semantically, the instrumental (INST) subject construction always involves either a negative or a question and it has the capabilitative meaning; the passive has no such restriction. There are several properties of surface realization, too. Note that the ERG subject in (32i) has INST Case in both (32ii & iii). The ACC OBJ of (28i) retains its ACC Case in (32ii), but it is NOM in (32iii). Mohanan (1993) argues that the ACC object of an active sentence is NOM in the passive, as it is not an object. But in the INST subject construction, it retains ACC Case, hence, it must be the object. In passive, the "demoted" agent in the INST Case is optional and generally omitted but the INST nominal is obligatory in the INST subject construction to get the "internally determined capability" meaning. A passive requires the verb to be transitive, but the INST subject construction has no such requirement. Moreover, the INST subject construction has no passive counterpart.

Another difference is in the word order. In passives, the *-se* argument is free to either follow or precede the NOM argument, but in the INST subject constructions, the *-se* argument must obligatory precede the ACC argument. Additionally, the INST *-se* in the passive may be replaced by the postposition *-ke ḍwara* 'through' but not in the INST subject construction. Mohanan (1993) argues that the inability of - *ke ḍwara* phrase to occur in the INST subject construction is because the L(ogical) subject in this construction is a subject. She provides evidence for the grammatical subjecthood of the INST argument in the INST subject construction. Consider the following examples:

33. i) vijay-ne ravi-ko apnii saikil-par biṭʰaya
Vijay-E Ravi-A self-G bicycle-L sit-C-PERF
'Vijay$_j$ seated Ravi$_i$ on self's$_{j/*i}$ bike.'

ii) vijay-se ravi-ko apnii saikil-par biṭʰaya nahin gaya
Vijay-I Ravi-A self-G bicycle-L sit-C-PERF not go-PERF
'Vijay$_j$ couldn't seat Ravi$_i$ on self's$_{j/*i}$ bike.'

iii) ravi vijays-se apnii saikil-par biṭʰaya gaya
Ravi-N Vijay-I self-G bicycle-L sit-C-PERF go-PERF
'Ravi$_i$ was seated by Vijay$_j$ on self's$_{i/j}$ bike.'

(Mohanan 1993: 123, 161)

Mohanan argues that in (33ii), the antecedent of the reflexive is only the INST logical subject, therefore either it must be the subject, or the construction has no subject. This contrasts with the passive construction in (33iii).

However, the anti-subject orientation test shows contrary results. As (34) shows, a *-se* marked phrase in an inabilitative passive can (unlike a *-ḍwara* phrase in the regular passive) bind a lower possessive pronominal. Therefore, it must not be in the subject position.

34. i) rɑm$_i$ se uske$_{i/j}$ gʰər mẽ gʰusɑ nəhĩ: gəjɑ
Ram-INS his house in enter-PFV not go-PFV
'Ram$_i$ was not able to enter into his$_{i/j}$ house.'

ii) rɑm$_i$ se uski$_{i/j}$ mɑ̃ ko mɑrɑ nəhĩ: gəjɑ
Ram-INS his mother ACC kill-PFV not go-PFV
'Ram$_i$ was not able to kill his$_{i/j}$ mother.'

5.2.3. Impersonal "passives"

By definition, the impersonal passive suppresses the external argument of an intransitive verb. In place of the verb's subject, the construction instead may include a syntactic placeholder. For example:

35. Es wird geschlafen. (German)
DUMMY is slept
(Literally) "It is slept."

Bhatt (2003) claims that Hindi too has the impersonal passive.

36. cal-o daur-aa jaa-ye
come-Perc.M.Sg run-Perf.M.Sg go-Subj.M.Sg
'Come on, let it be run (let us run)'

Though, (36) contains the auxiliary verb *ɟa* 'go' similar to the passive morphology, in my view that this is not the impersonal passive, but the co-hortative mood. Moreover, the verb in these constructions cannot be inflected (unlike the passives, where it can):

37. *cəlo ɖ̪ɔʈɑ ɟɑegɑ
Come on run- PFV go-FUT
'Come, on. Let it will be run.'

5.3. Analysis of Hindi Passives

5.3.1. Regular Passives

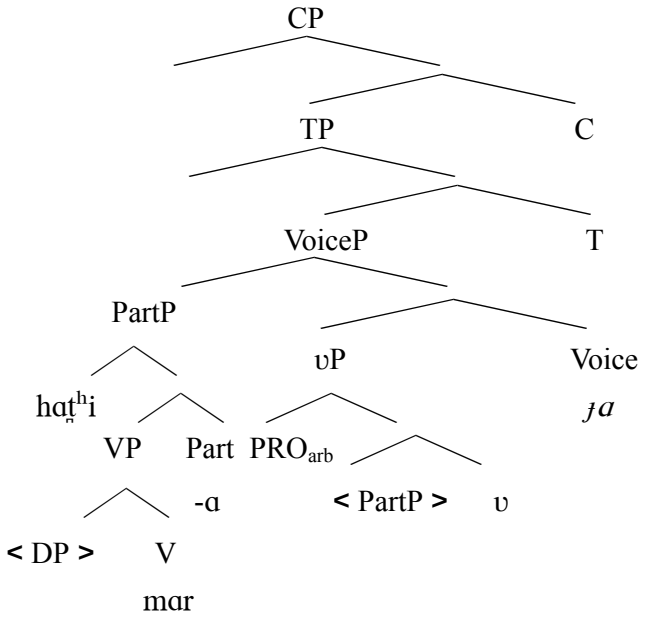
Extending Collins (2005)'s approach to passives, I argue that the auxiliary verb *ɟa 'go'* is the Voice head in Hindi. It selects for a υP as its complement. This is suggested by the fact that unaccusatives do not form passives in Hindi. Hindi uses participle affix *-a* (compare English participle *-en*) in addition to auxiliary verb *ɟa 'go'*. Therefore, I assume that in Hindi passive too, Part selects VP and υP

containing this PartP is selected by Voice and it involves the movement of PartP to Spec, VoiceP. This movement is triggered due to an edge feature of Voice.

Following Roberts (2008), I also assume that Voice is the head of the internal clausal phase and its accusative Case features are inherited by v* in active clauses, whereas in passives it is withheld by Voice and not absorbed. The structure for the passive in (38i) is as given in (38ii):

38. i) haṭ̪^{h}i mara gəja
elephant kill-PFV go-PFV
'The elephant was killed.'

ii)

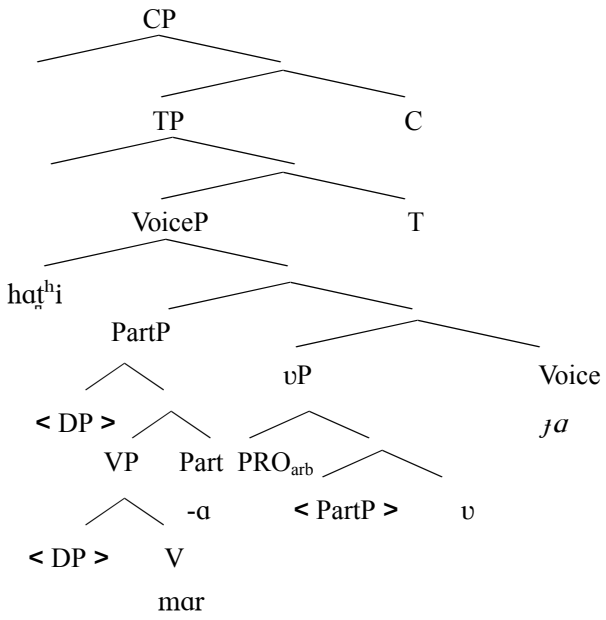


The external argument is realized here as PRO$_{arb}$ merged in the Spec, υP position. V moves to Part first inside PartP and then to υ. The moved PartP as a whole is licensed by the verbal Voice *ɟa 'go'* unlike in English where the direct object has to be smuggled out of the moved PartP to Spec, IP to get nominative Case as Voice *'by'* has already assigned its accusative Case to the active subject *'John'* in Spec, υP (see fig.5).

Alternatively, if the direct object is extracted out of the moved PartP into the outer specifier of VoiceP, Voice assigns it the (putative lexical) Case *-ko*. Let us consider the passive sentence in (39):

39. i) hɑʈ̪^{h}i ko mɑrɑ gəjɑ
elephant ACC kill-PFV go-PFV
'The elephant was killed.'

ii)



In the passive sentences where the agent needs to be specified, it is expressed by a *-ḏ̪wara* phrase:

40. rɑm ḏ̪wɑrɑ hɑʈ̪^{h}i (ko) mɑrɑ gəjɑ
Ram by elephant ACC kill-PFV go-PFV
'The elephant was killed by Ram.'

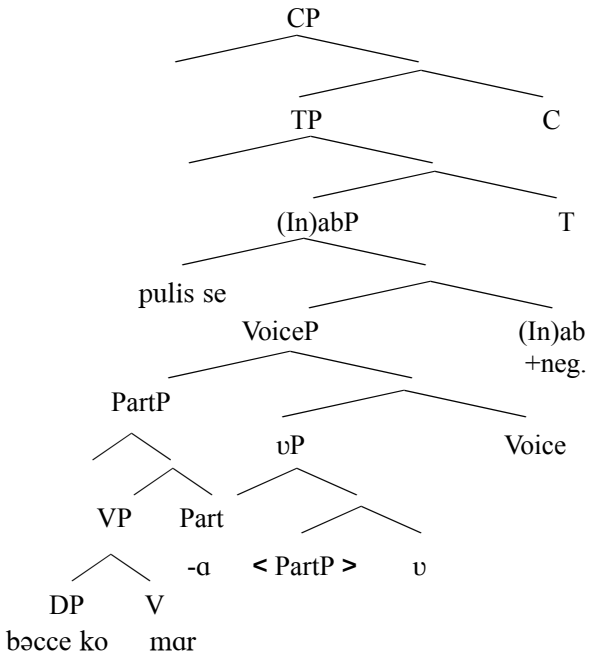
I argue that *ram ḏ̪wara* 'by Ram' is merged in Spec, TP because as shown above, *ram ḏ̪wara* 'by Ram' does not behave like a PP (*ḏ̪wara* does not block *Ram* from acting as a binder). Such merge must be a first merge, given that passivisation has taken place and the external argument position is no longer available for the merge of *Ram*.

5.3.2. Inabilitative Passives

In the section 5.2, we have observed that a light verb cannot be used with inabilitative passives. Hence, I take this as an evidence to argue that the auxiliary verb *ɟa 'go'* here is not the Voice head as in the regular passive but it is the light verb itself which latter substitutes to Voice. As shown earlier in chapter IV, with respect to inabilitative passives, it is irrelevant whether the base configuration is unaccusative or unergative but animacy (and thus volitionality) matters. Hence, I argue that there is an additional (In)abP in between TP and VoiceP in inabilitative passives. This (In)ab head licenses an animate argument in its specifier position. Mahajan (1998) has shown that Hindi negation cannot project a functional projection. Assuming this to be true, I also argue that the (In)ab head has a neg feature. If the value of this neg feature is [+], then we have *nəhĩ:* 'not' but if it is [–], then question, conditional etc. Let us consider (41i) with its structure in (41ii),

41. i) pulis se bəcce ko mɑrɑ nəhĩ: gəjɑ
police-INS child ACC kill not go-PFV
'The police was not able to kill the child.'

ii)



Initially, *ɟa 'go'* is in υ which has an accusative Case feature by inheritance from Voice. So, the direct object inside PartP is licensed. Then *ɟa 'go'* moves to Voice, identifying the construction as a passive absorbing the external argument. The (In)ab head licences the argument *pulis* 'police' directly merged in Spec, (In)abP and assigns *-se* (ablative Case) to it. As (In)ab head has +neg feature associated with it, we get *nəhĩ:* in this sentence.

5.4. Conclusion

The proposed analysis of passives in Hindi aptly elucidates the dissimilarities between English and Hindi passives along with accounting for the differences as well as similarities between Hindi regular passives and (In)abilitative passives. The facts regarding 'underlying subject remaining an active subject' and presence/absence of *-ko* marker in Hindi regular passives are also explained through this analysis. The analysis for the inabilitative passive in Hindi confirms the claim made in chapter IV that it involves the promotion of an argument that is [+animate]. It also handles the occurrence of the inabilitative passives in affective environments, absence of light verb usage with inabilitative passives and the difference between the *-se* argument of inabilitative passives vs. the *-se* adjunct in Hindi.

Chapter 6

THE CAUSATIVE ALTERNATION

The present chapter is dedicated to a review of the literature on the causative alternation and morphological causatives in Hindi and other languages. Section 6.1 discusses various approaches to the causative alternation. The next section 6.2 looks at existing research on causatives cross-linguistically. Section 6.3 examines the available research on Hindi causatives.

6.1. Approaches to the Causative Alternation

The causative alternation, an argument structure altering phenomenon involving an additional argument usually inferred as a causer, is an important unaccusative diagnostic in many languages. Since unaccusative and unergative verbs are both intransitives, the difference between them is usually considered to be a difference in semantic characterization that does not involve a difference in basic adicity. Most of the prototypical unaccusatives like '*open*', '*break*', '*sink*' participate in causative alternation whereas prototypical unergatives like '*run*', '*laugh*', '*play*', '*speak*' do not participate regularly in this alternation in languages like English, French, Italian, Russian etc. For example:

1. i) Osaka opened the door / The door opened.
   ii)*Vasily ran Osaka / Osaka ran.

The causative alternation has been claimed to be an unaccusative diagnostic (Burzio 1986, C. Rosen, 1981) as this sharing of semantic role can only be explained if the verb in the intransitive variant is unaccusative, so that its subject is a D-structure object.

Therefore, the verb's ability to participate in the causative alternation seems to correlate strongly with an unaccusative classification of that verb and it is often used

as a probe into the nature of unaccusativity. Linguists have approached this phenomenon from either of the two different perspectives: the *lexicalist* or the *syntactic*.

6.1.1. The Lexicalist Approach

In the lexicalist view, the causative alternation is located in the lexicon, as mandated by the Projection Principle (Chomsky 1981). Each lexical entry has an argument structure correlated with a verb's meaning which is reflected in its syntax. In this view, the causative alternations have been represented in two ways: either as the addition of an argument, or as the subtraction of an argument.

The studies that favour the addition of arguments (Lakoff 1968, 1970, Williams 1981, Brousseau & Ritter 1991) suggest that unaccusative verbs are basically monadic and the causative alternation arises from addition of an argument. Analyses that favour the subtraction of arguments (Chierchia 1989, Reinhart 1991, Jackendoff 1997) suggest that unaccusative verbs are derived from basically dyadic causative verbs, whereas unergative verbs are basically monadic. The verb has a theta-role corresponding to an external argument in its semantic representation, but this does not appear in the argument structure and is therefore not reflected syntactically.

Levin & Rappaport Hovav (1995) assume this subtractive approach and make it the basis of their theory of unaccusativity. Alternating unaccusative verbs have a single lexical semantic representation associated with both their unaccusative and transitive forms, and this representation is a causative lexical semantic representation. They propose the following representation for the two types of verbs:

2. i) *break* : [[x DO – SOMETHING] CAUSE [y BECOME BROKEN]]
   ii) *laugh* : [x LAUGH]

A verb like '*break*' on both its transitive and intransitive uses has a complex Lexical Semantic Representation (LSR) involving the predicate CAUSE. There are two sub-

events involved: the causing sub-event and the central sub-event (specifying the change associated with the verb). The causer argument is associated with the causing sub-event and the passive participant (patient/theme) with the central sub-event. The LSR associated with a non-alternating intransitive verb such as '*laugh*' does not involve the predicate CAUSE, it has only one sub-event and is taken to be basically monadic.

The representation of alternating ('*break*') verbs in (2i) reflects the fact that such verbs are externally caused, as these verbs involve two sub-events. Therefore, externally caused verbs are inherently dyadic predicates, which take both the external cause and passive participant in the eventuality as arguments.

LRH formulate linking rules that are responsible for determining the argument structure of intransitive verbs and hence, the syntactic expression of their arguments.

3. i) The Immediate Cause Linking Rule.

The argument of a verb that denotes the immediate cause of the eventuality described by that verb is its external argument
(i.e. if the verb is intransitive, it will be unergative).

ii) The Directed Change Linking Rule

The argument of a verb that corresponds to the entity undergoing the directed change described by that verb is its direct internal argument
(i.e. if the verb is intransitive, it will be unaccusative).

LRH argue that this distinction between external vs. internal causation plays a very crucial role in determining which verbs may participate in the causative alternation and make the generalization that only externally caused verbs can participate in causative alternation. This is because only these verbs involve an external causer as (4) shows:

4. i) The boat sank.
ii) We sank the boat.
iii) The girl laughed.
iv)*He laughed the girl.

However, Pylkkänen (1999, 2002) critiques these proposals, by which external arguments end up being characterized as 'true' arguments of the verbs. Pointing out that LRH's proposals are incompatible with the current theories of syntax and semantics of external arguments, she also notes that LRH's claims that unaccusatives have a causative semantics in their intransitives uses are not supported by the actual data. If unaccusatives did indeed behave as such, we would expect instrumental modifiers to be able to combine with unaccusatives -- however, this expectation is not met:

5. i) John broke the window with a stone.
ii) The window was broken with a stone.
iii)*The window broke with a stone. Pylkkänen 2002:124)

6.1.2. The Syntactic Approach

In an alternative approach, following earlier treatments within generative semantics (Lakoff 1968), analysis of the causative alternation is located in the syntax. Baker (1988) shows that a syntactic analysis of syntactic regularities is possible, hence possible for causative alternations too. In Minimalism, as already discussed in chapter 2, the external argument is introduced by a special syntactic head υ (Chomsky 1995), following Kratzer's (1994) proposal of a *Voice* head. In this approach of lexical decomposition, which is carried out according to syntactic principles in accordance with Hale & Keyser's (1993) proposal, there is no separation between the syntax and the lexicon. Predicates that arise through decomposition are made to appear in the syntax, each with its unique argument (Baker 1997, McGinnis 2000).

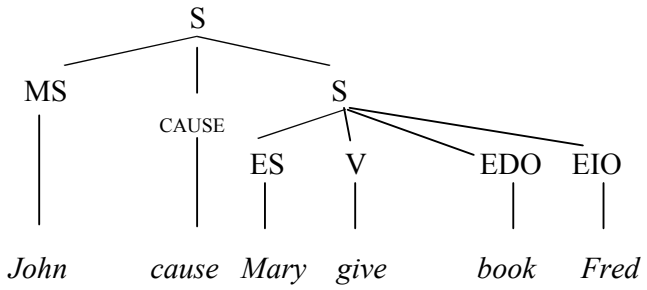
Although the semantic and syntactic effect of this phenomenon of causative alternation is identical across languages, we encounter various types of crosslinguistic variation. Languages like Japanese, Finnish, Hindi etc. have a more productive type of causative alternation, i.e. *morphological causativisation*, than languages like English which employ *syntactic causativisation*.[1] We turn to as examination of the existing research on causatives in the next section

6.2. Existing Research on Causatives

6.2.1. Comrie (1976)

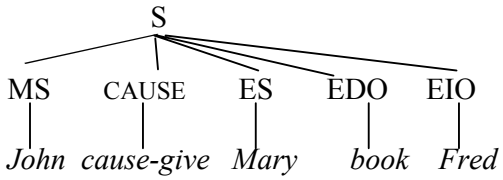
Comrie (1976)'s universal analysis is one of the earliest analyses for causative constructions from a crosslinguistic perspective. He assumes that the underlying structure of a causative sentence as below:[2]

6.



In languages where CAUSE and V are fused together, the underlying structure would be:

7.



Comrie (1976) also introduces the relational hierarchy for his analysis of morphological causatives:

8. SUBJECT— DIRECT OBJECT— INDIRECT OBJECT— OTHER OBLIQUE CONSTITUENT

[1]Also termed as analytic/periphrastic causativisation.
[2]MS (Matrix subject), ES (Embedded subject), EDO (Embedded Direct Object), EIO (Embedded Indirect Object)

Using this relational hierarchy, Comrie (1976) claims that in causative constructions if the embedded verb has no direct object, then the embedded subject appears as the direct object; if it has a direct object and no indirect object, then the embedded subject appears as indirect object; if it has both direct as well as indirect object, then the embedded subject appears as one of the oblique constituents. Let us consider the following sentences:

9. i) ali hasani öl-dü-dü Turkish
Ali Hasan-ACC die-CAUSE-PAST
'Ali caused Hasan to die.'

ii) dişçi mektub-u müdür-e imzala-t-tı
dentist letter-ACC director-DAT sign-CAUSE- PAST
'The dentist made the director sign the letter.' (Comrie 1976:263)

In sentence (9i), the causee will be the direct object as there is not any other argument in that position but in (9ii), the causee appears in the indirect object position.

Comrie (1976) establishes the "paradigm case" in order to provide a framework within which morphological causative constructions can be discussed crosslinguistically. The characteristics of the "paradigm case" are as following:

10. i) No syntactic restriction on the formation of causative constructions (though there may be some semantic, morphological or idiosyncratic lexical restrictions).

ii) No matter how many arguments a given noncausative verb has, there will also be an equivalent causative verb with one more argument.

iii) Doubling on the syntactic positions subject, direct object, indirect object is not allowed.

iv) Where the restrictions on doubling require that some constituent be removed, it is always the embedded subject that is removed, either by being omitted or by being demoted down the hierarchy.

v) When the embedded subject is demoted down the hierarchy, it is demoted stepwise (i.e. always to the next-highest position in the hierarchy that is available).

(Comrie 1976:264-265)

Although many languages could be represented within the "paradigm case," there exist others which remain unexplained by Comrie's proposals. Comrie himself cites numerous examples of "doubling on indirect object," even though it is not allowed by his "paradigm case."

6.2.2. Marantz (1981)

Marantz (1981) explains various aspects of Comrie (1976)'s "paradigm case" as well as the long list of exceptions. Adopting Liber's (1980) ideas, Marantz (1981) maintains that there are no word formation rules as such. Therefore, there are no "lexical rules" to derive morphological causatives. These constructions are derived in lexicon through the process of affixation of the causative morpheme to the verb root. The general principle Marantz assumes is as following:

11. "If a lexical item assigns a semantic role or has an argument structure, it is an independent constituent at l-s[3] structure."

(Marantz 1981:259)

[3]Logico-semantic structure: Representation of semantic role assignment and semantic dependencies.

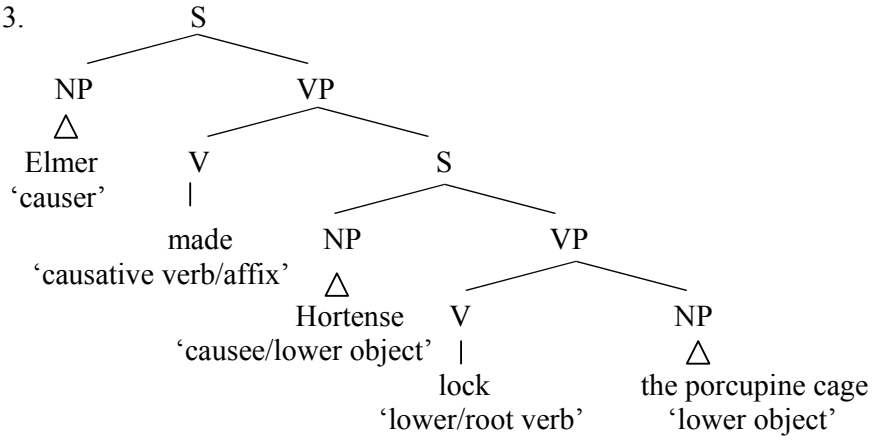
Since the affixes carry their own argument structure, by the above principle they must appear as an independent constituent in l-s structure. In the lexicon, affixes are attached to roots and hence, derived words are inserted into D-structure as a whole and appear at surface structure too. Therefore, these affixes must "merge" with the roots to which they attach between l-s and surface structure. Let us consider the following sentences:

12. i)Elmer made Hortense lock the porcupine cage. English

ii) dişçi mektub-u müdür-e imzala-t-tı Turkish
dentist letter-ACC director-DAT sign-CAUSE- PAST
'The dentist made the director sign the letter.' Marantz 1981:300)

The l-s structure of (12i) would be as below:

13.



Marantz claims that abstracting away the differences among the lexical items of particular languages, the l-s structure of morphological causatives would be identical to the structure above. Thus, the l-s structure of (12i-ii) would be same (i.e. of lexical causatives and morphological causatives). Then the causative affix must merge with the root verb either between l-s and s-[4]structure or between s and surface

[4]Syntactic structure: Representation of syntactic role assignment and grammatical dependencies. In Marantz (1981)'s framework, s-structure is between l-s and surface structure.

structure. Merger at different levels gives rise to crosslinguistic variation in languages with morphological causatives:

14. Kinds of morphological causative constructions crosslinguistically

A. merger between l-s and s-structure

(i) intransitive lower verb:

causer---SUB of derived verb

causee---OBJ of derived verb

(ii) transitive lower verb:

causer---SUB of derived verb

causee---OBJ of derived verb

B. merger between s and surface structure

causer---SUB of derived verb

causee---OBJ of derived verb

lower obj.---never OBJ of derived verb (Marantz 1981:304)

Languages like Turkish and Malayalam have morphological causatives of kind A (merger between l-s and s-structure). In these languages, the logical object of the root/lower verb (if it takes one) is always a direct object of the derived causative verb as shown in (15):

15. i) ali hasani öl-dü-dü Turkish

Ali Hasan-ACC die-CAUSE-PAST

'Ali caused Hasan to die.'

ii) diş̧çi mektub-u müdür-e imzala-t-tı

dentist letter-ACC director-DAT sign-CAUSE- PAST

'The dentist made the director sign the letter.' (Marantz 1981:25)

Marantz argues that when merger of the causative suffix and root verb takes place between l-s and s-structure, the causative construction has a monoclausal s-structure and the causer as well as the lower object are in the same derivation. Thus, one of the predictions would be that a first person causer should be able to serve as antecedent for reflexive 'self' as a lower object in the causative construction, and this is confirmed below:

16. hasan-a kendim-i yɨka-t-tim Turkish
Hasan-DAT self-ACC wash-CAUS-PAST.1SG
'I made Hasan wash me.'

Japanese and many Bantu languages have morphological causatives of kind B (merger between s- and surface structure). Here, the causee is the direct object of the derived causative verb regardless of the transitivity of the root/lower verb. For example:

17. i) taroo ga hanako o hatarak-ase-ta Japanese
Taroo NOM Hanako ACC work-CAUSE-PAST
'Taroo made Hanako work.'

ii) taroo ga hanako ni sashimi o tabe-sase-ta
Taroo NOM Hanako DAT sashimi ACC eat- CAUSE-PAST
'Taroo let/made Hanako eat sashimi.'

Marantz argues that when merger of the causative suffix and root verb takes place between s- and surface structure, the causative affix and root verb remain as distinct s- structure constituents. Thus, the cause is both the s-structure SUB of the lower clause and the s-structure OBJ of the causative verb, whereas the lower object is only the OBJ of the lower verb. This would predict that in the lower clause, a causee as well as a causer may serve as antecedent of the reflexive *zibun* 'self' (which may take long-distance subject antecedents) and this is true:

18. taroo wa hanako o zibun no kuruma kari ori-sase-ta
Taroo NOM Hanako ACC self GEN car from come down-CAUSE-PAST
'Taro made Hanako come out of his/her car.'

Although Marantz's analysis explains the crosslinguistic syntactic properties of morphological causative to a large extent, his notion of "merger" is not clear in terms of what kinds of "natural lexical property" allow "merger." Moreover, his claim that morphological causative constructions can vary independently of other aspects of the language proves to be false in the wake of languages where the causative type covaries with Case-marking properties rather than being independent of them.

6.2.3. Baker (1985)

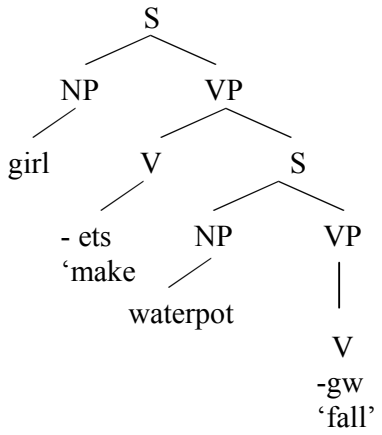
Baker's (1985) analysis of morphological causatives is somewhat similar to Marantz's as far as the general framework and specific analysis are concerned. Both provide an account of morphological causatives with their properties being determined not by explicit rules but by general principles. In line with the syntactic approach, Baker (1985) claims that grammatical function (GF) changing phenomena should be accounted for in the syntax, not in the lexicon. He argues that morphological causatives are instances of 'Verb Incorporation' (VI) and GF changing process occurring in these causatives is a side effect of incorporation. Let us consider the following examples:

19. i)mtsikana anachititsa kuti mtsuko unagwe Chichewa
girl make that waterpot fall
'The girl made the waterpot fall.'

ii) mtsikana anau-**gw-ets**-a mtsuko
girl agr-fall-made waterpot
'The girl made the waterpot fall.' (Baker 1985:204-205)

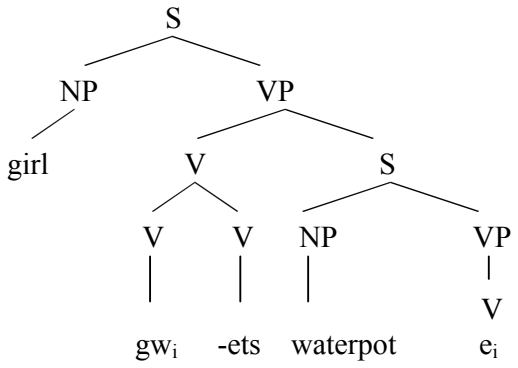
In (19i & ii), the same thematic roles relate the same verbs to the same noun phrases- 'the waterpot falls' and 'the girl' is responsible for this event. So, UTAH (i.e. theta roles are always assigned to the same positions across all structure types) implies that these should have parallel D-structures. So, the D-structure would be as in (20):

20.



Now the causative suffix *-ets* and the verb root has to combine to form a single word (i.e. incorporation). So, in the next step the verb root undergoes syntactic movement to combine with the causative affix. Thus, the S-structure of (17ii) would be as in (21):

21.



Baker also argues that the differences between syntactic and morphological causatives are not a different as they appear to be. He claims that both types of causatives are instances of VI, except that in syntactic causatives VI is *abstract*,

occurring in the mapping between S-structure and LF. In morphological causatives, on the other hand, such VI is overt, occurring in the mapping between D-structure and S-structure.

This analysis of morphological causatives as an instance of VI supports the idea of Lieber (1980) that affixes are just like words except that they must attach to a word. However, as Baker points out that causative constructions approach to morphological causatives must be monoclausal at all levels of syntactic description in the lexicalist approach. Hence, though such analyses are consistent with the Projection Principle, they are inconsistent with the UTAH. Other approaches like Marantz (1981, 1984) consider morphological causatives to be biclausal at underlying level, but monoclausal on the surface. Such approaches are therefore consistent with the UTAH but inconsistent with the Projection Principle. A VI theory of causatives, on the other hand, is consistent with *both* the Projection Principle as well as the UTAH because here, the causatives had a biclausal structure at underlying level, and this biclausal structure was maintained throughout the syntactic derivation.

6.2.4. Hale & Keyser (1993)

As discussed earlier in section 2.2.4 of chapter 2, Hale & Keyser (1993) suggest that unergative verbs have no subject in their LRS representation. This is the reason why, they claim, unergatives can not appear in the lexical syntactic "causative" constructions:

22. i)*The clown laughed the child.
    ii)*The alfalfa sneezed the colt. (Hale & Keyser 1993:74)

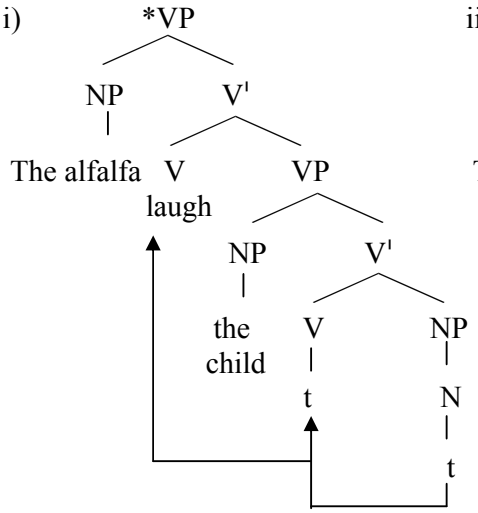
On the other hand, this is not the case with change of state verbs (like *put, shelve*) and location verbs (like *thin, lenthen, break*) because in these verbs the appearance of the subject is required by the complement itself within the inner VP. Let us consider the following sentences:

23. i) He shelved the book.

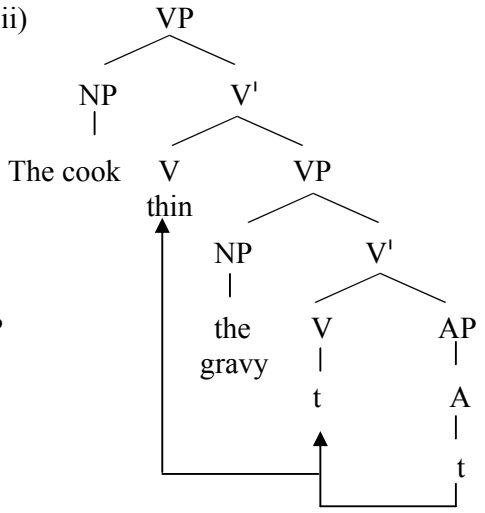
ii) The cook thinned the gravy.

The structures of (22ii) & (23 ii) are as below:

24. i)



ii)



As unergative verbs do not have VP-internal subjects in their LRS representation, the structure in (24i) can not exist. Hence (22i & ii) are rendered ungrammatical. However, in languages having morphological causatives, unergatives can appear in causative constructions:

25. ’A:ñ ant g ’a ’al ha-bisck-c Papago

I Isg:PERF ART children 3PL-sneeze-CAUSE:PERF

‘I made the children laugh.’ (Hale & Keyser 1993: 100)

Hale & Keyser claim that the overt morphology of these languages has properties that force the appearance of a subject in its immediate complement VP, although they admit that the factors forcing such an appearance remain “elusive”. They argue that some grammatical property of the suffixal causative verb, like “transitivity,” including the ability to assign accusative case, licenses the NP in specifier position of the unergative verb. It is this “agent” in the unergative verb that is the “causee” in

the causative construction which is realized by an NP argument that has the properties of a grammatical object in relation to the derived causative verb.

6.2.5. Liina Pylkkänen (1999, 2002)

Pylkkänen (1999) seeks to explain a range of crosslinguistic distributional variation in the causative constructions. Languages like English do not have causativized unergatives and transitives while languages like Japanese, Finnish, Hindi etc. have both causativized unergatives as well as causativized transitives. For example:

26. i) sami naura-tti tyttö-jä Finnish
Sami-NOM laugh-CAUSE-PST girls-OBJ
'Sami caused the girls to laugh.'

ii) taro ope-tt-i jussi-lle japani-a
Taro-NOM learn-CAUSE-PST Jussi-ABL Japanese-PART
'Taro made Jussi learn Japanese.' (Pylkkänen 1999, 2002)

27. i)*The boy laughed the girl. English
ii)*The boy learned the girl Japanese.

Pylkkänen (1999)'s approach is completely syntactic, being based on the hypothesis that syntactic structure building is the only mode of structure building in natural language. Following Pesetsky (1995) she assumes that causation is a universal semantic feature which is interpreted as an eventuality that causes the eventuality described in its complement (i.e. VP).

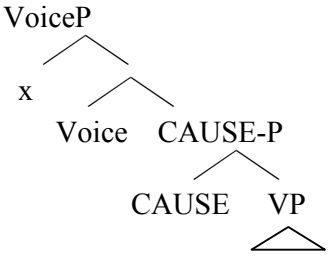
She proposes that a causativized verb involves an additional, "non-core", argument that is interpreted as a causer of the event described by the verbal root. Furthermore, introduction of a new syntactic argument is not a core property of causativisation because causativisation does not always increase the number of verb's syntactic arguments. The causative morpheme primarily introduces an *event* rather than

introducing an *external argument* or *augment* the predicate. Therefore, what universally distinguishes a causative from a non-causative is a syntactically implicit event argument ranging over causing events. All causative constructions involve a head CAUSE which combines with non-causative predicates and introduces a causing event to their semantics.

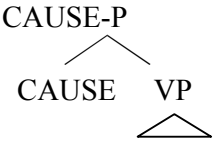
She further argues that while the meaning of CAUSE does not in itself involve a relation allowing it to take the external argument as its argument directly, some languages bundle CAUSE together with the external theta role feature θ. She proposes that the relationship of CAUSE and θ_{EXT} introducing head Voice is subject to variation -- CAUSE can either be independent of θ_{EXT} or can be grouped together into a syntactic head, resulting in crosslinguistic variation in the expression of causation. Therefore languages are split into two types, non-voice bundling, i.e. Type 1, and voice bundling, i.e. Type 2, languages. The structures of Type 1 and Type 2 languages are as following:

28. **Type 1:**

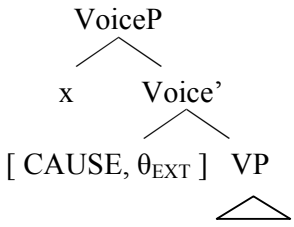
a.



b.



Type 2:



In Type 1 languages like in Japanese and Finnish, it is possible to have causatives without an external argument, e.g. (28b), while in Type 2 languages like in English, it can not be as CAUSE is not independent of θ_{EXT}. Voice-bundling languages can

not have causativized unergatives and transitives as nothing can intervene between CAUSE and θ_{EXT} since they are realized in the same head. Non-Voice-bundling languages can have both causativized unergatives and transitives because CAUSE and θ_{EXT} are independent.

This analysis defends the traditional analysis of causatives by which the linguistic relation CAUSE is a relation between two events (Parsons, 1990). This view is opposed to the theta-role analysis which relates the external argument to the caused event via a causer θ-role (Doron, 1999). Pylkkänen argues that the theta-role analysis can not differentiate a causative from a non-causative transitive verb like *build* and wrongly predicts that causatives without an external argument are impossible since introducing a causative meaning is introducing an external argument (even implicitly as in passives). On the other hand, the bieventive analysis predicts that causatives without external arguments are possible and such structures do exist in Japanese and Finnish:

29. Taroo-go musuko-o sin-ase-ta Japanese
    Taroo-NOM son-ACC die-CAUS-PST
    i) 'Taroo caused his son to die.'
    ii) 'Taroo's son died on him.'

The interpretation (ii) is the additional 'adversity interpretation' where the nominative argument is not interpreted as the causer but rather as an affected argument of the event described by the non-causative verb.
Pylkkänen illustrates that the nominative argument is not an external argument but a derived subject since passivization makes the adversity reading disappear:

30. musuko-ga sin-ase-rare-ta
    son-NOM die-CAUS-PASS-PST
    i) 'The son was caused to die.'
    ii)*'Somebody's son died on them.'

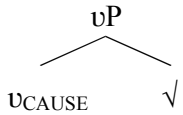
The adversity causative in (29ii) does have a causative meaning, even if it lacks external argument. It is similar in meaning with the adversity passive but semantically different.

Thus, Japanese provides the evidence for the existence of causative structure without an external argument predicted by a theory where the causative relation is syntactically separate from external argument relation.

Besides Voice-bundling, selection is another source for crosslinguistic variation for Pylkkänen (2002). She argues that CAUSE head can be divided into three types:
(A) Root-selecting CAUSE, (B) Verb-selecting CAUSE and (C) Phase-selecting CAUSE

(A) Root-selecting causatives – These causatives are syntactically derived without involving two VPs. The CAUSE head selects for category-neutral root as its argument.

31.



In this kind of structure there is only one place for attaching a verbal modifier as υP is one verb. That is why (32) is false in situations where the action of the subject 'John' does not take place in the manner described by the adverb 'grumpily.'

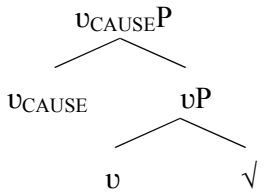
32. John awoke Bill grumpily (Pylkkänen 2002: 101)

The structure in (31) makes another prediction as well -- verbal morphology that intervenes between the root and CAUSE should be impossible. This prediction is borne out too. For example in (33), where the desiderative morpheme *tai* intervenes between root and CAUSE, the adversity interpretation is unavailable:

33. Taroo-ga musuko-o sin-taku-sase-ta Japanese
Taro-NOM son-ACC die-DES-CAUSE-PST
i) 'Taro made his son want to die.'
ii)*'Taro was adversely affected by his son wanting to die.'
(Pylkkänen 2002: 99)

(B) Verb-selecting causatives – The structure of verb-selecting causatives consists of two υPs.

34.



This structure predicts correctly non-agentive modification of a caused event. For example:

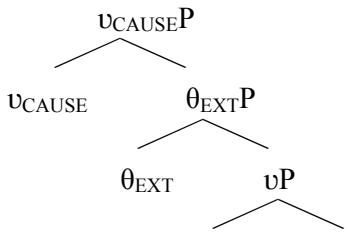
35. opettaja laula-tti kuoro-a kauniisti Finnish
Teacher sing-CAUSE choir-PAR beautifully
'The teacher made the choir sing beautifully.'
(teacher's action does not need to be beautiful) (Pylkkänen 2002: 106)

The structure predicts the existence of other verbal morphology between root and CAUSE and this is borne out:

36. raivo- 'rage'
raivo-stu- 'become enraged'
raivo-stu-tta- 'cause to become enraged'

(C) Phase-selecting causatives – This kind of causative embeds an external argument.

37.



The structure in (37) predicts that there should be no restriction on adverbial modification, and that verbal morphology between root and CAUSE should be allowed. Both of these are indeed borne out (in Venda):

38. Muuhambadzi o-reng-is-a Katonga moḓoro nga dzangalelo
salesman 3SG.PAST-buy-CAUSE-FV Katonga car with enthusiasm
'The salesman made Katonga BUY THE CAR EAGERLY.'

These two parameters, Voice-bundling and Selection, together explain the major crosslinguistic variation in causative constructions. Pylkkänen (2002) summarizes them as follows:

39.	Voice-bundling	Non-Voice-bundling
Root-selecting	Unaccusative, unergative and transitive causatives impossible; no intervention of any category-defining morphology possible between root and CAUSE; adverbial modification below CAUSE must be root-modification. e.g. English zero-causative	Unaccusative, unergative and transitive causatives possible; no intervention of any category-defining morphology possible between root and CAUSE; adverbial modification below CAUSE must be root-modification. e.g. Japanese lexical causative

Verb-selecting	Unaccusative causatives impossible but unergative and transitive causatives possible; Verbal morphology that is not external argument introducing can intervene between root and CAUSE; adverbial modification below CAUSE possible except agent-oriented. e.g. Bemba eshya causative	Unaccusative, unergative and transitive causatives possible; Verbal morphology that is not external argument introducing can intervene between root and CAUSE; adverbial modification below CAUSE possible except agent-oriented. e.g. Finnish –tta causative
Phase-selecting	Unaccusative causatives impossible but unergative and transitive causatives possible; all types of verbal morphology can intervene between root and CAUSE; all types of adverbial modification below CAUSE possible. e.g. Luganda causative	Unaccusative, unergative and transitive causatives possible; all types of verbal morphology can intervene between root and CAUSE; all types of adverbial modification below CAUSE possible. E.g. Venda causative

This distinction also explains those causative constructions that are not lexical and at the same time not bi-clausal. Thus, along with taking a fully syntactic approach, Pylkkänen (2002) argues for a three-way classification for causative constructions rather than the traditional lexical vs. syntactic classification. In this way, her work is an advance over the earlier proposals.

However, the problem with this approach is that it is incompatible with the recent minimalist theories where VoiceP and υP are separated, given the need to dissociate the transitivity properties of v (as already discussed in chapter 2). Additionally, this

approach does not distinguish transitivization and causativisation, and in languages like Hindi (as we have seen in chapter 2 & 3), we need to.

6.3. Existing Research on Hindi Causatives

6.3.1. Early Approaches

Early analyses of causatives in Hindi are based on either the Case Grammar Approach (Balchandran, 1973) or the Generative Semantics Approach (Kachru, 1966, 1977; Kleiman, 1971). Most of the works on Hindi causatives focus on the status of causatives, their logical properties, various types of causatives and basically take their semantic properties into account. In the Case Grammar Approach, the causative has an extra agent in its case frame, whereas in the Generative Semantics, it has an extra agent that is the subject of an abstract verb CAUSE under which the noncausative is embedded.

"If the verb is transitive, the paradigm (for Hindi) is known as transitive, the first causative and 'the second causative' (Kellog, 1875; Greaves, 1933; Guru, 1965; A. Sharma, 1958; Fairbanks & Mishra, 1966). There are others who call the first step of derivation 'simple causative' or 'indirect causative' and second step causative as 'derived causative' or 'indirect causative'. 'Contactive' and 'distant' causative (or mediative causative) are further names for the same phenomenon." [Abbi, A. 2001:159]

Kachru (1980) categorizes Hindi verbs into four classes: intransitive, transitive, double transitive and causative in terms of the number of arguments they take.

40.	**NONCAUSAL**	**FIRST CAUSAL**	**SECOND CAUSAL**
	Intransitive	Transitive	causative
	Transitive	Double object	causative
	Transitive	-	causative
	-	Double object	Causative

(Kachru 1965, 1966)

Kachru, Y. (1976) also uses the term 'direct causation' for the first causal and 'mediated causation' for the second causal. She claims that the first causal shares

some of the properties of English causative 'make' and some of the properties of 'cause.' The second causal has three arguments: an agent, a mediator, and a patient). The "unspecified mediator" can be deleted in the second causal.

Saksena (1982) illustrates the difference between contactive and non-contactive causation with *-a* and *-wa* causatives. In non-contactive-*a* causatives, there can be one or more than one intermediary agent but it is not so in contactive -*wa* causatives. For example:

41. i)mɛ̃ne (siṭɑ se) (rɑm se) (nɔkər se) peɽ kəɽwɑjɑ
I-AGT Sita-INST Ram-INST servant-INST tree cut-IC-PAST
'I had Sita make Ram make the servant cut the tree.'

ii) mɛ̃ne (*mɑsɽər-se) rɑm-ko pəɽ^{h}ɑjɑ
I-AGT teacher-INST Ram-D/A study-DC- PAST
'I taught Ram through the teacher .' (Saksena 1982: 820)

Another difference is that causers may be physically absent in non-contactive causatives but they must be present in contactive causatives:

42. i) mɛ̃ne ləɽke ko k^{h}ilwɑjɑ ɔr mɛ̃ ṯəb ṯək g^{h}u:m ɑjɑ
I-AGT boy. OBL-D/A eat-IC-PAST and I meanwhile around come-PAST
'I had the boy eat and meanwhile I went for a walk.'

ii)*mɛ̃ne ləɽke ko k^{h}ilɑjɑ ɔr mɛ̃ ṯəb ṯək g^{h}u:m ɑjɑ
I-AGT boy. OBL-D/A eat-DC-PAST and I meanwhile around come-PAST
'I fed the boy and meanwhile I went for a walk.'

But Saksena argues that the contrast between contactive and non-contactive causation can not be explained in terms of an intermediary agent as this agent is

always optional. Besides, the non-contactives do not always imply the corresponding contactives. Thus, (43i) does not imply (43ii):

43. i) mɛ̃ne ləʈke ko ḍo bəɟe k^{h}ilwaja
I-AGT boy. OBL-D/A two o'clock eat-IC-PAST
'I had the boy eat at two o' clock.'

ii)kisi ne ləʈke ko ḍo bəɟe k^{h}ilaja
someone-AGT boy. OBL-D/A two o'clock eat-DC-PAST
'Someone fed the boy at two o'clock.'

She proposes that "contact in causation can be described as a sum of contact initiation and completion" as conditions on the causer and the causee. For the initiation contact, the causer must be involved in the activity and for the completion of the contact, the causee must be affected by this activity. Based on this, she argues that the suffixes *-a* and *-wa* correlate with contactive vs. non-contactive causation only when they have causees marked by *-ko* as shown below:

44. i) mɛ̃ne məkɑn ko bənaja
I AGT house-D/A build-DC-PAST
'I built a house.'

ii) mɛ̃ne məkɑn ko bənwaja
I AGT house-D/A build-IC-PAST
'I had a house built.'

Additionally, the suffixes *-a* and *-wa* both correlate with non-contactive causation when they have causees marked by *-se*:

45. mɛ̃ne nɑi se bɑl kəʈa /waɛ
I-AGT barber-INST hair cut-DC/IC-PAST
'I had the barber cut (someone's) hair.'

Thus, she makes the generalization that in order to convey non-contactive causation, the sentence MUST contain either a non-involved causer or a non-affected causee. Moreover, the intermediary agent is irrelevant for the non-contactive sematics.

Khokhlova (1997) attempts to link the Case assignment and syntactic roles in causative sentences in Hindi-Urdu. She claims that with second causatives from 'non-ingestive' verbs', the 'causee' may imply both the roles of agent and of beneficiary. Agent role is marked by Instrumental/Ablative, and beneficiary is marked by Dative/Accusative:

46. i) mɛ̃ne lərke se ɖ̤ərwɑzɑ kʰulwɑjɑ
I ERG boy OBL INST/ABL door open-CAUS-PP/M/SG
'I told the boy to open the door.'

ii) mɛ̃ne lərke ko ɖ̤ərwɑzɑ kʰulwɑjɑ
I ERG boy OBL ACC/DAT door open-CAUS-PP/M/SG
'I helped the boy to open the door.'

She also claims that, the second causative does not always imply the addition of an extra agent to the case frame, e.g. *kərana-kərwana* 'make somebody cause to do.' She provides the following semantic and syntactic factors that block the addition of an extra agent in Hindi:

a. Nonvolitional causation- when the result of the action affects the causer himself:

47. ʈ̤um ne kəmpjuʈər se əpni ɑ̃kʰẽ pʰuɽwɑ lĩ
you ERG computer INST self's eyes break-CAUS
'You spoiled your eyes because of computer.'

b. Volitional causation- when the causee is the possessor of the goal and when the causee is non-specific:

48. mɛ̃ t̪umhari zəbɑn kʰulwɑũŋgɑ

I your tongue open-CAUS-FUT

'I shall make you talk.'

49. t̪um kjõ binɑ bɑt̪ ke use d̪uʃmən bɑnɑ bɛʈʰe ho

you why without reason he-ACC/DAT enemy make-CAUS sit-PP-PL be-PRES-PL

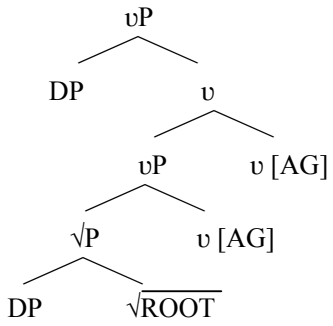
'Why did you make him an enemy without any reason?'

6.3.2. Bhatt & Embick (2004)

Bhatt & Embick (2004) analyze the causative constructions in Hindi within the framework of Distributive Morphology (Halle & Marantz 1993, Harley & Noyer 1998, Embick & Halle *forthcoming*). Based on this, they assume that there is no Lexicon where the transitive verb is derived from an underlying intransitive one and vice-versa. So, they argue that the verbal alternation is syntactic and the differences between transitivization and causativisation are reduced to locality considerations.

Bhatt & Embick (2004) propose that Hindi indirect ('-*wa*') causatives involve the passive substructure based on the corresponding transitive. These causatives are formed with the addition of an agent-licensing head υ [AG] with an external argument, the DP in its specifier. This υ [AG] head takes a passive υP as its complement (i.e. a υP having υ [AG] but neither any Case feature nor DP in its specifier).

50.



Bhatt & Embick argue that this structure also explains the fact that the intermediate agent in the indirect causative is optional and also that this agent, when overt, has the same instrumental case marker that appears with the demoted passive agents. For example:

51. i) zəmindɑr ne (ɖəkɛ̰ʈõ se) məkɑn ɟəlwɑ ɖ̰ijɑ
landlord ERG bandits INS house burn-CAUS give-PFV
'The landlord had the house burned (by the dacoits).'

ii) ʈ̰um se iʈ̰nɑ kʰɑnɑ kɛse kʰɑjɑ ɟɑɖ̰ɑ hɛ ?
you INS so much food how eat-PFV PASS-HAB be-PRS
'How is it that so much food is eaten by you?' (Bhatt 2004:42)

The structure in (50) predicts that the stem-form of the verb in the indirect causatives should be the same as that found in the transitive because passive appears with the stem allomorph found in the transitive. Although this prediction is not borne out in most of the cases, Bhatt & Embick (2004) solve the problem by claiming that the indirect causative triggers the 'Vowel Simplification' rule:

52.

Intransitive	**Transitive**	**-wa Causative**	**Gloss**
bə̃ʈnɑ	bɑ̃ʈnɑ	bə̃ʈwɑnɑ	'divide'
cʰəpnɑ	cʰɑpnɑ	cʰəpwɑnɑ	'print'
ubəlnɑ	ubɑlnɑ	ubəlwɑnɑ	'boil'

To prove this, they provide cases where the stem-final consonant in the *-wa* causative is that which is found in the transitive form, not in the intransitive:

53.

Intransitive	Transitive	- wɑCausative	Gloss
cʰuːʈnɑ	cʰoɽnɑ	cʰuɽwɑnɑ	'divide'
pʰəʈnɑ	pʰɑɽnɑ	pʰəɽwɑnɑ	'print'
ʈuːʈnɑ	ʈ̤oɽnɑ	ʈ̤uɽwɑnɑ	'boil'

Bhatt & Embick (2004) also address the cases of optionality in Hindi causatives between *-a* and *-wa* where the interpretation of the *-a* causative and the *-wa* causative is apparently the same.[5]

54.

(Di)transitive	-ɑ Causative = -wɑ Causative		Gloss
ɖ̤ʰonɑ	ɖ̤ʰulɑnɑ	ɖ̤ʰulwɑnɑ	'wash'
kɑʈnɑ	kəʈɑnɑ	kəʈwɑnɑ	'cut'
likʰnɑ	likʰɑnɑ	likʰwɑnɑ	'write'
silnɑ	silɑnɑ	silwɑnɑ	'sew'
ɖ̤enɑ	ɖ̤ilɑnɑ	ɖ̤ilwɑnɑ	'give'

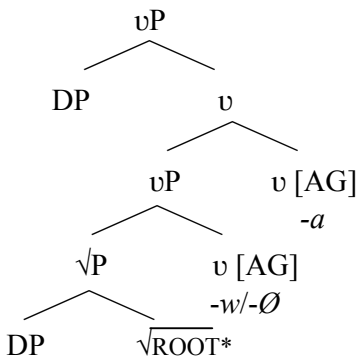
They argue that this is because of the optionality between *-w* and *-Ø* in the lower υ [AG] head of the causative structure. The optionality is related to the allomorph of *-w* that is inserted to the *special* roots (i.e. √ROOT*) 'in a local relationship with the head' showing optionality.

[5]But native speakers' judgement regarding this class varies. For a number of speakers (including myself), *-a* and *-wa* are in contrastive distribution. For other speakers (including Ayesha Kidwai, p.c.), there is a clear cut distinction between these two causatives- *-a* causatives have a agent self-benefactive meaning that *–wa* causative does not have. Thus, with *-a* causatives, the light verb 'ɖ̤ena' that is other benefactive can not be used but 'lena' that is self benefactive can be used. With *-a* causatives, both 'ɖ̤ena' as well as 'lena' can be used. For example,

1. rɑm ne kəpʈe ɖ̤ʰulɑ lije / *dije
   Ram ERG cloth wash-TR take-PFV.PL / give-PFV.PL
   'Ram washed the clothes (Self-benefactive)/* (other benefactive).'

2. rɑm ne kəpʈe ɖ̤ʰulwɑ lije / dije
   Ram ERG cloth wash-CAUS take-PFV.PL / give-PFV.PL
   'Ram got the clothes washed (Self-benefactive)/ (other benefactive).'

55.



I will discuss Bhatt & Embick (2004)'s approach in further detail in the next chapter, noting here just one immediate problem -- if the *-wa* causative is based on the passive substructure, how is the fact that causatives of unaccusatives, which have no passives to be accounted for?

6.4. Conclusion

The critical examination of the proposals to the causative constructions in the above sections clearly illustrate that the syntactic approach is far more convincing. In the lexicalist approach, the lexical semantic representation (LSR) of verbs and their arguments are different from the syntactic structure. Thus, there arises a need of mapping the LSR onto syntactic positions. On the other hand, there is no need of mapping in the syntactic approach as the LSRs are considered to be indeed syntactic representation. Moreover, as discussed above, the lexicalist approach fails to provide explanation for the facts relating to differences in various finer types of causative constructions.

Chapter 7

HINDI TRANSITIVES AND CAUSATIVES: AN ANALYSIS

As observed in chapter 3, only those verb classes in Hindi that have transitives form causatives. Therefore, before analyzing causatives in Hindi, it is essential to investigate transitives. Section 7.1 is devoted to an examination of the transitive alternation in Hindi. Section 7.2 presents an analysis of causative that successfully tackles the two major problem areas in an analysis of the Hindi causative: the (argument vs. adjunct) status of the causee, and the realisation of causative morphology, by which I propose that the causative is a voice that introduces an event with a *-se* argument as causee. Section 7.3 concludes the chapter with an evaluation of the analysis.

7.1. Transitive Alternation in Hindi

7.1.1. Unaccusative and Unergative Bases

Recalling the discussion in chapter 6, Bhatt & Embick (2004) analyze the transitive and the causative alternation in Hindi within the Distributive Morphology framework. Therefore, they assume that there is no Lexicon where the transitive verb is derived from an underlying intransitive one and vice-versa. Hence, they argue that the verbal alternation is syntactic and the differences between transitivization and causativization lie only in locality. They also argue that there is one class of verbs (i.e. NULL class) where the phonological alternation is in the direction of transitive → intransitive, whereas the same phonological alternation we can have in AA class but the direction is intransitive → transitive. Their approach considers that the processes of transitivization and causativization operate in the same way; agent-licensing being the main factor in both the processes.

A closer examination of transitives in Hindi reveals that though a large class of intransitive verbs have an unaccusative base, the agentive verbs of manner of motion

are unergative at the base. Therefore, for this class, the transitives cannot be derived by adding an external argument to the intransitive base as it can be done with the verb having an unaccusative base. Causativization, on the other hand, regularly adds a *-se* argument.

Let us begin by investigating Hindi transitives. Three broad classes emerge on inspection. The first is the class of purely internally caused verbs, such as expressives in the class of emission verbs, non-volitional change of state verbs[1] and the verbs of existence, appearance and disappearance, all of which display unaccusative behaviour, and have neither transitives nor causatives. This group remains unexplained under an analysis that holds transitivization as adding a v[AG] layer over an unaccusative base.

1. **Internally caused emission verbs**

INTRANSITIVE	**TRANSITIVE**	**CAUSATIVE**
kəɽəknɑ 'thunder'	-	-
gurrɑnɑ 'roar'	-	-
cəmcəmɑnɑ 'glitter'	-	-
ʈ̪ʰərʈ̪ʰərɑnɑ 'tremble'	-	-
ʈimʈimɑnɑ 'twinkle'	-	-
pʰərpʰəɽɑnɑ 'flutter'	-	-
gəɽgəɽɑnɑ 'thunder'	-	-
kʰənkʰənɑnɑ 'clank'	-	-

[1]However, a small set of verbs, including 'to bloom', in this class may be considered as externally caused; however, this external causation is in the form of some assistance in creating the conditions so that the internal process may come about. These verbs allow transitivization, with *-a* adding an external argument here:

1. məni-ne pʰuːl kʰil-ɑ-jɑ
   Mani-ERG flower bloom-TR-PFV
   'Mani made the flower bloom'.

2. **Verbs of Non-volitional Change of State**

INTRANSITIVE	TRANSITIVE	CAUSATIVE
kʰilnɑ 'bloom'	kʰilanɑ	kʰilwanɑ
murɟʰanɑ 'wither'	-	-
ə̃kurnɑ 'sprout'	-	-
ũːgʰnɑ 'doze'	-	-
muskuranɑ 'smile'	-	-
ʃərmanɑ 'blush'	-	-
suːɟnɑ 'swell'	-	-
kə̃pnɑ 'tremble'	-	-
əkəɽnɑ 'stiffen'	-	-

3. **Verbs of Existence, Appearance & Disappearance**

INTRANSITIVE	TRANSITIVE	CAUSATIVE
honɑ 'exist'	-	-
rəhnɑ 'dwell'	-	-
ɑnɑ 'come'	-	-
pɑnɑ 'find'	-	-
kʰonɑ 'lose'	-	-
ugnɑ 'rise'	-	-

The second group of verbs is those that behave more as expected, in that the *-ɑ* transitivizer clearly adds v[AG] to a base unaccusative. In this class are included change of state verbs, manner of motion verbs, verbs of inherently directed motion, externally caused emission verbs and verbs of spatial configuration.

First, consider change of state verbs:

4. ɟoʃuɑ-ne ɟəhaɟ ɖub-ɑ-jɑ
   Joshua-ERG ship sink-TR-PFV
   'Joshua sank the ship.'

Verbs of manner of motion, also base unaccusatives, behave similarly:

5. i) cəkkɑ gʰuːm rəhɑ hɛ
   wheel rotate PROG be-PRS
   'The wheel is rotating.'

ii) somi cəkkɑ gʰumɑ rəhɑ hɛ
Somi wheel rotate-TR PROG be-PRS
'Somi is rotating the wheel.'

With verbs of inherently directed motion also, the transitivizer *-a* adds an external argument:

6. i) mili pəhɑʈ pər cəʈʰi
Mili mountain up climb-PFV.F
'Mili climbed up the mountain.'

ii) ʃerpɑ-ne mili-ko pəhɑʈ pər cəʈʰ-ɑ-jɑ
Sherpa-ERG Mili-ACC mountain up climb-TR-PFV
'Sherpa made Mili climb up the mountain.'

Externally caused emission verbs are activity predicates and have an agentive reading too, besides the intransitive use. *-a* can be added to make these verbs transitives and we get an external argument added to the intransitive ones. The pattern in (7) is replicated across other members of this class:

7. i) gʰənʈi bəɟ-i
bell ring-PFV.F
'The bell rang.'

ii) runɑ-ne gʰənʈi bəɟ-ɑ-i
Runa-ERG bell ring-TR-PFV.F
'Runa rang the bell.'

8. **Verbs of Emission (Externally / Internally caused)**

INTRANSITIVE	TRANSITIVE	CAUSATIVE
kəʈəknɑ 'boil noisily'	kəʈkɑnɑ	kəʈəkwɑnɑ
bəɟnɑ 'sound'	bəɟɑnɑ	bəɟwɑnɑ
cəməknɑ 'shine'	cəmkɑnɑ	cəməkwɑnɑ
cəʈəknɑ 'crack'	cəʈkɑnɑ	cəʈəkwɑnɑ

In verbs of spatial configuration as well, the transitivizer suffix *-a* can be added to make transitives:

9. i) ʈəhni ɟʰuki
   branch bend-PFV
   'The branch bent.'

   ii) mili ʈəhni ko ɟʰukɑ̤ti hɛ
   Mili branch ACC bend-TR-HAB.F be-PRS
   'Mili bent the branch.'

The third group consists of only the verbs of agentive manner of motion, which behave as unergatives in Hindi. Transitivization is possible here too:

10. i) rɑm ɖ̤ɔʈ̤ɑ hɛ
    Ram run-HAB be-PRS
    'Ram runs.'

    ii) rɑm mohən ko ɖ̤ɔʈɑ̤ɑ hɛ
    Ram Mohan ACC run-TR-HAB be-PRS
    'Ram makes Mohan run.'

In the intransitive base of these verbs, there must be an external argument in the specifier of υP. Therefore, we cannot conceive of the transitivizer suffix *-a* as simply

adding an external argument to the intransitive argument structure; rather the transitive must involve a separate lexical entry.[2]

Cross-linguistically, prototypical unergatives '*laugh*', '*play*', '*speak*' etc. do not participate in transitivity alternation in languages like English, French, Italian and Russian. For example:

11. i)The children laughed.

ii)*The joker laughed the children.

However, in some cases, there can be transitives of these verbs too:

12. He jumped the horse over the fence.

13. Harry ran the mouse through the maze.

Here, too, the transitive variant cannot be derived from the intransitive base by adding an external argument just as in Hindi.[3]

The discussion above reveals an interesting fact about Hindi – most of the notional verb classes must be analysed as unaccusatives at the base. Moreover, if we factor in the observations made in chapter 3 into this discussion, an even more unusual picture emerges. Recall that we found that base unaccusatives showed unergative behaviour when their external arguments were animate. For example, though, verbs of emission in Hindi behave as unaccusatives, vis-à-vis the diagnostic regarding the

[2]The infinitive forms of Hindi verbs also indicate that at least morphology considers intransitive, transitive and causatives as distinct. Unlike English infinitives where we have no information regarding the verb class (e.g. *to break*, *to melt*, *to distribute* etc.), Hindi infinitives contain the verb class information as the infinitive suffix *-nɑ* is added not only to the intransitive base only but to the transitive and causative bases too. For example, 'to scatter' *bikʰɚrna* (Intransitive), *bikʰrana* (Transitive), *bikʰɚrwaɳa* (Causative).

[3]Though unlike in Hindi, a directional phrase is obligatory in English.

use of the imperfective participle occurring with/without the genitive marker on the agent, emission verbs behave as unergatives if there is an animate agent. For example:

14. i) [bɑd̪əl (ke) gərəɟ̪te hi] vɑnjɑ ɖ̤ər gəji
cloud GEN thunder-PRS.PTCP EMP Vanya scare go-PFV.F
'Vanya got scared as soon as clouds thundered.'

ii) [ʃer * / ke gərəɟ̪te hi] bənd̪ər b^{h}ɑg gəjɑ
lion GEN roar-PRS.PTCP EMP monkey go away go-PFV
'The monkey went away as soon as the lion roared.'

Similar pattern is observed with verbs of inherently directed motion:

15. i) [bɔl (ke) gir̪te hi] bəccɑ ɖ̤ər gəjɑ
ball GEN fall-PRS.PTCP EMP child fear go-PFV
'The child was afraid as soon as the ball fell.'

ii) [somi */ ke cəʈ^{h}̪te hi] wɑhid̪ ni:ce ɑ gəjɑ
Somi GEN climb-PRS.PTCP EMP Wahid down come go-PFV
'Wahid came down as soon as Somi climbed.'

Verbs of manner of motion, too, show this behaviour:

16. i) [pərd̪e (ke) sərək̪te hi] hi:ro sɑmne ɑjɑ
curtain GEN slide- PRS.PTCP EMP hero in front come-PFV
'The hero came in front as soon as the curtain slid.'

ii) [ni:lɑ * / ke sərək̪te hi] somi sɑmne ɑjɑ
Nila GEN slide- PRS.PTCP EMP Somi in front come-PFV
'Somi came in front as soon as Nila slid.'

This behaviour shows up in all verb classes which are unaccusatives at the base. In other words, the specifier position of υP is highly constrained in Hindi, unlike English, by the animacy requirement.

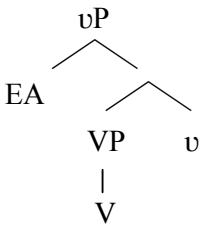
Based on the transitive facts and observations in Hindi, we can say that Hindi verbs can be divided into the following three classes:

17.

Radical unaccusatives	Externally/internally caused unaccusatives	Unergatives
Internally caused emission (Expressives) verbs, Verbs of non-volitional change of state and Verbs of Existence, Appearance & Disappearance	Externally caused verbs of emission, Verbs of change of state, Verbs of manner of motion, Verbs of inherently directed motion, Verbs of spatial configuration	Agentive verbs of motion

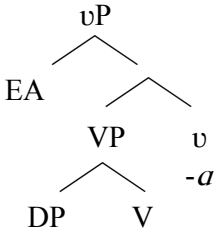
Let us look at the structure of these three classes of verbs. For unergatives, (18) is the base structure:

18.



As discussed earlier, the transitive of the unergatives cannot be derived from the intransitive base structurally. It has to be a separate lexical entry that has the following structure:

19.



Unaccusative υ, on the other hand has no EPP feature, hence the υP has no specifier position. But we have two different types of unaccusatives – the externally/internally caused unaccusatives which have transitive variants and the purely internally caused structurally indistinguishable, we can distinguish them by postulating different kinds of Agree relations:

20. i) Externally caused unaccusative ii) Internally caused unaccusative

In both (20i & ii), V and D Set-merge to satisfy selectional requirements of the selector V. Though, (20i & ii) are instances of Set Merge, (20i) involves only the categorial features and (20ii) involves both categorial as well as lexical features. Thus, in (20i), V has an uninterpretable D feature and D has an interpretable D feature. Agree holds of V and D, deleting [u D] feature of V. On the other hand, in (20ii), as internally caused unaccusatives have strong restrictions on their sole argument (LRH 1995),[4] we can argue that V has an uninterpretable D feature as well as an uninterpretable (nominal) [N] feature and D has an interpretable D feature and an interpretable [N] feature. Thus, Agree holds of V and D, deleting both [u D] and [u N] feature of V.

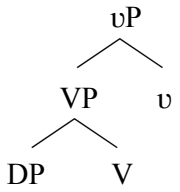
As observed earlier in this chapter, while externally caused unaccusatives have transitive forms, the purely internally caused ones do not. The generalization here is that such a VP in which there is Agree that targets only categorial features (see 20i) can be embedded under υ with full argument structure, however a VP in which there is Agree that involves both categorial and lexical features (see 20ii) cannot be embedded under a υ with full argument structure. This VP is interpreted as

[4]For example, there can be only a certain set of things which can glow or growl or twinkle etc. In other words, these arguments are lexically specified.

BECOME/HAPPEN as there is no argument in its specifier, in a way similar to Harley (1996)'s Event head without an argument in its specifier.

Now consider the internally caused unaccusative base with υ is merged above it:

21.



Here, two things may happen – (1) the DP may raise to υP edge if it is animate given the strong animacy requirement in Hindi and then raise all the way to TP, or (2) if the DP is inanimate it may stay in situ and raise in one full swoop to TP, given Chomsky (2001)'s assumption that phases without EPP specifiers are weak phases. For example in (22i), as the DP is animate it would raise to υP edge and then, to TP. On the other hand, in (22ii), the DP is inanimate and so, it will stay in situ and raise to TP:

22. i)ʃer gurrɑjɑ
lion roar-PFV
'The lion roared.'

ii) gʰənʈi bəɟ-i
bell ring-PFV.F
'The bell rang.'

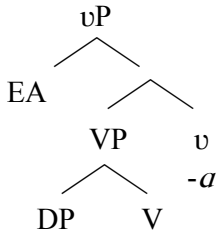
In other languages too, like German and Icelandic, we do not have impersonal passives of internally caused verbs as impersonal passives require that event be under full control of the agent. For example:

23. *Er werdt (door the man) gebloed. German
'There was bled (by the man).' (Zaenan 1993)

On the other hand, externally/internally caused unaccusatives have transitive forms

in Hindi and the transitivizer suffix *-a* adds an external argument in the specifier of υP:

24.



7.1.2. Transitive bases

The *ingesto-reflexive* verbs[5] are another class of verbs which can be further transitivized and then causativized too.[6]

25.

TRANSITIVE	DITRANSITIVE	CAUSATIVE
kʰanɑ 'eat'	kʰilɑnɑ	kʰilwɑnɑ
pi:nɑ 'drink'	pilɑnɑ	pilwɑnɑ
cəkʰnɑ 'taste'	cəkʰɑnɑ	cəkʰwɑnɑ
pəʈʰnɑ 'read'	pəʈʰɑnɑ	pəʈʰwɑnɑ
likʰnɑ 'write'	likʰɑnɑ	likʰwɑnɑ
ḍ̪ekʰnɑ 'see'	ḍ̪ikʰ(l)ɑnɑ	ḍ̪ikʰ(əl)wɑnɑ
si:kʰnɑ 'learn'	sikʰ(l)ɑnɑ	sikʰ(əl)wɑnɑ

[5]These verbs "refer to some sort of ingestion, whether literal or not so literal" (Bhatt & Embick 2004:37).

[6]For some speakers, there are some ditransitive ingesto-reflexive verbs which contain a '-l-' suffix along with the transitivizer suffix -ɑ, e.g. ḍ̪ikʰ(l)ɑnɑ 'show' , sikʰ(l)ɑnɑ 'teach.' These verbs appear to involve an applicative head that is beneficiary to the goal. For example:

1. i) rɑm ne mili ko mɛgzi:n ḍ̪ikʰɑi
   Ram ERG Mili DAT magazine see-TR-PFV.F
   'Ram showed Mili the magazine.'
   ii) rɑm ne mili ko mɛgzi:n ḍ̪ikʰlɑi
   Ram ERG Mili DAT magazine see-?-TR-PFV.F
   'Ram showed Mili the magazine.'

Informally speaking, (1i) differs from (1ii) in that *Mili* must have indicated a desire to be shown the magazine, i.e. she is the beneficiary of the action of showing. In (2) as well the similar interpretation obtains:

2. i) runɑ ne mili ko hinḍ̪i sikʰɑi
   Runa-ERG Mili-DAT Hindi learn-TR-PFV.F
   'Runa taught Mili Hindi.'
   ii) runɑ ne mili ko hinḍ̪i sikʰlɑi
   Runa-ERG Mili-DAT Hindi learn-?-TR-PFV.F
   'Runa taught Mili Hindi.'

In these verbs, the transitivizer -*a* adds an argument but not an external argument as the base verb is a transitive itself. Bhatt & Embick (2004) claim that the ditransitive ingesto-reflexives have the structure like that of the double object verbs. The evidence for this claim comes from the fact that neither in the ingesto-reflexive ditransitives nor in the true ditransitives, -*ko* marker on the intermediate agent of the verb is optional:

26. i)ʈinɑ ne minɑ *(ko) kiṯɑb di
Tina-ERG Mina-DAT book .F give-PERF.F
'Tina gave a book to Mina.'

ii)ʈinɑ ne minɑ *(ko) əŋgrezi sikʰɑi
Tina-ERG Mina-DAT English.F learn-CAUS. PERF F
'Tina taught Mina English.'

(Bhatt & Embick 2004:38-39)

Moreover, both ingesto-reflexives ditransitives and true ditransitives participate in obligatory object shift when the object is specific in Hindi (Bhatt & Anagnostopoulou 1996):

27. i)ʈinɑ ne minɑ ko vo kiṯɑb di:
Tina-ERG Mina-DAT that book give-PERF
'Tina gave that book to Mina.'

ii)ʈinɑ ne [us kiṯɑb ko]$_i$ minɑ ko t_i dijɑ
Tina-ERG that book-ACC Mina-DAT give-PERF
'Tina gave that book to Mina.'

iii) rɑm ne siṯɑ ko vo bʰɑʃɑ sikʰɑi
Ram-ERG Sita-DAT that language learn-CAUS-PERF
'Ram taught Sita that language.'

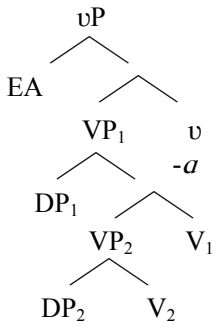
iv) ram ne [us b^hɑʃɑ ko]$_i$ siṯɑ ko t_i sik^{h}ɑjɑ

Ram-ERG that language-ACC Sita-DAT learn-CAUS-PERF

'Ram taught Sita that language.'

Assuming the ditransitive structure for the ingesto-reflexive ditransitives too, we have the following structure:

28.



In sum, then, we observed that in Hindi most transtives have unaccusative bases where the transitivizer suffix -ɑ adds an external arguement. There is a limited set of verbs in Hindi (Agentive verbs of manner of motion) which are unergatives at the base and thus, have an external argument already in their argument structure. In these verbs, we cannot derive the transitives by adding an external argument to the base structure. Thus, a separate lexical entry is needed for these intransitives and their transitive counterparts.The second important fact which emerged out of the above discussion is that in Hindi the edge of υP is highly constrained by the animacy requirement.

With these facts and observations in mind, let us move on to the next section which deals with the causative alternation in Hindi.

7.2. The Causative Alternation in Hindi

As already observed in chapter III, all the verbs which have a transitive form can have a causative form as well. Internally caused emission verbs, internally caused non-volitional change of state verbs and verbs of existence, appearance and

disappearance in Hindi do not have transitives and hence, no causatives. Thus, the causative alternation in Hindi is a regular morphological process that adds the -wɑ suffix to the transitive base and also adds a causee argument.

There are two major issues that an analysis of causatives in Hindi must deal with. The first is with regards to the status of the causee in Hindi, in terms of whether it is an argument or an adjunct, while the second is the issue of morphological realisation of the transitive/causative morphology. If all causatives necessarily proceed on a transitive base, then we expect both transitive morphology, -ɑ, as well as the causative morphology -wɑ, to show up as affixed to the verb, rather than just -wɑ, as is the reality.

7.2.1. Status of the Causee in Hindi Causatives

In Hindi causatives, the causee usually surfaces as instrumental/ablative marked. It shows reduced 'affectedness'/ little or no control over the action:

29. somi ru:nɑ-se vɑnkɑ-ko hə̃swɑ̤ɳɑ hɛ
somi Runa-INS Vanka-ACC laugh-CAUS-HAB be-PRS
'Somi makes Runa make Vanka laugh.'

Here, *Runa* is not in direct control of the action of 'making Vanka laugh' but it is *Somi* who is in direct control of 'making Vanka laugh' and *Runa* is only an intermediary. Apart from the fact that the causee is instrumental marked, it can also be left unexpressed. (29) would be grammatical in Hindi even if we were to drop the causee:

30. somi vɑnkɑ-ko hə̃swɑ̤ɳɑ hɛ
somi Vanka-ACC laugh-CAUS-HAB be-PRS
'Somi makes (somebody) make Vanka laugh.'

These two facts above have engendered a debate about the grammatical status of the causee as argument or adjunct.

Bhatt & Embick (2004) argue that as the embedded event in Hindi causatives does not have an explicitly realized agent (i.e. the optional causee), the embedded *v*[AG]P lacks an external argument Moreover, when overt, it has the same case marker that is found in passive agents and so, it is a passive *v*P complement (they define the passive *v*P complement as a *v*P containing a *v*[AG] without a Case feature and therefore, no DP in the specifier of this head) (see Embick 1997).

Ramchand (2007) suggests that the causee, which is interpreted as an intermediate agent and is always optional, is an adjunct. She argues that "instrumental marked adjuncts are actually nearly always possible with all verbal forms (interpreted as instruments), it is just their interpretation as intermediate agents that is at stake" in causatives.

Mohanan (1993) observes that "participial adjuncts in Hindi require their controllers to be grammatical subjects":

31. *ravi-ne vijay-ko [apne / nina-ke muskurate hue] biṭʰaya
Ravi-E Vijay-A self-G Nina-G smile-IMPERF be-NF sit-C-PERF
'*Ravi seated Vijay while self / Nina smiling.'

32. i) ravi-ne vijay-ko [___ muskurate hue] biṭʰaya
Ravi-E Vijay-A smile-IMPERF be-NF sit-C-PERF
'Ravi$_i$ seated Vijay$_j$ while __$_{i/*j}$ smiling.'

ii) ram-ne ravi-se vijay-ko [___ muskurate hue] biṭʰvaya
Ram-E Ravi-I Vijay-A smile-IMPERF be-NF sit-C-C-PERF
'Ram$_k$ made Ravi$_i$ seat Vijay$_j$ while _ $_{k/*i/*j}$ smiling.'

iii) ravi-se vijay [___ muskurate hue] biṭʰvaya gaya
Ravi-I Vijay smile-IMPERF be-NF sit-C-PERF go-PERF
'Vijay$_j$ was seated by Ravi$_i$ while __ $_{*i/j}$ smiling.'

(Mohanan 1993: 128)

Mohanan (1993) cites example (31) to show that the control site in (32) is obligatory. Then she argues that the contrast in controllerhood between (31 i & ii) and (32 iii) is indicative of the fact that the controller of the participial adjunct clauses must obligatorily be the matrix SUBJ. Based on the control facts she formulates the following diagnostic:

33. A nominal that can control a participial adjunct clause with an obligatory control must be a SUBJ.

The above examples show that the *-se* marked causee cannot control into the participial adjunct clauses and hence, one can argue that it is an adjunct not an argument. In what follows, I argue against this analysis.

First, note that Hindi causative constructions have three mutually distinct theta positions of agent, causee and patient/theme. A *-se* marked causee can only be licensed when there is -wɑ morphology on the verb:

34. i)*runɑ-ne mili-se g^{h}ənʈi bəɟ-ɑ-i
Runa-ERG Mili-INS bell ring-TR-PFV.F
'Runa made Mili ring the bell.'

ii) runɑ-ne mili-se g^{h}ənʈi bəɟ-wɑ-i
Runa-ERG Mili-INS bell ring-CAUS-PFV.F
'Runa made Mili ring the bell.'

The examples in (34) contrast in grammaticality, with the absence/presence of -wɑ morphology on the verb. Given this dependence of the *-se* argument on causative morphology, the *-se* argument actually seems to be a part of the argument structure.

Second, the elision of the causee is not sufficient to guarantee its adjunct status as arguments can also be omitted in Hindi. As (35) shows, the object of *study* may be omitted, and the subject may as well:

35. (rɑm) (kiṯɑbẽ) pəɽʰṯɑ hɛ
Ram books study-HAB be-PRS
'Ram studies/reads books.'

Third, Mohanan (1993)'s conclusion that only subjects may control into participial adjuncts is incorrect. As (36-38) show, the *-se* marked causee can easily control into the participial clauses:

36. rɑm$_i$-ne minɑ$_j$-se mohən$_k$-ko [PRO$_{i/j/k}$ kʰɑṯe hue] piɽwɑjɑ
Ram-ERG Mina-INS Mohan-ACC eat-PRS.PTCP be-PFV hit-CAUS-PFV
'Ram$_i$ made Mina$_j$ hit Mohan$_k$ while PRO$_{i/j/k}$ eating.'

37. mɑsʈər ne bəcce se pəṯəŋg [PRO$_{i/j}$ muskuraṯe hue] uɽwɑi
teacher-ERG child-INS kite smile-PRS.PTCP be-PFV fly-CAUS-PFV
'The teacher$_i$ made the child$_j$ fly the kite while PRO$_{i/j}$ smiling.'

38. rɑm ne kəmre mẽ gʰusṯe hue somi se hãsṯe hãsṯe məheʃ ko piɽwɑjɑ
Ram-ERG room in enter-PTCP be-PFV Somi-INS smile-PTCP smile-PTCP Mahesh-ACC hit-CAUS-PFV
'Ram$_i$ made Somi$_j$ hit Mahesh$_k$ while PRO$_{i/j/*k}$ entering the room while PRO$_{i/j/*k}$ smiling.'

Furthermore, if we passivize (37), we find the sentence to be ambiguous – one interpretation it is the implicit agent which is the controller and on the other, it is the implicit causee:

39. pəṯəŋg [PRO$_{i/j}$ muskuraṯe hue] uɽwɑi gəji
kite smile-PRS.PTCP be-PFV fly-CAUS-PFV PASS-PFV.F
'The kite was made to fly while PRO$_{i/j}$ smiling.'

Therefore, Mohanan (1993)'s observation that "participial adjuncts in Hindi require their controllers to be grammatical subjects" is incorrect; at the same time, objects cannot be the controllers. Hence, the diagnostic in (33) should be as below:

40. A nominal that can control a participial adjunct clause with an obligatory control must be a high argument.

The proposal that the causee in Hindi is an argument, is supported by languages like Bangla where this causee argument cannot be omitted. In Bangla, where there is no overt suffix on the verb to mark causation, the causee cannot be omitted at all:

41. rɑm hori ke piʈiec^{h}e
Ram Hari-ACC hit-TR-PST
'Ram hit Hari.'

42. rɑm siṯɑ ke ḏiye hori ke piʈiec^{h}e
Ram Sita-DAT give-PTCP Hari- ACC hit-CAUS-PST
'Ram made Sita hit Hari.'

In the above sentence (42), if we omit the causee *siṯa ke ḏiye*, we will not get the causative meaning but rather a transitive meaning similar to (41) as there is no overt causative suffix in (42).

Hence, we can say that the presence of the causative suffix on the verb interacts with the *-se* marked causee and it can be left unexpressed if the causative suffix is overtly present. Otherwise, this causee cannot be elided at all.

7.2.2. -se Marked Causee vs. -se Marked Instrument

It is also important to distinguish between *-se* marked causee and *-se* marked instruments (e.g. *ram se* 'through Ram' vs. *caku se* 'with a knife'). Consider the following examples:

43. rɑm ne (cɑku se) minɑ ko mɑrɑ
Ram-ERG knife-INS Mina-ACC kill-PFV
'Ram killed Mina with a knife.'

44. *rɑm ne (mohən se) minɑ ko mɑrɑ
Ram-ERG Mohan-INS Mina-ACC kill-PFV
'Ram killed Mina through Mohan.'

45. rɑm ne (mohən se) minɑ ko mərwɑjɑ
Ram-ERG Mohan-INS Mina-ACC kill-CAUS-PFV
'Ram made Mohan kill Mina.'

46. rɑm ne (mohən se) (cɑku se) minɑ ko mərwɑjɑ
Ram-ERG Mohan-INS knife-INS Mina-ACC kill-CAUS-PFV
'Ram made Mohan kill Mina with a knife.'

The *-se* marked instrument is possible with all verbal forms, whereas the *-se* marked causee is possible only with causatives and (in)abilitatives. At first glance, it seems that the distinction between *-se* marked causee and *-se* marked instrument is along the lines of [± animate], but it is not as examples (47-50) below show:

47. t̪um ne kəmpjuʈər se əpni ãnkʰẽ pʰuɽwɑ ɭi
You-ERG computer-INS self's eyes break-CAUS take-PFV
'You spoiled your eyes because of the computer.'
(Khokhlova 1997:12)

48. t̪um ne rɑm se əpni ãnkʰẽ pʰuɽwɑ ɭi
You-ERG Ram-INS self's eyes break-CAUS take-PFV
'You got your eyes spoiled through Ram.'

But we cannot say,

49. *t̪um ne kəmpjuʈər se əpni ãnkʰẽ pʰoɽ ɭi
You-ERG computer-INS self's eyes break-TR take-PFV
'You spoiled your eyes through the computer.'

Neither,

50. *t̪um ne rɑm se əpni ɑ̃nkʰẽ pʰoɽ lɪ̃
You-ERG Ram-INS self's eyes break-TR take-PFV
'You spoiled your eyes through Ram.'

At this stage our prediction is that if we have *-se* marked instrument in place of the *-se* marked causee, it would be the causative construction that is ungrammatical and not the transitive one. This is borne out by the data:

51. i) *t̪um ne sui se əpni ɑ̃nkʰẽ pʰuɽwɑ lɪ̃
You-ERG needle-INS self's eyes break-CAUS take-PFV
'You got your eyes spoiled because of / through the needle.'

ii) t̪um ne sui se əpni ɑ̃nkʰẽ pʰoɽ lɪ̃
You-ERG needle-INS self's eyes break-TR take-PFV
'You spoiled your eyes with the needle.'

This clearly shows that despite having the same instrumental marker *-se*, the causee and the instrument are different interpretively as well as syntactically.

One more argument that *-se* marked causee is an argument comes from reflexive binding. Adjuncts cannot bind the reflexive as (52) shows:

52. zu:bi ne rɑm se milkər əpni kit̪ɑb li:
Zoobi ERG Ram INS meet-CONJ.PTCP self's book take-PFV.F
'Zoobi took her/*his book after she met Ram.'

On the other hand, a *-se* marked causee can bind the possessive reflexive in Hindi:

53. i) rɑm$_i$ ne moni$_j$ se əpni$_{i/j}$ mɑ̃ ko piɽwɑjɑ
Ram ERG Moni INS self's mother ACC hit-CAUS-PFV
'Ram made Moni hit his/her mother.'

This behaviour is not entirely as expected however. Normally, arguments that originate in the VP cannot bind the possessive reflexives -- only subjects/external arguments may (Kidwai 1995, 2000, Richa 2003).

ii) rɑm$_i$ ne moni$_j$ ko əpni$_{i/*j}$ kiṯɑb lɔʈai
Ram ERG Moni ACC self's book return-TR.PFV.F
'Ram returned Moni his/*her book.'

As the *-se* causee can also bind the possessive reflexive, it appears that these arguments must also be "high" in position, occupying a subject-like position outside the υP by Spellout.

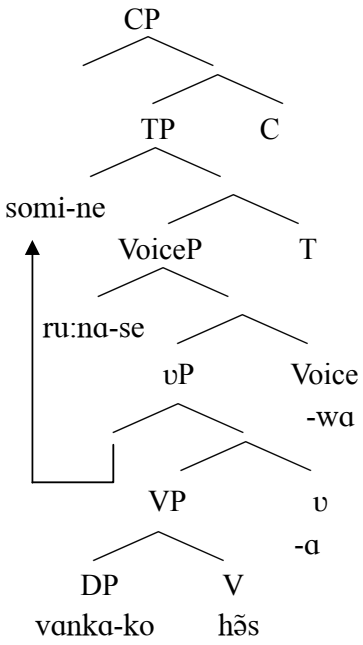
7.2.3. Voice in the Analysis of Hindi Causatives

In my analysis of the causative configuration, I adopt the Voice-based transfer/inheritance proposals of Roberts (2008). Capturing traditional insights (Whorf 1945, , Authier 1996, Nikolaeva & Tolskaya 2001, Yeon 2002)[7] that hold causative to be a Voice, and assuming the arguments of Pylkkänen (2002) that causativization adds an event layer as well as another argument, I propose that causatives like (54) instantiate the configuration in (55) where the Voice head takes a υP as its complement. As argued above, the causee is not an adjunct but an argument in Hindi causatives, and in (55) it is licensed by Voice head in Spec, VoiceP -- i.e. an argument position.

54. somi-ne ru:nɑ-se vɑnkɑ-ko hə̃swɑjɑ
somi-ERG Runa-INS Vanka-ACC laugh-CAUS-PFV
'Somi made Vanka make Runa laugh.'

[7]In traditional grammar, the causative voice is a grammatical voice like passive, reflexive and reciprocal voices. But it is the only voice that can co-occur with another voice as it increases the verbal valency by one.

55.



Under this analysis, Voice has two kinds of features: argumental features and Case (i.e. an uninterpretable φ-set). As argumental features, it has not only the [AG} feature, which licenses the external argument, but also that of causee, i.e. the *-se* argument. In actives, both the accusative Case feature as well as the [AG] feature are transferred to υ; however, the Causee is systematically licensed in the specifier of Voice.

This analysis predicts that in a passive of a causative, the *-se* argument should remain unaffected, as it is not Case-marked by υ but by the Voice head. This is true, given that in (56ii), passivisation affects the external argument, not the *-se* argument:

56. i) somi ne ru:nɑ-se vɑnkɑ-ko piʈwɑjɑ
Somi-ERG Runa-INS Vanka-ACC hit-CAUS-PFV
'Somi made Runa hit Vanka.'

ii)(ru:nɑ-se) vɑnkɑ-ko piʈwɑjɑ gəjɑ
Runa-INS Vanka-ACC hit-CAUS-PFV PASS-PFV
'Vanka was hit (through Runa).'

Moreover, if we form inabilitative passives of causatives, the prediction is that the *-se* argument of the causative should remain unaffected, and it is indeed true:

57. somi se runɑ se vɑnkɑ ko piʈwɑjɑ nə̃hi gəjɑ̣

Somi-INS Runa-INS Vanka-ACC hit-CAUS-PFV not PASS-PFV

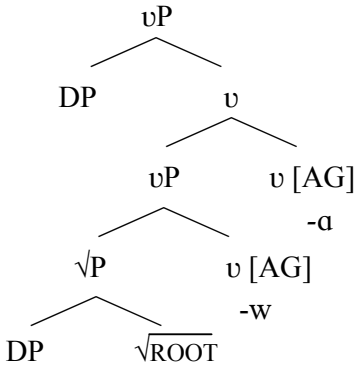
'Somi was not able to make Runa hit Vanka.'

Here, inability is on the part of the external argument *Somi* and not the *-se* causee as predicted.

7.2.4. Morphological Realisation

If the transitivizer suffix in Hindi is -ɑ and the causativizer suffix is -wɑ, then if causatives in Hindi are based on transitives, we should get the form as -ɑ-wɑ instead of -wɑ in causatives. Bhatt & Embick (2004) try to solve this problem by arguing that -wɑ is internally complex as it consists of a -w- component which realizes the lower υ[AG] and -ɑ component which realizes the higher υ[AG]:

58.



They provide the following rule for the realisation of the causative suffix -wɑ:

59. υ [AG] ↔ -w-/__dominated by υ [AG]

In other words, -w- occurs only under special circumstances when a υ [AG] head is dominated by another υ [AG] head. Thus, the highest υ [AG] gets realized as -ɑ.

Under the analysis of causatives I have proposed, a much simpler account of morphological realisation presents itself. The basis generalisation is that if Voice transfers all its features to υ, then verbal morphology is spelled out as -ɑ. If Voice retains even a single feature, the verbal morphology is spelled out as -wɑ.

60. Spell out Voice iff it is non-empty; otherwise Spell-out υ.

7.3. Conclusion

This chapter analysed the causative alternation in Hindi based on transitives as only those verbs form causatives in Hindi which can have the transitive form. Hindi transitives can be structurally divided into two types – those that have unaccusative as the base and the others that have unergative as the base. Only internally caused unaccusatives do not form transitives, hence no causatives, too. The observations about transitives revealed that the specifier position of υP in Hindi is strongly constrained by the animacy requirement.

We also looked at the issues of the grammatical status of the causee in the causatives and the morphological realisation of the transitvizer -ɑ and the causativizer -wɑ. Extending the Voice-based anaysis I gave to passives, I proposed that causative is a Voice that introduces an event with a *-se* argument as causee.

First, I would like to evaluate my analysis with that of Pylkkänen (2002) and Bhatt & Embick (2004). As discussed earlier in chapter 6, Pylkkänen (2002) proposes a CAUSE head that combines with non-causative predicates and introduces a causing event in the causative constructions. CAUSE can either be independent of θ_{EXT} or can be grouped together into a syntactic head, resulting in crosslinguistic variation in the expression of causation. In my analysis as well, Voice is an additional eventive layer that introduces the causee argument, which is independent of θ_{EXT}. Thus, as in Pylkkänen's terms, Hindi is a non-voice bundling language. As Voice selects a υP, i.e. a phase, in my analysis, it can be compared with Pylkkänen's phase-selecting υ_{CAUSE}.[8]

[8]Although phase-selecting causatives may allow verbal affixes to intervene between the causative

In Bhatt & Embick (2004)'s analysis, -*se* marked causee is same as the -*se* marked passive agent. But as I have shown in my analysis, they are completely different – the former is licensed by the Voice head and the latter by the Inab head. Moreover, optionality in causatives between -ɑ and -wɑ as claimed by Bhatt & Embick is shown to be not correct. Lastly, the analysis proposed above is far simpler than Bhatt & Embick's because in their system, both lower and higher [AG] heads are not connected to each other, and hence the problem of morphological realisation. In my analysis, however, either υ is spelled out, or Voice is.

This now brings us to a discussion of the issues of Case-marking and binding relations raised in the introductory chapter. First, let us consider the Case facts. The question that I raised was whether the instrumental/ablative Case marker -*se* in Hindi appearing on the agent of inabilitative passives, on the causee argument of the causatives, and with an instrumental adjunct should receive an analysis of accidental homophony or whether a more principled between the three was possible? The arguments in the foregoing chapters have shown such a principled analysis is indeed possible, with the three distinct uses of -*se* arising from merge in three distinct positions. Of these, only the instrumental is an adjunct, as the other two are merged in specifier positions. In inabilitative passives, the (animate) -*se* argument surfaces in the specifier position of (Inab)P, and in causatives, the -*se* argument (i.e. the causee) is merged to the Voice head as its specifier. Both these positions involve -*se* being valued as a *structural*, rather than a lexical, Case.

With this analysis, both -*se* marked arguments are υP-external, and it is this property that explains the perplexing binding properties of these arguments. As shown in chapter 1, Hindi -*se* marked arguments in inabilitative passives and the causatives (see also Richa 2003) can bind possessive reflexives in lower categories, but anti-subject orientation does not hold in this position. Following Mahajan (1990) and Kidwai (2000) in analysing anti-subject orientation as holding of arguments in

morpheme and the root, my Hindi does not allow it. However, as mentioned in section 6.1.2, some speakers accept an applicative suffix to intervene between a causativizer suffix and the root with some ditransitive ingesto-reflexive verbs, e.g. ḍikʰə(l)wɑnɑ 'show' , sikʰə(l)wɑnɑ 'teach.'

[Spec, TP], this indicates that causees and inabilitative subjects are in a subject-like position, this cannot be the specifer of TP. [Spec, Voice P] and [Spec, InabP] are indeed such positions. Hence, these are 'high' arguments but not 'high' enough to count as the subject, and while possessive reflexive binding makes reference just to height in terms of ʊP-externality, anti-subject orientation refers to height alone.

Richa (2003) argues that reflexive binding involves an Agree relation between T and the reflexive. Consider the following sentence:

61. [$_{TP}$ ram$_i$-ne[$_{VP}$ mohən$_j$-ko əpni$_{i/*j}$ kiṯɑb ḍ̪i]]
Ram-ERG Mohan-DAT self's book give-PFV
'Ram$_i$ gave self's $_{i/*j}$ book to Mohan$_j$.'

T has uninterpretable features of two kinds: the φ-features and the selectional feature EPP. EPP seeks an XP to merge with the category it heads. φ-set is a probe that seeks a goal, matching features to establish agreement. The φ-set of T locates the reflexive as the goal. The reflexive agrees with T. This operation does not delete the φ-set of T as the φ-set of the reflexive is incomplete, lacking person, number and gender features. Therefore, Agree holds between the probe T and the more remote goal 'Ram' deleting its φ-set and valuing the structural case of 'Ram.'

This Agree relation is sensitive to phases, and their strength. Possessive reflexive binding cannot hold across more than two strong phrases as (62) shows:

62. [$_{CP}$ ram$_i$-ne kəhɑ ki [$_{TP}$ siṯɑ$_j$ ne [$_{VP}$ mohən$_k$ko əpni$_{*i/j/*k}$ kiṯɑb ḍ̪i]]]
Ram-ERG say-PFV Sita-ERG Mohan-DAT self's book give-PFV
'Ram$_i$ said that Sita$_j$ gave her/his$_{*i/*k}$ book to Mohan$_k$.'

However, weak phases (i.e. lacking an EPP feature and full argument structure) do not block (long distance) Agree:

63. rɑm$_i$-ne sitɑ$_j$-ko [PRO$_j$ əpni$_{i/j}$ bəʈɑi kərṛte hue] sunɑ

Ram-ERG Sita-DAT self's praise do-IMPFV be-PFV hear-PFV

'Ram$_i$ heard Sita$_j$ doing self's$_{i/j}$ praise.'

First, PRO Agrees with the reflexive by local c-command, and as PRO is controlled by 'Sita', the reflexive, in turn, is valued with the features of 'Sita.' Here, as the embedded T is φ-incomplete, so the phase is accessible to further operations and its interpretation is at the matrix clause. Now, the matrix T enters into an Agree relation with the reflexive, but as the reflexive is φ-incomplete, it does not delete the uninterpretable features of T. Therefore, it enters into an Agree relation with the matrix subject 'Ram.'

Thus, in the analysis of Richa (2003), conditions on the locality of Agree define the binding domain for possessive reflexives.

The fact that causee arguments and inabilitative subjects can act as binders for possessive reflexives suggests that other than υ, higher heads may serve to value the φ-set of possessive reflexives, when Voice is either Causative or Passive. Recall that in my proposal, Voice transfers its features to υ in actives, identifying υP as a phase. For reflexives embedded in arguments lower than the external argument, the only available binder that is υP-external is the subject that has raised to [Spec, TP]. In causatives and passive Voice, on the other hand, Voice withholds its features from υ - in other words, the category headed by υ is φ-incomplete. Consequently, just like other defective categories, it is transparent to Agree Probes from higher heads in the clause, such as Voice and T.

Finally, consider the theoretical ramifications of my proposal. Chomsky (2005) argues that only phase heads can trigger syntactic operations and transmission of Agree-features is the property of the phase heads. Thus, raising to spec, V is because it has inherited the Agree features of v*. Similarly, he claims that T inherits its Agree features from C. "The inactivation of SPEC-T in a tensed clause is a reflex of

inheritance of C features." This also explains why C-less raising and ECM infinitival T heads are φ/Case inert.

Thus, feature transfer is always from a phase head to a non-phase head. Now, let us compare Voice-υ feature-inheritance with C-T feature inheritance. In my proposal, where I follow the insights of Roberts (2008), just as TP cannot appear in isolation without C, υP cannot appear without Voice. Therefore, in cases where υ appears to be the phase head, it must be the case that Voice has transferred the relevant features to υ. My proposal, therefore, takes issue with Collins' (2005) conclusion that Voice head is present only in the passives, and through the analysis of causatives and inabilitative passives that I have built, lends support to Roberts' (2008) claim that Voice is uniformly present.

APPENDIX

HINDI VERBS TABLE

Verbs of Emission (Externally / Internally caused)

INTRANSITIVE	TRANSITIVE	CAUSATIVE	ROOT (Sans./ Hin./Far.)
kəʈəknɑ 'boil noisily'	kəʈkɑnɑ	kəʈəkwɑnɑ	√ kəʈkəʈ (Hin.)
bəɟnɑ 'sound'	bəɟɑnɑ	bəɟwɑnɑ	√ bɑɟɑ (Hin)
cəməknɑ 'shine'	cəmkɑnɑ	cəməkwɑnɑ	√ cəmək (Hin.)
məhəknɑ 'smell'	məhkɑnɑ	?? məhəkwɑnɑ	√ məhəkk (Sans.)
cu:nɑ 'drip'	culɑnɑ	culwɑnɑ	√ cu:nɑ (Hin.)
cəʈəknɑ 'crack'	cəʈkɑnɑ	cəʈəkwɑnɑ	√ cəʈ (Sans.)
gəməknɑ 'smell'	gəmkɑnɑ	?? gəməkwɑnɑ	√ gəmək (Hin.)
ɟʰəpəknɑ 'blink'	ɟʰəpkɑnɑ	?? ɟʰəpəkwɑnɑ	√ɟʰə̃mp (Sans.)/ √ɟʰəpək

Verbs of Emission (Internally caused): Expressives

INTRANSITIVE	TRANSITIVE	CAUSATIVE	ROOT
kəʈəknɑ 'thunder'	-	-	√ kəʈək (Hin.)
gurrɑnɑ 'roar'	-	-	√ gur (Hin.)
ʈərrɑnɑ 'croak'	-	-	√ ʈər (Hin.)
gungunɑnɑ 'hum'	-	-	√ gungun (Hin.)
fusfusɑnɑ 'murmur'	-	-	√ fusfus (Hin.)
cəmcəmɑnɑ 'glitter'	-	-	√ cəmcəm (Hin.)
gũ:nɟnɑ 'resound'	-	-	√ gũnɟ (Sans.)
ɖəkɑrnɑ 'belch'	-	-	√ ɖəkk (Sans.)
kə̃pkə̃pɑnɑ 'shiver'	-	-	√ kə̃pkə̃p (Hin.)
ʈ̪ʰərʈ̪ʰərɑnɑ 'tremble'	-	-	√ ʈ̪ʰərʈ̪ʰər (Hin.)
ʈimʈimɑnɑ 'twinkle'	-	-	√ ʈimʈim (Hin.)
ʈərʈərɑnɑ 'croak'	-	-	√ ʈərʈər (Hin.)

cərcərana ‘creak’	-	-	√ cərcər (Hin.)
p^həɽp^həɽana ‘flutter’	-	-	√ p^həɽp^həɽ (Hin.)
gəmgəmana ‘smell’	-	-	√ gəmgəm (Hin.)
gəɽgəɽana ‘thunder’	-	-	√ gəɽgəɽ (Hin.)
ʈəpʈəpana ‘drip’	-	-	√ ʈəpʈəp (Hin.)
k^hənk^{h}ənana ‘clank’	-	-	√ k^hənk^{h}ən (Hin.)

Verbs of Unvolitional Change of State (Internally caused / Externally caused)

INTRANSITIVE	TRANSITIVE	CAUSATIVE	ROOT
k^hilna ‘bloom’	k^hilana	k^hilwana	√ k^hil (Hin.)
siməʈna ‘shrink’	-	-	√ simət (Hin.)
murɟ^{h}ana ‘wither’	-	-	√ mu:rc^h (Sans.)
ə̃kurna ‘sprout’	-	-	√ ə̃ŋkur (Sans.)
ũ:g^{h}na ‘doze’	-	-	√ ũ:g^h (Hin.)
muskurana ‘smile’	-	-	√ muskan (Hin.)
ʃərmana ‘blush’	-	-	√ ʃərm (Far.)
su:ɟna ‘swell’	-	-	√ soʈ^h (Sans.)
kə̃pna ‘tremble’	-	-	√ kə̃mp (Sans.)
əkəʈna ‘stiffen’	-	-	√ əkəʈ (Hin.)

Verbs of Change of State (Externally caused)

INTRANSITIVE	TRANSITIVE	CAUSATIVE	ROOT
bik^{h}ərna ‘scatter’	bik^{h}rana	bik^{h}ərwana	√ bik^{h}ər (Hin.)
muɽna ‘turn / twist’’	moɽna	muɽwana	√ mur (Sans.)
ɟuɽna ‘join’	ɟoɽna	ɟuɽwana	√ ɟuɖ (Sans.)
pəkna ‘cook’	pəkana	pəkwana	√ pəc (Sans.)
k^hɔlna ‘boil’	k^hɔlana	k^hɔlwana	√ k^hɔl (Hin.)
ɟəlna ‘burn’	ɟəlana	ɟəlwana	√ ɟwəl (Sans.)
ɖ̤əbna ‘squeeze’	ɖ̤əbana/ ɖ̤abna	ɖ̤əbwana	√ ɖ̤əmən (Sans.)

gʰəʈna ‘decrease’	gʰəʈana	gʰəʈwana	√ gʰəʈ (Hin.)
bəʈʰna ‘increase’	bəʈʰ ana	bəʈʰ wana	√ bəʈʰ (Hin.)
pʰu:lna ‘inflate’	pʰulana	pʰulwana	√ pʰu:l (Hin.)
gʰulna ‘dissolve’	gʰulana/gʰolna	gʰulwana	√ gʰuɳ (Sans.)
pʰɛlna ‘expand’	pʰɛlana	pʰɛlwana	√ pʰɛl (Hin.)
gəlna ‘melt’	gəlana	gəlwana	√ gəl (Sans.)
ɟəmna ‘freeze’	ɟəmana	ɟəmwana	√ ɟəm (Sans.)
suləɟʰna ‘resolve’	sulɟʰana	suləɟʰwana	√ suləɟʰ (Hin.)
uləɟʰna ‘entangle’	ulɟʰana	uləɟʰwana	√ uləɟʰ (Hin.)
buɟʰna ‘put off’	buɟʰana	buɟʰwana	√ buɟʰ (Hin.)
uləʈna ‘overturn’	ulʈana	uləʈwana	√ uləʈ (Hin.)
su:kʰna ‘dry’	sukʰana	sukʰ wana	√ su:kʰ (Hin)
ɖu:bna ‘sink’	ɖubana	ɖubwana	√ɖub(Hin.)
harna ‘lose’	hərana	hərwana	√ har (Hin.)
ɟi:ʈ̤na ‘win’	ɟiʈ̤ana	ɟiʈ̤wana	√ ɟi:ʈ̤ (Hin.)
sona ‘sleep’	sulana	sulwana	√ so (Hin.)
hə̃sna ‘laugh’	hə̃sana	hə̃swana	√ hə̃s (Sans.)
rona ‘cry’	rulana	rulwana	√ ruɖ̤ (Sans.)
bolna ‘speak’	bolana	bolwana	√ bol (Hin.)
ɖ̤ʰulna ‘wash’	ɖ̤ʰulana/ɖ̤ʰona	ɖ̤ʰulwana	√ ɖ̤ʰul (Hin.)
ʈu:ʈna ‘break’	ʈ̤oɽna	ʈ̤oɽwana	√ ʈ̤ruʈ (Sans.)
pʰu:ʈna ‘explode’	pʰoɽna	pʰoɽwana	√ spʰuʈ (Sans.)
muɽna ‘twist’	moɽna	moɽwana	√ mur (Sans.)
sikuɽna ‘shrink’	sikoɽna	?? sikuɽwana	√ səŋkuc (Sans.)
rukna ‘stop’	rokna	rokwana	√ runɖ̤ʰ (Sans.)
pʰəʈna ‘tear’	pʰaɽna	pʰəɽwana	√ spʰəʈ (Sans.)
ubəlna ‘boil’	ubalna	ubəlwana	√ uɖ̤ʷəl (Sans.)
ugʰəɽna ‘uncover’	ugʰaɽna	ugʰəɽwana	√ ugʰəʈ (Sans.)
ɖ̤ʰəlna ‘mould’	ɖ̤ʰalna	ɖ̤ʰəlwana	√ɖ̤ʰwəl (Sans.)
bə̃nɖ̤ʰna ‘bind’	bə̃nɖ̤ʰna	bə̃nɖ̤ʰwana	√ bə̃nɖ̤ʰ (Sans.

mərnɑ ‘die’	mɑrnɑ	mərwɑnɑ	√ mri (Sans.)
kəʈnɑ ‘cut’	kɑʈnɑ	kəʈwɑnɑ	√kərt̪ri (Sans.)
ʈə̃ŋgnɑ ‘hang’	ʈɑ̃ŋgnɑ	ʈə̃ŋgwɑnɑ	√ ʈə̃ŋg (Hin.)
cʰənnɑ ‘deep-fry’	cʰɑnnɑ	cʰənwɑnɑ	√ cʰər (Sans.)
piʈnɑ ‘beat’	piːʈnɑ	piʈwɑnɑ	√ piːʈ (Sans.)
pisnɑ ‘grind’	piːsnɑ	piswɑnɑ	√ piʃ (Sans.)
cʰiɖnɑ ‘pierce’	cʰeɖnɑ	cʰiɖwɑnɑ	√ cʰiɖ (Sans.)
biknɑ ‘sell’	becnɑ	bik/ becwɑnɑ	√ bik (Hin.)
ʈʰuknɑ ‘hit’	ʈʰoknɑ	ʈʰukwɑnɑ	√ ʈʰuk (Hin.)
kʰulnɑ ‘open’	kʰolnɑ	kʰulwɑnɑ	√ kʰul (Hin.)
kʰuɖnɑ ‘dig’	kʰoɖnɑ	kʰuɖwɑnɑ	√ kʃur (Sans.)
bʰunnɑ ‘fry’	bʰuːnnɑ	bʰunwɑnɑ	√ bʰuːn (Hin.)
sə̃iknɑ ‘roast’	sə̃knɑ	sə̃kwɑnɑ	√ sə̃k (Hin.)
ɟiːnɑ ‘live’	ɟilɑnɑ	ɟilwɑnɑ	√ ɟiːw (Sans.)
ɟəgnɑ ‘wake up’	ɟəgɑnɑ	ɟəgwɑnɑ	√ ɟɑgr (Sans.)
cʰələknɑ ‘spill’	cʰəlkɑnɑ	cʰələkwɑnɑ	√ kʃəl (Sans.)
bəcnɑ ‘save’	bəcɑnɑ	bəcwɑnɑ	√ wə̃ŋc (Sans.)

Verbs of Motion (Agentive verbs of motion)

INTRANSITIVE	TRANSITIVE	CAUSATIVE	ROOT
uʈnɑ ‘fly’	uʈɑnɑ	uʈwɑnɑ	√ uɖɖ (Sans.)
kuːɖnɑ ‘jump’	kudɑ̤nɑ	kuɖwɑnɑ	√ kurɖ (Sans.)
pʰə̃nɖnɑ ‘jump’	pʰə̃nɖɑnɑ	pʰə̃nɖwɑnɑ	√ pʰə̃nd (Hin.)
kʰelnɑ ‘play’	kʰelɑnɑ	kʰelwɑnɑ	√ kʰel (Sans.)
ɖɔʈnɑ ‘run’	ɖɔʈɑnɑ	ɖɔʈɑnɑ	√ ɖʰoʈ (Sans.)
bʰɑgnɑ ‘run’	bʰəgɑnɑ	bʰəgwɑnɑ	√ bʰɑg (Hin)
t̪ɛrnɑ ‘swim’	t̪ɛrɑnɑ	t̪ɛrwɑnɑ	√ t̪ɛr (Hin.)
cəlnɑ ‘walk’	cəlɑnɑ	cəlwɑnɑ	√ cəl (Sans.)
bʰəʈəknɑ ‘wander’	bʰəʈkɑnɑ	bʰəʈəkwɑnɑ	√ bʰəʈək (Hin.)
nɑcnɑ ‘dance’	nəcɑnɑ	nəcwɑnɑ	√ nɑc (Hin.)

Verbs of Motion (Manner of motion)

INTRANSITIVE	TRANSITIVE	CAUSATIVE	ROOT
uṯrana ‘float’	-	-	√ uṯri (Sans.)
gʰu:mna ‘rotate’	gʰumana	gʰumwana	√ gʰu:ɽn (Sans.)
ɟʰu:lna ‘swing’	ɟʰulana	ɟʰulwana	√ ɟʰul (Sans.)
luʈʰəkna ‘roll’	luʈʰkana	luʈʰəkwana	√ lunʈʰ (Sans.)
kʰisəkna ‘slide’	kʰiskana	kʰisəkwana	√ kʰisək (Hin.)
ucʰəlna ‘bounce’	ucʰalna	ucʰəlwana	√ ucʰəl (Hin.)
sərəkna ‘slide’	sərkana	sərəkwana	√ sərək (Hin.)
pʰisəlna ‘slip’	pʰislana	pʰisəlwana	√ pʰisəl (Hin.)
cʰupna ‘hide’	cʰupana	cʰupwana	√ kʃip (Hin.)
reŋgna ‘crawl’	reŋgana	reŋgwana	√ riŋ (Sans.)

Verbs of Motion (Inherently directed motion)

INTRANSITIVE	TRANSITIVE	CAUSATIVE	ROOT
ɟana ‘go’	-	-	√ ɟa (Hin.)
ana ‘arrive’	-	-	√ a (Hin.)
cəʈʰna ‘ascend’	cəʈʰ ana	cəʈʰwana	√ cəʈʰ (Hin.)
uṯərna ‘descend’	uṯarna	uṯərwana	√ uṯri (Sans.)
gʰusna ‘enter’	gʰusana	gʰuswana	√ guḍʰ (Sans.)
girna ‘fall’	girana	girwana	√ gir (Hin.)
ləʈna ‘return’	ləʈana	ləʈwana	√ ləʈ (Hin.)
bʰagna ‘flee’	bʰəgana	bʰəgwana	√ bʰag (Hin.)
ɟʰãkna ‘peep’	ɟʰəkana	ɟʰəkwana	√ ɟʰãk (Hin.)

Verbs of Spatial Configuration

INTRANSITIVE	TRANSITIVE	CAUSATIVE	ROOT
ʈikna ‘balance’	ʈikana	ʈikwana	√ ʈrik (Sans.)
ɟʰukna ‘bend’	ɟʰukana	ɟʰukwana	√ ɟʰuk (Hin.)
ləʈəkna ‘hang’	ləʈkana	ləʈwakna	√ ləʈək (Hin.)

leʈna ‘lie down’	liʈana	liʈwana	√ leʈ (Sans.)
bɛʈʰna ‘sit’	biʈʰana	biʈʰwana	√ bɛʈʰ (Hin.)
ɖulna ‘dangle’	ɖulana	ɖulwana	√ ɖul (Sans.)
hilna ‘swing’	hilana	hilwana	√ hil (Hin.)

Verbs of Existence, Appearance & Disappearance

INTRANSITIVE	TRANSITIVE	CAUSATIVE	ROOT
hona ‘exist’	-	-	√ ho (Hin.)
rəhna ‘dwell’	-	-	√ rəh (Hin.)
ana ‘come’	-	-	√ a (Hin.)
pana ‘find’	-	-	√ pa (Hin.)
kʰona ‘lose’	-	-	√ kʰo (Hin.)
ugna ‘rise’	-	-	√ ug (Hin.)
ubʰərna ‘appear’	-	-	√ ubʰər (Hin.)

Verbs of Contact/Attachment

INTRANSITIVE	TRANSITIVE	CAUSATIVE	ROOT
səʈna ‘stick’	səʈana	səʈwana	√ səʈ (Hin.)
həʈna ‘go away’	həʈana	həʈwana	√ həʈ (Hin.)

Verbs of Bodily Process

(IN)TRANSITIVE	TRANSITIVE	CAUSATIVE	ROOT
cʰĩ:kna ‘sneeze’	-	cʰĩkwana	√ cʰĩ:k (Hin.)
kʰãsna ‘cough’	-	kʰə̃swana	√ kʰãs (Hin.)
nigəlna ‘swallow’	-	nigəlwana	√ nigəl (Sans.)
ʈʰu:kna ‘spit’	-	ʈʰukwana	√ ʈʰu:k (Hin.)
kʰuɟlana ‘scratch’	-	kʰuɟwana	√ kʰərɟ (Sans.)

Verbs of Consumption

TRANSITIVE	(DI)TRANSITIVE	CAUSATIVE	ROOT
kʰɑnɑ ‘eat’	kʰilɑnɑ	kʰilwɑnɑ	√ kʰɑḍ (Sans.)
pi:nɑ ‘drink’	pilɑnɑ	pilwɑnɑ	√ pi: (Sans.)
cəkʰnɑ ‘taste’	cəkʰɑnɑ	cəkʰwɑnɑ	√ cəkʰ (Hin.)

Verbs of Perception

TRANSITIVE	(DI)TRANSITIVE	CAUSATIVE	ROOT
sunnɑ ‘hear’	sunɑnɑ	sunwɑnɑ	√ sun (Hin.)
ḍekʰnɑ ‘see’	ḍikʰɑnɑ	ḍikʰwɑnɑ	√ ḍekʰ (Hin.)

Verb of Image Impression

TRANSITIVE	(DI)TRANSITIVE	CAUSATIVE	ROOT
pəʈʰnɑ ‘read’	pəʈʰɑnɑ	pəʈʰwɑnɑ	√ pəʈʰ (Sans.)
likʰnɑ ‘write’	likʰɑnɑ	likʰwɑnɑ	√ likʰ (Sans.)
rəʈnɑ ‘rote’	rəʈɑnɑ	rəʈwɑnɑ	√ rəʈ (Sans.)

Verbs having same form as Intransitive and Transitive

INTRANSITIVE	TRANSITIVE	CAUSATIVE	ROOT
bʰərnɑ ‘fill’	bʰərnɑ	bʰərwɑnɑ	√ bʰər (Sans.)
bəḍəlnɑ ‘change’	bəḍəlnɑ	bəḍəlwɑnɑ	√ bəḍəl (Hin.)
si:nɑ ‘sew’	si:nɑ	silwɑnɑ	√ si:w (Sans.)
bunnɑ ‘weave’	bunnɑ	bunwɑnɑ	√ bun (Hin.)
ghisnɑ ‘rub’	ghisnɑ	ghiswɑnɑ	√ gʰis (Hin.)
rəŋgnɑ ‘colour’	rəŋnɑ	rəŋwɑnɑ	√ gʰis (Hin.)

Transitives

TRANSITIVE	CAUSATIVE	ROOT
ɖʰə̃knɑ ‘cover’	ɖʰə̃kwɑnɑ	√ ɖʰə̃k (Hin.)
kʰoɟnɑ ‘find’	kʰoɟwɑnɑ	√ kʰuɟ (Hin.)
ʈʰelnɑ ‘push’	ʈʰelwɑnɑ	√ ʈʰel (Hin.)
ʈɔlnɑ ‘weigh’	ʈɔlwɑnɑ	√ ʈɔl (Hin.)
ginnɑ ‘count’	ginwɑnɑ	√ gənʈ (Sans.)
kʰ əri:ɖnɑ ‘buy’	kʰəriɖwɑnɑ	√ xəriɖ (Far.)
kucəlnɑ ‘trample’	kucəlwɑnɑ	√ kucəl (Hin.)
ku:ʈnɑ ‘crush’	kuʈwɑnɑ	√ kuʈʈ (Sans.)
ɖʰəkelnɑ ‘push’	ɖʰəkelwɑnɑ	√ ɖʰəkel (Hin.)
ʈəʈolnɑ ‘grope’	ʈəʈolwɑnɑ	√ ʈəʈol (Hin.)
pəʈəknɑ ‘throw down’	pəʈəkwɑnɑ	√ pəʈ (Hin.)
bʰərnɑ ‘fill’	bʰərwɑnɑ	√ bʰri (Hin.)
ɟʰəpəʈnɑ ‘snatch’	ɟʰəpəʈwɑnɑ	√ ɟʰəpəʈ (Hin.)
məsəlnɑ ‘squeeze’	məsəlwɑnɑ	√ məsəl (Hin.)
bonɑ ‘sow’	buwɑnɑ	√ bo (Hin.)
rəkʰnɑ ‘keep’	rəkʰwɑnɑ	√ rəkʰ (Hin.)
lɑɑɖnɑ ‘load’	ləɖwɑnɑ	√ lɑɑɖ (Hin.)
bʰeɟnɑ ‘send’	bʰeɟwɑnɑ	√ bʰeɟ (Hin.)
milnɑ ‘meet’	milwɑnɑ	√ mil (Sans.)
kərnɑ ‘do’	kərwɑnɑ	√ kər (Hin.)
ɖenɑ ‘give’	ɖilwɑnɑ	√ ɖɑ (Sans.)
mɑə̃ŋgnɑ ‘ask’	mə̃ŋgɑɑnɑ	√ mɑə̃ŋg (Hin.)
kəhnɑ ‘say’	kəhəlwɑnɑ	√ kəʈʰ (Sans.)
məʈʰnɑ ‘cover’	məʈʰ wɑnɑ	√ məɳɖ (Sans.)
kʰĩ:cnɑ ‘pull’	kʰĩcwɑnɑ	√ kʰĩ:c (Hin.)
sũ:gʰnɑ ‘smell’	sũgʰwɑnɑ	√ sũ:gʰ (Hin.)

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