

ABSTRACT

Title of Document: MOVEMENT AND INTERVENTION
EFFECTS: EVIDENCE FROM HINDI/URDU.

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The purpose of this dissertation is to explore the nature of intervention effects seen in various constructions like *Wh*-scope marking, raising and passivization. In particular, this dissertation argues in favor of a movement account for all these cases and supports the idea that (syntactic) movement is inevitable and sufficient enough to provide a unified account of various structural relations (Hornstein, 2009). It further argues that movement always happens in narrow syntax, even when it isn't visible. For some of these invisible cases, this dissertation suggests head movement as an alternative to LF movement and *Agree*.

The second aim of this dissertation is to explain intervention effects in terms of *relativized minimality* (Rizzi 1990, 2004). In this consideration, this dissertation sides with Boeckx & Lasnik (2006) view that not all minimality violations are derivational: some are repairable, indicating that they must be treated as representational constraints, while others are not, indicating that they are derivational.

In this study, the dissertation not only reviews cross-linguistic facts from languages like English, German, Chinese, Japanese, and Icelandic but also provides novel empirical data from Hindi/Urdu. This way, the dissertation focuses on cross-linguistic as well as language specific investigation of intervention effects. The third aspect of this dissertation therefore is to relate cross-linguistic variations in intervention effects to the difference in the nature of the phase heads among languages. For instance, the cross-linguistic difference in the properties of various constructions (such as *Wh*-scope marking and double object construction) is reducible to the availability of an escape hatch with the relevant phase head (C or *v*).

In this exploration, this dissertation also makes two language specific claims about Hindi/Urdu; (a) the basic word order in this language is SVO, and (b) this language involves *Wh*-movement in overt syntax. The first claim contributes to the long standing debate about the basic word in Hindi/Urdu, a language which shows a dichotomy in its word order by exhibiting both SOV and SVO word order. The second claim adds to the covert vs. overt *Wh*-movement debate for *Wh* in-situ languages like Hindi/Urdu. The dissertation attributes both these aspects to the phasehood of little *v* in Hindi/Urdu.

MOVEMENT AND INTERVENTION EFFECTS: EVIDENCE FROM
HINDI/URDU.

By

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List of Abbreviations

| | |
|-------|-------------------|
| Acc | Accusative |
| Appl | Applicative |
| Asp | Aspect |
| Agr | Agreement |
| Ben | Beneficiary |
| Caus | Causative |
| Cl | Classifier |
| CF | Contrastive Focus |
| Comp | Complementizer |
| Dat | Dative |
| Def | Definite |
| Det | Determiner |
| Erg | Ergative |
| Expl | Expletive |
| Fut | Future |
| Gen | Genitive |
| Indf | Indefinite |
| Inf | Infinitival |
| Instr | Instrument |
| Loc | Locative |
| Neg | Negative |
| Nom | Nominative |

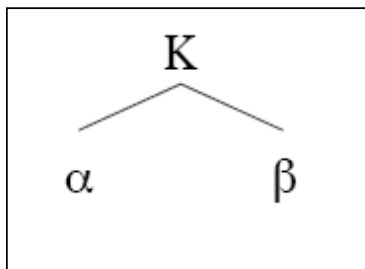
| | |
|------|-------------|
| Pst | Past |
| Pl | Plural |
| Prog | Progressive |
| Pres | Present |
| Q | Question |
| Top | Topic |
| Sg | Singular |
| 3P | 3rd person |
| M | Masculine |
| F | Feminine |

Chapter 1

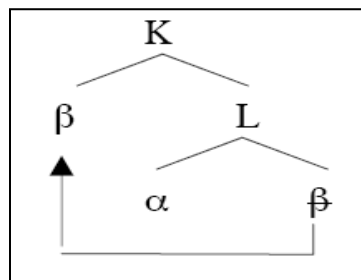
Introduction

This thesis is written within the *minimalist program* (Chomsky, 1995 et al.) of the principles and parameters framework, and focuses on the operation *move*, and *minimality*. In the minimalist program, the Faculty of Language is taken to consist of a *Lexicon* and a *Computational System*, also known as “narrow syntax”. The most basic (and virtually conceptually necessary) operation of the computational system is the structure building operation: *merge*. There are two sub-cases of the operation *merge*, *External Merge* and *Internal Merge* (Chomsky, 2001 and 2005). The *External Merge* operation takes lexical items not contained in a syntactic derivation and “merges” them into the syntactic derivation; on the other hand the *Internal Merge* (also known as *Move*) takes syntactic objects contained in a syntactic derivation and “re-merges” them within the syntactic derivation, see (1).

(1) a. External Merge



b. Internal Merge



Merge is a feature driven operation and *Internal Merge* or *Move* defines the displacement of an element driven by the need to check uninterpretable features. The Minimalist Program concentrates on the interpretability of formal features at the Logical Form (LF) and Phonetic Form (PF) interfaces. As long as uninterpretable features are present, the derivation continues with operations until all uninterpretable features are checked. The need for feature checking drives the derivation to its phonological and logical form.

Minimality captures the intuition that a structural relation is one that must be satisfied in the smallest possible environment in which it can be satisfied. Minimality is part of the formulation of the operation *Move* itself (Chomsky, 1995), i.e. minimality applies whenever *Move* applies. This derivational view of minimality asserts that minimality is a property of the operation itself. The first formalization of minimality came from Rizzi (1990) in the form of *Relativized Minimality* (2).

(2) Relativized Minimality : X α -governs Y iff there is no Z such that

- i. Z is a typical potential α -governor for Y,
- ii. Z c-commands Y and does not c-command X.
- iii. α -governors: heads, A Spec, A' Spec.

This original formulation of relativized minimality was representational in nature. It was based within the framework of government and binding (GB) theory and provided a unified account of cases such as *Wh*-islands (Huang, 1982), Super raising, and Head movement constraint (Travis, 1984). Minimalism retained the essence of the idea, even though it got rid of some of the theoretical objects (like

government) that relativized minimality used. Minimality then became the explanation of some instances of locality in the minimalist program. The formulation of relativized minimality also shifted from purely representational to more derivational, as it was proposed first as the *shortest move condition* (3) and then as the *minimal link condition* (4) (Chomsky 1993, 1995). The latest definition of relativised minimality describes it as a condition on chains (5a) defined in terms of *minimal configuration* (5b) in Rizzi (2001a, 2004).

(3) Shortest Movement Condition (Kitahara 1997 and Chomsky 1993)

Given two convergent derivations D1 and D2, both minimal [in number of elementary operations] and containing the same number of steps, D1 blocks D2 if its links are shorter.

(4) Minimal link condition (Kitahara 1997 and Chomsky 1995)

H(K) attracts α only if there is no β , β closer to H(K) than α , such that H(K) attracts β .

(5) a. $(A_1 \dots A_n)$ is a chain iff, for $1 \leq i < n$

(i) $A_i = A_{i+1}$

(ii) A_i c-commands A_{i+1}

(ii) A_{i+1} is in a Minimal Configuration with A_i .

b. Minimal configuration: Y is in a Minimal Configuration (MC) with X iff there is no Z such that

- (i) Z is of the same structural type as X, and
- (ii) Z intervenes between X and Y.

The definition in (5) can potentially capture intervention effects leading to the ungrammaticality in all types of movement: *Wh*-elements block movement of another *Wh*-element over them, a filled subject position blocks NP movement of another subject past it, and a head blocks movement of another head slipping it. In other words, what counts for minimality is the class of interveners and the class of movers. In all these cases of movement, Y is the final position of the moved element (head of the chain), X is the original position of the moved element (foot of the chain) and Z is the potential intervener. This thesis explores this idea in more detail.

In this thesis, I investigate various kinds of constructions like *Wh*-scope marking, raising, passivization and noun incorporation and argue that they all involve movement even though that doesn't appear to be the case at the first glance. More specifically, I explore the nature of intervention effects seen in these constructions, explain them in terms of minimality and propose that a movement account can best explain the things that we see here. In this exploration, I not only review cross-linguistic facts from languages like English, German, Chinese, Japanese and Icelandic but also provide novel empirical data from Hindi/Urdu to show that (syntactic) movement is inevitable.

Primary data for this thesis comes from Hindi/Urdu, an Indo-Aryan language spoken in parts of Northern India. Hindi/Urdu appears to be an SOV (head final) and *Wh* in-situ language (6). This thesis argues two things; (a) the underlining word

order of Hindi/Urdu is SVO (non head final). The surface SOV order is derived by the movement of the object to the left of the verb for Case/agreement reasons. (b) Questions in Hindi/Urdu involve overt *Wh*-movement, even though the *Wh*-phrases appear in-situ and no *Wh*-material is found at the clause edge (Spec, CP).

(6) a. raam-ne siitaa-ko dekhaa

Ram-Erg Sita-Acc saw

“Ram saw Sita.”

b. raam-ne kis-ko dekhaa

Ram-Erg who-Acc saw

“Who did Ram see?”

For evidence, this thesis relies on the nature and positioning of the finite clauses in Hindi/Urdu. The finite clauses in Hindi/Urdu canonically (and obligatorily) appear to the right of the verb, whereas the Case marked infinitival clauses and nominal objects appear to the left of the verb (7). As questions, finite clauses exhibit overt *Wh*-movement, by placing a *Wh*-scope marker (associated with the *Wh*-element inside the finite clause) in the matrix clause (8). They provide further proof for movement by showing successive cyclicity and sensitivity to island effects (9).

(7) a. mohan-ne socaa [ki raam-ne siitaa-ko dekhaa]

Mohan-Erg thought Comp Ram-Erg Sita-Acc saw

”Mohan thought that Ram saw Sita.”

b. raam-ne [siitaa-ko] dekhaa

Ram-Erg Sita-Acc saw

“Ram saw Sita.”

c. raam-ne [siitaa-ko jaa-ne]-ke liye kahaa

Ram-Erg Sita-Acc leave-Inf Gen for asked

“Ram asked Sita to leave.”

(8) mohan-ne **kyaa** socaa [ki raam-ne **kis-ko** dekhaa]

Mohan-Erg what thought Comp Ram-Erg who-Acc saw

”Who did Mohan think that Ram saw?”

(9) a. saraa-ne **kyaa** kahaa [ki mohan-ne **kyaa** socaa [ki raam-ne **kis-ko**

Sara-Erg what said Comp Mohan-Erg what thought Comp Ram-Erg who-Acc
dekhaa]

saw

”Who did Sara say that Mohan thought that Ram saw?”

b. *saraa-ne [**yeh afvaahaa** [ki raam-ne **kis-ko** dekhaa] phelayii

Sara-Erg this rumor Comp Ram-Erg who-Acc saw spread

”Who did Sara spread the rumor that Ram saw?”

This thesis also brings together two current strands of work on *Move*; (i) the single cycle theory, and (ii) the phase theory. In single cycle theory, there is no arbitrary dividing line between different kinds of operations, i.e., there is no separate

overt and covert component. All types of movement occur in the single cycle (Uriagereka 1999, Bobaljik 1995, Groat and O’Neil 1996, Pesetsky 1998). This idea is strikingly different from the traditional Y-model of grammar, where multiple cycles were allowed and movement occurred both pre and post spell-out. Given this change of setting, the traditional cases of covert (LF) movement now need a different explanation. There are two different ways to go about it. First is the *Agree* based approach of Chomsky (2000). In this approach, *Move* is a composite operation comprising *Agree* + Piedpipe+ (Re)*Merge*. *Agree* serves to identify the goal which *Move* then shifts to satisfy the EPP-feature on the probe. *Move*, in short, comprises and is parasitic on *Agree*. In this system, covert movement is redefined in terms of *Agree* and overt movement is *Agree* + Piedpipe. The second alternative is the *Agree*-less approach or the phonological theory of covert movement (Bobaljik 1995, Groat and O’Neil 1996, Pesetsky 1998 and Hornstein, 2009 among others). In this approach, the traditional “overt”/”covert” movement distinction is a matter of pronunciation. Principles of the phonology-syntax interface determine which part of a chain to pronounce. This thesis adopts the second approach over the first because the second one is theoretically and empirically more viable than the first. The second approach is less redundant than the first. Redundancy in the first approach arises with the postulation of an extra operation, *Agree*. When *Move* alone can generate the structural relations (relating remote elements to each other) that *Agree* would, why do we need *Agree*? Moreover, *Move* provides a more unified account for agreement and displacement that *Agree* alone cannot (see Hornstein, 2009 for more details).

The next strand this thesis operates on is the Phase theory. Phases are a way of modeling the computational system of human language in relation to the interfaces

between the syntactic derivation and the levels of representation. The original formulation of the notion “phase” goes back to Uriagereka (1998) and later adopted in Chomsky (2000). The basis of Phase Theory is the hypothesis that the syntactic derivation proceeds phase by phase—by building up a smaller chunk of syntactic structure, evaluating it at several time steps, and then continuing to successively construct the next relevant chunk(s) until the *numeration* or *lexical array* is exhausted. According to the Phase Impenetrability Condition (PIC), when the head of a phase is merged, the complement of the lower phase is sent to Spell-Out (Chomsky 2001). The propositional nature of C and *v* is taken to be responsible for this state of affairs. For instance, when C is merged, the VP, which is the complement of the lower phase head *v* is sent to Spell-Out. By assumption, the head H of a phase is assigned formal features like EPP, which drive movement to the specifier of the phase head.¹ This idea makes the specifier of *v*P a crucial intermediate stopping point in long distance movement to the specifier of CP, and accounts for successive cyclic movement (Chomsky 2005, Richards 2005). This thesis works within this framework and exploits the cross-linguistic variation in terms of the featural properties of the phase-defining heads (C, *v*).

The structure of the thesis is as follows. Chapter 2 talks about constructions like *Wh*-scope marking and multiple *Wh*-questions in languages like German and Hindi/Urdu. These constructions appear to be cases of *Wh* in-situ and have been

¹ There have been many attempts to eliminate EPP from the grammar on the basis of its redundancy with Case and Agreement (Epstein and Seely 1999, Fukui and Speas 1986, Boskovic 2002, among others). However Lasnik (2003) shows that EPP is not completely redundant with such components of grammar. This thesis follows Lasnik’s conclusions.

traditionally proposed to involve LF *Wh*-movement. These constructions exhibit intervention effects (also called *Beck effects*) when a *Wh*-element moves across an intervening focus element. This chapter gives an overview of some of the previous accounts of intervention effects in these cases, and highlights some of the unaccounted facts and theoretical issues in these. It then proposes an alternative solution in terms of overt head movement, and shows that it not only accounts for the facts correctly but also overcomes the theoretical problems. The chapter then extends this proposal to other cases of *Wh*-in situ. It highlights the difference between Chinese and Hindi/Urdu and suggests it is only the former that is the true case of *Wh* in-situ but not the latter. The difference in nature of *Wh*-movement in these languages is reflected in constructions involving islands and sluicing.

Chapter 3 centers on raising constructions. These constructions show intervention effects when an embedded subject raises to the matrix Spec-TP across a dative NP. This chapter investigates the cross-linguistic variation seen with respect to these effects among languages like English, Icelandic and Hindi/Urdu. The absence or presence of intervention effects has been previously attributed to the nature of the dative, i.e., whether the dative intervener is a Case-marked DP (c-commanding) or a PP (non c-commanding). This chapter reviews some of the previous analyses and shows that they cannot account for all the empirical facts, especially the ones from Hindi/Urdu. It then provides an alternative explanation in terms of (a) whether a dative is allowed as a subject, i.e. whether it is a potential intervener, and (b) some language specific head/phrasal movement which makes it possible to avert intervention.

Chapter 4 is about ditransitive passives. Languages vary on whether they allow only one of the NPs (the asymmetric pattern) to passivize or both the object NPs to passivize (the symmetric pattern). In the asymmetric pattern (as in languages like American English), it is often only the higher object that gets passivized in ditransitives. Passivization of the lower object is not allowed as the higher object intervenes in the movement of the lower object across it. The facts of the symmetric pattern (as in languages like Swedish) look like a problem for locality at first as they allow the lower argument to get promoted over a higher argument. The passivization of the lower argument in such cases is previously explained in terms of the availability of an escape hatch. This escape hatch is applied by an applicative head, which makes both the lower and the higher arguments equidistant from the final landing site. As a consequence either of them can move. What remains unaccounted for by the previous accounts is the third category of ditransitives seen in languages like Hindi/Urdu and Albanian. These languages are asymmetric, allow only one argument to get passivized, but instead of the higher argument, it is only the lower argument that can get passivized. This chapter primarily accounts for the facts of this third category while drawing inferences from the analyses proposed for symmetric passives.

The discussion in Chapter 5 revolves around head movement and its changing status in the current literature. The traditional bases for head movement lie in some very strong empirical grounds (like subject-aux inversion, V2, noun incorporation etc.). As a result any replacement analysis (however theoretically elegant) has the burden of explaining these facts. The chapter explores the domain of noun

incorporation in this regard. In particular, it picks the case of noun-incorporation in Hindi/Urdu and discusses its properties against both the movement and non-movement analyses of noun incorporation. The chapter finally concludes that head movement is still the best explanation for this phenomenon and thus can't be discarded.

Chapter 2

Intervention Effects and *Wh*-movement

Intervention effects vis-à-vis *Wh*-movement came into the limelight with the seminal work by Beck (1996), which was then followed by a number of influential analyses. This chapter revisits some of these analyses with reference to some new empirical facts and some modern conceptual ideas. It highlights the limitations of these proposals, and suggests an alternative analysis of intervention effects in terms of the minimal link condition (Chomsky 1995). This chapter claims that some apparent *Wh*-in-situ cases that exhibit intervention effects actually involve overt *Wh*-movement. Intervention effects are thus a consequence of the interaction between the moved *Wh*-element and the intervening element. I discuss data from various languages, particularly Hindi/Urdu, German, English and Chinese to show how the nature of *Wh*-movement in these languages determines the presence/absence of intervention effects.

The presence of intervention effects is observed in those constructions that are claimed to involve LF *Wh*-movement, for instance *Wh*-scope-marking constructions and multiple questions in languages like Hindi/Urdu and German. Intervention effects appear when a focus element precedes an “in-situ” *Wh*-phrase. Consider the contrast in the following representative *Wh*-scope marking cases (1) and (2) from Hindi/Urdu, where the presence of a focus particle (*hii*) affects acceptability.

(1) raam-ne kyaa socaa ki siitaa-ne kis-ko dekhaa [Hindi/Urdu]

Ram-Erg what thought Comp Sita-Erg who-Acc saw.

“Who did Ram think that Sita saw?”

(2) * raam-ne kyaa socaa ki siitaa-ne-**hi** kis-ko dekhaa

Ram-Erg what thought Comp Sita-Erg only who-Acc saw.

“Who did Ram think that only Sita saw?”

In the literature, there have been many syntactic (Beck 1996 and Pesetsky 2000), semantic (Honcoop 1998 and Beck 2006) and pragmatic (Lee and Tomioka 2001) explanations of this phenomenon. This chapter presents yet another approach to intervention effects, which is syntactic in the sense that intervention effects are seen as Minimality effects. The proposal is that intervention effects arise when a c-commanding focus element intervenes between the *Wh*-operator and the landing site. In this chapter, I argue in favor of the single cycle theory and propose that movement essentially happens before spell-out and that there is no LF movement. In particular, *Wh*-movement is treated as an instance of overt movement of the *Wh*-operator, and intervention effects result when the focus element creates intervention for the *Wh*-operator. Evidence for this overt *Wh*-movement comes from the fact that it exhibits island effects and their repair under sluicing.

The discussion in section 2.1 provides an overview of intervention effects in Hindi/Urdu and German. I discuss two alternative accounts proposed in the literature, Beck (1996) and Pesetsky (2000), and point out some problems with each. In sections 2.2 and 2.3, I sketch out an alternative overt movement account for some traditionally

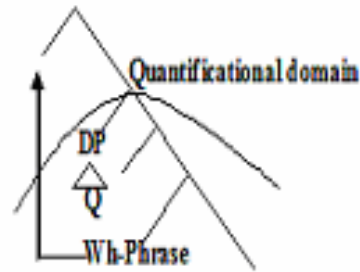
claimed in-situ cases like *Wh*-scope-marking and multiple questions. In section 2.4, I review the nature of the universal quantifier in Hindi/Urdu and German and discuss the lack of certain logically possible interpretations. Section 2.5 is devoted to a reanalysis of intervention effects in this alternative framework of movement. In section 2.6 and 2.7, I conclude with some remarks on the nature of *Wh*-movement and intervention element interaction seen in natural languages.

2.1 An overview of Intervention Effects

The first in depth analysis of intervention effects was proposed by Beck (1996), who claimed that intervention effects are a result of a restriction on *Wh* related LF movement, i.e. LF *Wh*-movement to an interrogative C position. An expression with inherent “quantificational” force creates a blocking effect for the binding of traces left by LF movement. Beck assumed that a *Wh* in-situ has to be moved from its s-structure position to an LF landing site. However an intervening “quantificational” element can act as a barrier for the licensing of the trace left by this LF *Wh*-movement. She called the phenomenon the Quantifier Induced Barrier Effect (3).

(3) Quantifier-Induced Barrier: The first node that dominates a quantifier, its restriction, and its nuclear scope is a quantifier-induced barrier.

(4)



Binding of LF traces in such a domain is prohibited and intervention effects come from a constraint on traces formed by LF movement. For Beck the restriction on LF traces is called Minimal Quantified Structure Constraint (MQSC):

(5) Minimal Quantified Structure Constraint:

If an LF trace β is dominated by a QUIB α , then the binder of β must also be dominated by α .

In support of her theory, Beck discusses intervention effects vis-à-vis three constructions; (a) *Wh*-scope marking constructions, (b) multiple questions in German, and (c) scope effects with the universal quantifier. The next sub-sections review these constructions, with respect to the crucial assumptions involved and how that supports Beck's proposal.

2.1.1 Intervention Effects and *Wh*-scope marking constructions

Beck (1996) sees *Wh*-scope marking construction as an instance of the expletive-associate construction, and in line with the Direct Dependency Approach (McDaniel

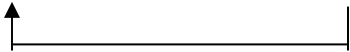
1989), suggests that in *Wh* scope marking constructions, the *Wh*-phrase *wer* in the embedded clause moves at LF to the matrix CP, and replaces a semantically vacuous *Wh*-expletive *was*. Consider the following example (6a) and its LF (6b) in this regard.

(6) a. Was glaubst John [wen_k [Hans gesehen hat t_k]]? (Beck, 1996)

What believe John whom Hans seen has

“Who does John believe that Hans saw?”

b. [CP wen_k [C⁰ glaubst [IP John t_k^{LF} Hans gesehen hat t_k]]]



Beck (1996) discusses the presence of intervention effects in *Wh*-scope marking constructions in German and suggests that in *Wh*-scope marking, the “in-situ” *Wh*-element *wer* which moves at LF, has to be interpreted outside the scope of the quantificational element and as a consequence moves across the quantificational domain from its s-structure position in LF. In this account, example (7a) is unacceptable because the trace created by this LF movement violates MSQC as the quantifier interferes between the LF moved *Wh*-phrase, and its LF trace.²


² Beck (1996) mentions that in case of scope marking construction, the *Wh*-phrase in the embedded Spec CP (as in example 7) is not strictly speaking “in-situ”, but she will consider it to be for convenience.

(7) a. ?? Was glaubst niemand [wen_k [Hans gesehen hat t_k]]? (Beck, 1996)

What believe nobody whom Hans seen has

“Who does nobody believe that Hans saw?”

b. [_{CP} wen_k [_{C'} C⁰ glaubst [_{IP} niemand t_k^{LF} Hans gesehen hat t_k]]]



Similarly, in (8a), the negative element *nicht* induces a QUIB that is the first dominating node, i.e. the IP. The LF trace t_k is dominated by this QUIB, but the binder of the trace, *wen*, is not. Thus (8) violates MQSC and is excluded by this condition on the binding of LF traces.³

(8) a. *was glaubt Hans nicht, wer da war? (Beck, 1996)

What believes Hans not who there was

“Who doesn’t Hans believe was there?”

b. [wer glaubt Hans nicht t_k^{LF} da war]



2.1.2 Intervention Effects and multiple questions

Beck (1996) suggested that in German multiple questions, a *Wh* in-situ cannot be separated from C by the sorts of elements that produce the intervention effect. She claimed that for semantic reasons the “in-situ” *Wh*-element in multiple questions in

³ Also notice the difference in acceptability with *nicht* and *niemand*. *Nicht* is a head whereas *niemand* is a phrase. I will discuss this difference in detail in the later sections.

German moves at LF to a position higher up in the clause. If this movement is across an intervening quantifier, it results in unacceptability, as in (9).

(9) ?? *Wen hat niemand wo gesehen* (Beck, 1996)

Whom has nobody where seen

“Where did nobody see whom?”

At LF (10), the negative element *niemand* induces a QUIB, the IP. The LF trace t_j of *wo* is dominated by this QUIB, but the binder of that trace is not. Thus (9) violates MSQC, as the LF trace t_j is not bound within the QUIB it is dominated by.

(10) $[_{CP} \text{wen}_i \text{wo}_j [_{C'} C^0 [_{IP} \text{niemand } t_i t_j^{LF} \text{gesehen hat}]]]$

The unacceptability of sentences like (9) has nothing to do with the status of *wo* as an adjunct. The result is the same even if the in-situ *Wh*-phrase is an argument, see example (11) below.

(11) ?? *Wann hat niemand wen eingeladen* (Beck, 1996)

When has nobody whom invited

“When did nobody invite whom?”

2.1.3 Intervention Effects and the Universal Quantifier

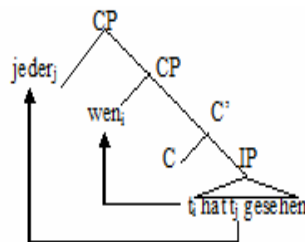
Beck adopted May's (1985) analysis of quantifier raising and assumed that the universal quantifier gives two kinds of readings, a group reading and a distributive reading, and that these readings result from different scope relations between the universal quantifier and the *Wh*-expression. The group reading is a reading in which the *Wh*-expression takes scope over the quantifier and the distributive reading of the universal quantifier is a reading in which *every* has scope over the entire question. Beck further proposed that the quantifier raises and adjoins to a CP adjoined position at LF. See example (12) and its structure (13) below.

(12) Wen hat jeder gesehen (Beck, 1996)

Who has everyone seen

“Who has everyone seen?”

(13)



Beck further notices that in German scope marking constructions (14), the intervention of *every* doesn't make the sentence unacceptable. However it restricts the reading to only distributive one. For example (14) has only pair-list or distributive reading as in (15) but not single answer reading.

(14) was glaubt jeder wen Hans gesehen hat? (Beck, 1996)

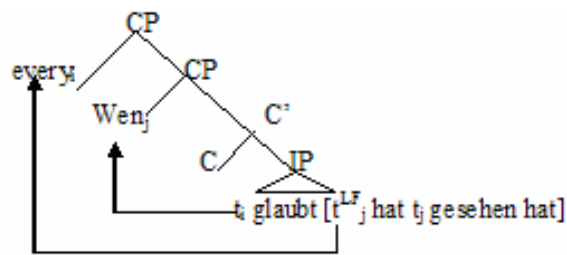
What believes everyone whom Hans seen has

“Who does everyone believe that Hans saw?”

(15) For each person x: Who does x believe that Hans saw?

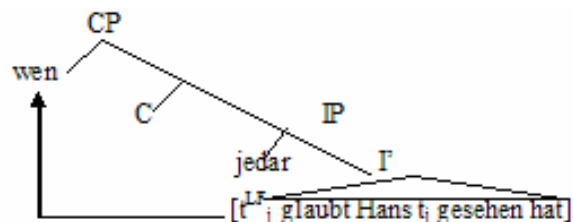
Beck suggests the distributive reading is the one in which “every” has scope over the entire question, as in (16), and induces a pair-list reading.

(16)



A single-answer reading on the other hand is ruled out because the *Wh*-expression can't move across the quantifier on its way to Spec, CP. The universal quantifier “jeder” creates an intervention effect by restricting the number of available readings, as it constrains the binding of the trace left by LF movement of the *Wh*-expression.

(17)



Beck claims that MQSC constrains all LF movement to the CP. If so the prediction is that it should affect LF movement not only in the *Wh*-constructions but otherwise also. Now if the universal quantifier on the distributive reading is moved to a CP adjoined position, this LF movement of “every” should also be blocked by an intervening “quantificational” expression. Beck shows that that is exactly what happens when negation intervenes in the LF movement of *jeweils* (each) in German. *Jeweils* like *Jeder* also introduces distributive reading in questions. Consider the following example in this connection. Sentences like (18) are ungrammatical since the intervening negative element *niemand* blocks the licensing of the LF trace of *jeweils* as well as the LF trace of *wen*, see (19).

(18) ?? *Wen hat niemand jeweils getroffen* (Beck, 1996)

Whom has no one each (time) met

“Who did no one meet each time?”

(19) $[_{CP} \text{jeweils}_i [_{Wen}_j \text{ hat } [_{IP} \text{ niemand } t_i^{LF} t_j^{LF}] \text{ getroffen}$

2.1.3.1 Problems with Beck’s account

Beck’s account has some conceptual problems, which relate to how intervention effects are stated/viewed. Beck at times states Intervention effects (MQSC) as a representational constraint (a constraint on LF traces) and sometimes as a derivational constraint (constraint on LF movement). The conceptual problem with Beck’s proposal however stands irrespective of which view you adopt. If MQSC is a

representational constraint, it is problematic because Beck sees MQSC as a constraint only on LF traces but not on s-structure traces. However at the CI interface both s-structure traces and LF traces are the same. If MQSC is a derivational constraint, Beck's explanation of the phenomena suggests MQSC to be a constraint on LF movement only. Her proposal is problematic under a view of grammar where both overt and covert operations satisfy uniformity (Chomsky 1995, Hornstein, et al., 2005). Uniformity requirement states that derivations exhibit identical properties before and after spell out and as a consequence implies that both overt (pre spell out) and covert (post spell out) movement should satisfy the same constraints.⁴ A position in congruence with the single cycle theory which implies that there is no LF movement would also raise doubts on this proposal.

One of the most crucial assumptions for Beck's account is the presence of LF *Wh*-movement. In the following sections, I will raise objections against this assumption itself. The next sub-section reviews an alternative proposal by Pesetsky (2000) that seems to answer some of the questions raised here.

2.1.4 Intervention Effects and Feature movement

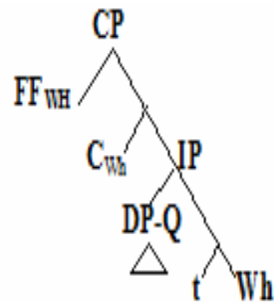
Pesetsky (2000) reinterprets intervention effects as an LF constraint on *Wh*-feature movement instead of *Wh*-phrasal movement. For him, feature movement (as opposed

⁴ Uniformity did not hold in GB theory because movement was assumed to be subject to different principles before and after S-structure. For instance, movement only obeyed Subjacency before S-structure.

to phrasal movement) leaves the restriction on the *Wh*-quantifier inside the clause, and thus causes “intervention effect”.

(20) A semantic restriction on a quantifier (including *Wh*) may not be separated from that quantifier by a scope bearing element.

(21)



Pesetsky also discusses a variety of constructions (which he calls separation constructions) that permit a sub-constituent to count as a *Wh*-phrase and extract accordingly. These are the constructions that strand material belonging to the restriction of a *Wh*-phrase inside their clause. German displays several constructions in which phrasal *Wh*-movement raises a portion of an argument phrase overtly, leaving the remainder behind in the clause. In these separation constructions the phrases that can separate in this manner are of the form “*Wh*-word+ partitive PP”, “*Wh*-word+ adjective” and “*Wh*-word+ all”. All these constructions are subject to the intervention effect. See the paradigm in (22)-(25) from Pesetsky (2000).

(22) [Wen alles] hat Hans ____gesehen? [no separation, no intervener]

Whom all has Hans seen

“Who all did Hans see?”

- (23) Wen hat Hans [___ alles] gesehen [separation, no intervener]
 Whom has Hans all seen
- (24) [Wen alles] hat niemand ___ gesehen [no separation, intervener]
 Whom all has no one seen
 “Who all did no one see?”
- (25) ?? Wen hat niemand [___ alles] gesehen [separation, intervener]
 Whom has no-one all seen

2.1.4.1 Problems with Pesetsky’s account

The first issue that comes up with Pesetsky’s account of *Wh*-intervention effects relates to the status of feature movement in the current minimalist literature. Chomsky (2001) argues for the elimination of feature movement as a syntactic operation, and claims that movement cannot simply occur at the level of features, and some kind of (generalized) pied-piping is necessarily involved. Matushansky (2002, 2006) relates the constraint banning features movement with a property of operation *Merge*. The idea is that *Merge* is restricted to operate on lexical items, and since operation *Move* is nothing but internal *Merge*, this restriction holds for movement operation as well.

In addition to the above stated theoretical problem, there are two empirical issues in the LF feature movement account. The first problem relates to the assumption that intervention effects are LF effects because of the fact that sluicing, a PF deletion operation (Merchant 2001), can repair intervention effects.

Consider the contrast between examples (26) & (27) from German that involve a separation construction.⁵

(26) *Wen hat niemand [___ von den studenten] gesehen

Whom has no one of the students seen

“Who among the students has no one seen?”

(27) niemand hat einem von den studenten gesehen, aber ich weiß nicht wen

no one has some of the students seen but I know not whom

“No one has seen someone among the students but I don’t know who.”

Another problem with Pesetsky’s account lies in his definition of the constraint that induces intervention effects, which proposes that the semantic restriction on a *Wh* cannot be separated from that *Wh* by an intervening quantificational element. If that is the case then a sentence like (28) should also result in unacceptability. Given standard assumptions about reconstruction in *Wh*-movement, reconstruction would apply and delete the restriction from the operator position but will retain it in the base position.⁶ In that scenario, the semantic restriction on the *Wh* in (28) will be separated from that *Wh* by a scope bearing element *everyone*, and should result in unacceptability. However that is not the case.

⁵ Five German speakers I checked with agree with these judgments.

⁶ Chomsky (1995), Preference Principle for reconstruction: Try to minimize the restriction on the operator.

(28) Whose mother does everyone like?

All these things suggest that intervention effects are not actually an LF effect, but rather a property of the “overt syntax”, i.e. intervention effects are not due to a constraint on LF representation but a minimality constraint on a relation built in overt syntax, opposed to what Beck (1996) and Pesetsky (2000) proposed. Now if intervention effects are due to a constraint related to things happening in overt syntax, the immediate question is, why do intervention effects show only up in some apparent non-overt cases like *Wh* “in-situ”? The next two sections aim to address this question by providing an alternative *Wh*-movement account for *Wh*-scope marking constructions and multiple questions, and show that these two cases actually involve overt movement.

2.2 An Alternative account for *Wh*-scope marking constructions

In this section I propose that *Wh*-scope marking constructions, which appear to be a case of *Wh* in-situ, surprisingly involve overt *Wh*-movement. In *Wh*-scope marking constructions in languages like Hindi/Urdu (29), a *Wh*-element associated with the embedded *Wh*-phrase appears in the matrix clause when the *Wh*-phrase in the embedded clause has matrix scope.⁷

⁷ In *Wh*-scope marking constructions, the *Wh*-element in the matrix clause is often called as the *Wh*-scope marker. I, however, will that it is not really a scope marker.

(29) a. raam kyaa maantaa hai [ki siitaa kis-se pyaar kartii hai]?

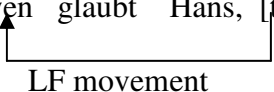
Ram what believes be-Pres Comp Sita who-with love does be-Pres

“Who does Ram believe that Sita loves?”

In the Direct Dependency Approach of McDaniel (1989), which Beck (1996) adopted, the *Wh*-element (*kyaa* in Hindi/Urdu) is base generated in the matrix clause and it is only at LF that the true *Wh*-phrase moves and replaces it (30). This view is very similar to the GB view (Chomsky, 1986a) where long distance agreement relation manifested in existential constructions was taken to involve covert movement of the associate to replace the expletive.

(30) a. Was glaubt Hans, [wen Bill liebt]

b. wen glaubt Hans, [t Bill liebt]



LF movement

This account of LF replacement has fallen out of favor in recent minimalist frameworks for both theoretical and empirical reasons. One relevant empirical concern is the fact that expletive associate constructions and their non-expletive counterparts are not necessarily semantically equivalent, see (31) below. In (31b) *many* has wide with respect to *not*. On the other hand, in (31a), *many* has only narrow scope, i.e. it cannot take scope over the negation. Given that expletive replacement would create identical LF representations for the examples in (31a) and (31b), the difference in interpretation remains unexplained (Lasnik, 1995).

- (31) a. There are not many men in the garden
b. Many men are not in the garden

Another argument against expletive replacement was raised by the observation that it should create new binding possibilities (Lasnik and Saito 1992, and den Dikken 1995b). Under the assumption that the Binding Theory applies at LF and that the NP *some linguists* raises to the position of the expletive at LF in (32b), it should be able to bind a reflexive. However, reflexive binding is impossible in (32b).

- (32) a. Some linguists_i seem to each other_i [t to have been given good job offers]
b. *There seem to each other_i [to have been some linguists_i given good job offers]

The LF replacement account is also disfavored theoretically as it relies on multiple grammatical cycles. The notion of multiple cycles is taken as a flaw in the “optimal design” of FL (Chomsky, 2000), and has been argued to be eliminated in favor of single cycle theory (Pesetsky, 2000). This argument rests on the premise that *Agree* can substitute for that covert (LF) component which involves long-distance relations. The status of *Agree* is however itself debatable (Hornstein, 2009), and it is still not clear as to which position is conceptually superior to the other.

The second prominent approach to *Wh*-scope marking comes from Dayal (1994, 1996 and 2000) and Lahiri (2002) in the form of Indirect dependency approach. Under this view, the *Wh*-element in the matrix clause is a regular *Wh*-


phrase, and not an expletive. It originates as an XP in the complement position of the matrix predicate, just like in regular questions. This analysis posits no direct syntactic relation between the *Wh*-element and the *Wh*-phrase in the embedded clause. The underlying assumption in this analysis is that the matrix *Wh*-element and the embedded *Wh*-phrase are never part of the same constituent at any point in the derivation. The matrix *Wh*-element originates in the argument position of the matrix verb, however it is co-indexed with the subordinate CP. According to Dayal, in Hindi-Urdu all *in situ Wh*-material must raise to the edge of its CP at LF, creating two local *Wh*-dependencies in a two-clause partial movement construction. The first is due to the LF movement of the full *Wh*-phrase to the specifier of the adjoined CP, and the second to the LF movement of the *Wh*-element *kyaa* to the specifier of the matrix CP. Since the *Wh*-element and the adjoined CP are related by co-indexation, the net result gives the effect of a single long-distance dependency (33).

(33) raam-ne kyaa; socaa [ki siitaa kis-se milii]_i.

Ram-Erg what thought Comp Sita who-Acc met

“Who did Ram think that Sita met?”

LF: [_{CP} [_{CP} kyaa [Ram-ne t sochaa]] [_{CP} kis-se ki [Sita t milii]]]



Under this view, sentences like (33) denote a set of propositions of the form “John thinks q”, where q is limited to the set of answers to the question “Mary met whom”. This excludes other possible propositions from the answer set.

It was claimed that this approach could successfully account for two important empirical facts about *Wh*-scope marking which the direct dependency approach didn't. The first fact relates to the different morphological forms of the matrix *Wh*-element and the *Wh*-phrase in the embedded clause (34a). And the second relates to the presence of multiple *Wh*-phrases in the embedded clauses (34b).

- (34) a. raam-ne kyaa socaa ki siitaa kab/kyuN/kahaaN/kaise jaayee-gii
 Ram-Erg what thought Comp Sita when/why/where/how go-Fut
 “When/Why/Where/How did Ram think that Sita will go?”
- b. raam-ne kyaa socaa ki kaun kis-se milaa
 Ram-Erg what thought Comp who whom met
 “Who did Ram think met whom?”

Malhotra and Chandra (2007) pointed out that it is not obvious that different morphological shapes of the two elements suggest that they do not form part of the same constituent (see Uriagereka 1995, for clitic doubling structures in Romance languages and Chandra 2003, for left dislocation in Hindi/Urdu). Second, multiple occurrences of *Wh*-phrases also do not necessarily entail the obligatory presence of multiple *Wh*-elements in the matrix clause. For instance in multiple questions in English, only one *Wh*-phrase occupies the canonical *Wh*-position, in Spec CP even though co-occurring in-situ *Wh*-phrases take wide scope simultaneously. The presence of a single *Wh*-element in the matrix clause could be for the same reasons that only one *Wh* surfaces at the left periphery in English.

Malhotra and Chandra (2007) further provided two kinds of evidence against the indirect dependency approach; (a) multiple occurrences of *Wh*-element in all intermediate clauses and, (b) strong island effects. For the obligatory multiple occurrence of *Wh*- element, contrast the acceptable (35) with the unacceptable (36)-(38) in Hindi/Urdu, where the *Wh*-element *kyaa* must obligatorily appear in all the preceding clauses.⁸

(35) raam-ne kyaa socaa [ki ravii-ne kyaa kahaa [ki siitaa-ne kyaa
 Ram-Erg what thought Comp Ravi-Erg what said Comp Sita-Erg what
 bolaa [ki kaun aayaa]]]
 told Comp who came

“Who did Ram think that Ravi said that Sita told came?”

(36) *raam-ne socaa [ki ravii-ne kyaa kahaa [ki siitaa-ne kyaa bolaa [ki
 Ram-Erg thought Comp Ravi-Erg what said Comp Sita-Erg what told Comp
 kaun aayaa]]]
 Who came

(37) *raam-ne kyaa socaa [ki ravii-ne kahaa [ki siitaa-ne kyaa bolaa [ki
 Ram-Erg what thought Comp Ravi-Erg said Comp Sita-Erg what told Comp
 kaun aayaa]]]
 who came

⁸ Similar facts have been observed in German and Hungarian *Wh*-scope-marking constructions (Marácz, 1990).

(38) *raam-ne kyaa socaa [ki ravii-ne kyaa kaha [ki siitaa-ne bolaa [ki
 Ram-Erg what thought Comp Ravi-Erg what said Comp Sita-Erg told Comp
 kaun aayaa]]]
 who came

As we notice with the sentences above, though the *Wh*-phrase remains inside the lowest clause, the *Wh*-element *kyaa* must be visible in each intermediate clause. In a base generation account there is no obvious motivation for the *Wh*-element *kyaa* to appear in all the intermediate clauses. If this *Wh*-element is a scope-marker and is just there to mark the scope of the *Wh*-phrase, then it should only appear in the highest clause and not in each intermediate clause.

The second piece of evidence they report is the fact that *Wh*-scope marking constructions are island sensitive. For instance, the following examples (39a) & (39b) are ill formed with embedded *Wh*-phrases contained within complex NP-islands and adjuncts respectively. The unacceptability of (39a) and (39b) can't be just a distance effect because long-distance *Wh*-scope marking is otherwise possible, see (35).

(39) a. *[raam-ne kyaa kaha [ki ravii-ko [yeh baat [ki miiraa kyaa
 Ram-Erg what said Comp Ravi-Dat this fact Comp Mira what
 khaaye-gii] pataa hai]]
 eat-Fut know be-Pres

“What did Ram say that Ravi knows the fact that Mira will eat?”

b. *raam-ne kyaa kahaa [ki siitaaa bazaar jaayegii [kyunki mohan kyaa

Ram-Erg what said Comp Sita market go-Fut because Mohan what
nahi laayaa]

Not brought

“What did Ram say that Sita will go to the market because Mohan didn’t
bring?”

For cases like (39) Dayal (1996) makes two crucial claims. Firstly, finite clauses in Hindi/Urdu are right adjoined to the matrix clause, and by virtue of being in an adjoined position, finite clauses in Hindi/Urdu behave as adjuncts and thus act as islands for extraction. Secondly, islands effects are visible for LF movement in Hindi/Urdu.

Mahajan (2000) and Malhotra and Chandra (2008) provide evidence against the first claim, and show that finite clauses not only allow bound variable reading (40a) but also allow both A (hyper-raising) and A’ (scrambling) extraction out of them (40b) and (40c).

(40) a. har aadmii-ne_i kyaa socaa [CP ki us-ne_i kis-ko dekhaa] [Mahajan, 2000]⁹

each man-Erg what thinks Comp he-Erg who saw

“Who did every man_i think that he_i saw?”

⁹ Similar facts have been reported for German by Beck and Berman (2000).

(1) daß keine Studentin_i es bedauert, daß sie_i die Vorlesung geschwänzt hat

that no student it regrets that she the lecture skipped has

‘... that no student regrets it that she has skipped the lecture.’

b. raam_i lagtaa-hai [_{CP} ki [t_i party-meN aaye-gaa] [M & C, 2008]

Ram seems be-Pres Comp party-in come-Fut

“Ram seems that he will come to the party.”

c.. raam-se_i, mohan-ne socaa [_{CP} ki [siitaa t_i pyaar kartii-hai]

Ram-from Mohan-Erg thought Comp Sita love does be-Pres

“Mohan thought that Sita loves Ram.”

For cases like (40), Dayal suggests that finite clauses in Hindi/Urdu are islands for LF movement and not otherwise. The other problem is that even those cases which are claimed to involve LF movement, seems to allow movement out of finite clauses. Consider the following question (41a) from Hindi/Urdu, which is ambiguous in that it allows both single (41 b) and pair-list answers (41c).

(41) a. **kaun kyaa** jaantaa hai [CP ki kis-ne **kyaa** khaayaa] [M & C, 2008]

Who what knows be-Pres Comp Who-Erg what ate

“Who knows who ate what?”

b. John knows who ate what, Bill know who ate what, etc.

c. John knows who ate an apple, Bill knows who ate a cake, etc.

A pair-list answer for (41a) is only possible by giving wide scope to the embedded Wh, and wide scope for the embedded *Wh*-phrase can only be derived by

extracting it out of the finite complement clause. Given these facts, it is clear that finite clauses are not islands for movement of the embedded *Wh*-phrase.

The other and more serious problem in this analysis is the parametric view on island effects. Dayal et al. fail to answer why Hindi/Urdu, unlike other languages, must impose subjacency effects only at LF. This assumption is faulty empirically too as overt extraction out of islands does create violations in Hindi/Urdu (42a). Moreover these island violations get repaired under sluicing (42b). Notice the contrast between example (42a) and (42b).

(42) a. *[_{CP} kyaa [_{IP} ravii-ko [_{DP} yeh baat [_{CP} ki [_{IP} Miiraa t khaaye-gii]]]

what Ravi-Dat this fact Comp Mira eat-Fut

pataa hai]]

knows be- Pres

“What does Ravi know the fact that Mira will eat?”

b. [_{CP} [_{IP} raviii-ko [_{DP} yeh baat [_{CP} ki [_{IP} miiraa [_{VP} [_{DP} kuch] khayeegii pataa

Ravi-Dat this fact Comp Mira something eat-Fut knows

, hai]]]] par [_{CP} [_{IP} maiN nahiN jantaa [_{CP} ki kyaa [_{IP} ~~ravii ko ye baat ki Miiraa~~

be-Pres but I not know Comp what ~~ravi-Dat this claim Comp Mira~~

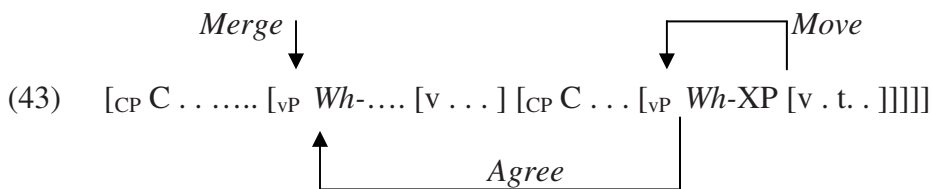
~~khayegi]]] pataa hai]~~

~~eat Fut — knows be Pres.~~

“Ravi knows the fact that Mira will eat something, but I don’t know what.”

Assuming that Sluicing is a deletion process at the level of phonetic form (PF) and that it can repair violations that occur in overt syntax or pre spell-out (Merchant 2001), then since sluicing can repair island violations in Hindi/Urdu, they must be due to a constraint at PF.

Beck and Berman (2000) pointed out an additional problem in the direct dependency approach which is that the co-indexation of the *Wh*-expletive with the embedded *Wh*-clause is neither referential nor anaphoric. It is very unclear as to what is the origin of this indexation is and how it gets interpreted. Manetta (2010) overcomes this problem by adopting an *Agree*-based analysis of *Wh* scope-making. In her system, the *Wh*-element *kyaa* merges with a functional head (*v*) in the matrix clause. The embedded *Wh*-phrase shifts to the edge of its own *vP* and subsequently interacts with the higher head via *Agree*. See the derivation for Hindi/Urdu case below.

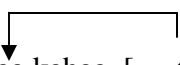


Though Manetta’s analysis overcomes the problem of indexation in indirect dependency approach, it still cannot account for island effects seen in *Wh*-scope marking constructions because it doesn’t involve any movement. Given this scenario, it seems a movement account can probably provide a better analysis of *Wh*-scope marking.

Fanselow and Mahajan (2000) proposed a movement account for *Wh*-scope marking constructions and suggested that there is a direct link between the matrix *Wh*-element and the embedded *Wh*-phrase. Under this view, the embedded clause is the complement of the *Wh*-element *kyaa*. The *Wh*-element along with the embedded interrogative clause forms a complex DP, which forms the object of the matrix verb. The *Wh*-element and the embedded CP are in an expletive-associate relation, and at LF the embedded CP replaces the matrix *Wh*-element *kyaa*.

- (44) [VP *kyaa_i* *sochaa* [DP *t_i* [CP *ki* [IP *kaun aayeg-aa*]]
 what thought Comp who come-Fut

The problem with the representation in (44) is that it cannot account for island effects in *Wh*-scope marking constructions (39). In this representation, the *Wh*-element *kyaa* originates outside the CP boundary that contains an island. Given this, we expect to see acceptable structures with islands separating the scope markers and their *Wh*-phrases, contra fact (45). Mahajan and Fanselow’s analysis therefore makes incorrect predictions about Hindi/Urdu *Wh*-scope marking constructions.

- (45) * *[raam-ne kyaa kahaa [DP t [CP ki ravii-ko [yeh baat [ki miiraa kyaa*
 Ram-Erg what said Comp Ravi-Dat this fact Comp Mira what
khaaye-gii] pataa hai]]]
 eat-Fut know be-Pres

“What did Ram say that Ravi knows the fact that Mira will eat?”

This proposal also cannot account for the absence of *kyaa* when the embedded *Wh*-phrase is scrambled to the matrix clause (46). If there is no direct link between the two *Wh*-elements, it is not clear why the movement of one will affect the other.

- (46) a. *kis-se raam-ne socaa [ki siitaa t_i milii].*
Who-Acc Ram-Erg thought Comp Sita met
“Who did Ram think that Sita met?”
- b. **kis-se raam-ne kyaa socaa [ki siitaa t_i milii].*
Who-Acc Ram-Erg what thought Comp Sita met
“Who did Ram think that Sita met?”

An alternative movement account has been suggested by Malhotra and Chandra (2007) which makes use of Sportiche’s (1988) doubling structures. This account models long-distance relation between the matrix *Wh*-element and the embedded *Wh*-phrase without LF movement and without invoking *Agree*. Malhotra and Chandra claim that in *Wh*-scope marking constructions, the *Wh*-element and the embedded *Wh*-phrase base-generate as a single complex DP. In the course of the derivation, the scope-bearing *Wh*-element (*kyaa*) overtly moves to a position in the matrix clause while the *Wh*-phrase remains stranded inside the embedded CP. The long-distance relation between the two *Wh*-elements is thus analyzed as involving

overt movement of one part of a doubled structure.¹⁰ The idea is that if two elements stand in a relation with each other (even long distance), they should have formed a constituent (merged together) at some point in the derivation.

Two important questions that remained unsolved in Malhotra and Chandra (2007) concern, (a) the landing site of the *Wh*-element *kyaa* in the matrix *vP*, and (b) the categorical status of *kyaa*; whether *kyaa* is a head or a phrase. I take a step forward here and suggest that *Wh*-element *kyaa* is a head and it head moves and adjoins to matrix *v*. Consider examples (47) from Hindi/Urdu in this regard.

- (47) a. **raam-ne kyaa nahiN bataayaa ki kaun aaye-gaa*
Ram-Erg what not told Comp who come-Fut
“Who didn’t Ram tell will come?”
- b. **raam-ne nahiN kyaa batayaa ki kaun aaye-gaa*
Ram-Erg not what told Comp who come-Fut

Examples like (47a) show that clausal negation cannot intervene between the matrix verb and *kyaa* in Hindi/Urdu. Interestingly neither can *kyaa* intervene between the matrix verb and negation (47b). The prohibition on their co-occurrence must rest on the fact that they both need to be adjacent to the verb.¹¹

¹⁰ Doubling structures have been widely used to account for various long-distance relations, like resumptive pronouns (Boeckx, 2003), clitic doubling (Uragereka 1995), partial control (Rodrigues, 2004) etc.

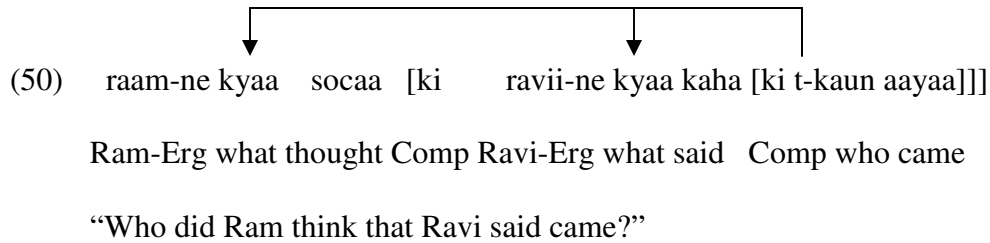
¹¹ Kumar (2003): Sentential negation in Hindi/Urdu is a head and not a phrase. It must occur strictly adjacent to the matrix verb.

Similar is the case with focus and contrastive focus particles in Hindi/Urdu, which must be adjacent to elements they focus. Consider examples (48-49) below. The focus clitics *bhii* and *hii* cannot be separated from the verb by an intervening *Wh*-element *kyaa*, nor can the *Wh*-element *kyaa* be separated from the verb by the intervening focus particle. Cases like (47-48) suggest that *kyaa* and the focus particles are in complementary distribution.

- (48) a. * raam-ne kyaa kaha hii ki kaun aaye-gaa
 Ram-Erg what said only Comp who come-Fut
 “Who was it that John said will come.”
- b. * raam-ne kyaa kaha bhii ki kaun aaye-gaa.
 Ram-Erg what said also Comp who come-Fut
 “What is it that John also said who will come”
- (49) a. *raam-ne kyaa bhii kaha ki kaun aaye-gaa.
 Ram-Erg what also said Comp who come-Fut.
- b. *raam-ne kyaa hii kaha ki kaun aaye-gaa
 Ram-Erg what only said Comp who come-Fut

Assuming that negation and focus particles constitute separate heads in Hindi/Urdu, I argue that *kyaa* is a head that adjoins to the functional verbal head, a position that other heads (including negation and focus clitics) also target.

This movement account also successfully provides an explanation for multiple occurrences of *kyaa* (35) as well as island effects (39) in *Wh*-scope marking constructions. For instance, the multiple occurrences of *kyaa* indicate intermediate copies which result from the successive cyclic movement of the *Wh*-head. The *Wh*-head base generates in the lowest clause and moves successive cyclically via each intermediary functional position. Intermediate copies are the spelled-out traces of successive-cyclic movement (50).¹²



Intermediate steps in this successive-cyclic *Wh*-movement are triggered by features other than those involved in checking a *Wh*-expression's *Wh*-feature. The idea is that in Hindi/Urdu, the *Wh*-head checks the EPP feature at the *v* head.¹³ A

¹² For this kind of successive cyclic head movement to work, language must allow for head excorporation. Excorporation is ruled out in cases involving morphological amalgamation (Baker 1988 and Roberts, 1991). Head adjunction in *Wh*-scope marking constructions doesn't cause any morphological fusion, as a result excorporation or successive cyclic head movement is allowed here. We will return to this issue in Chapter 5.

¹³ Sabel (2000) suggested that a [focus] feature may be responsible for triggering local *Wh*-movement to the specifier of non-interrogative heads. If this feature is 'strong', as in the case of German, then partial movement (i.e., the spelling-out of *Wh*-expressions in the specifier of non-interrogative C) is possible.

similar view is presented in Rackowski and Richards (2005) who considered Spec, *v*P as a potential intermediate stopping point for *Wh*-movement.

An account in terms of head movement also provides the most natural explanation for island effects in *Wh*-scope marking. Assuming that island effects are PF violations, it can only be overt movement that is subjected to a PF constraint that results in islands.¹⁴

- (51) **[raam-ne kyaa kahaa [ki ravii-ko [yeh baat [ki miiraa-ne kis-ko dekha] pataa hai]]*
 Ram-Erg what said Comp Ravi-Dat this fact Comp Mira-Erg who-Acc saw
 know be- Pres

“Who did Ram say that Ravi knows the fact that Mira saw?”

- (52) [_{IP} raam-ne [_{VP} kyaa kahaa [_{CP} ki ravii-ko [_{DP} yeh baat [_{CP} ki [_{IP} miiraa-ne [t-kis-ko] dekha] pataa hai]]]]]
-

Given all the facts discussed above, I propose that *Wh*-scope marking constructions do involve overt *Wh*-head movement. We also know that these constructions, as Beck (1996) noticed, are sensitive to intervention effects (53).

¹⁴ Merchant (2001) argued that certain island violations are due to PF constraints (and others due to LF constraints) suggesting that islands effects are due to a constraint on representations and not derivations. Fox and Lasnik (2003) suggested that all island violations are PF violations.

(53) a *John-ne kyaa socaa ki har kisi-se kaun milaa [Hindi/Urdu]

John-Erg what thought Comp everyone whom met

“Who did John think everyone met?”

b.*Was glaubst du nicht mit wem Hans gesprochen hat? [German]

What believe you not with whom Hans spoken has

“Who don’t you believe that Hans spoken to?”

The suggestion that *Wh*-scope-marking involves overt *Wh*-movement and the fact that *Wh*-scope marking exhibits intervention effects supports the proposal that it is overt *Wh*-head movement that is susceptible to intervention effects.

2.3 An Alternative account for multiple questions

Another construction which shows intervention effects is multiple questions. Beck (1996) claimed that the in-situ *Wh*-phrase in these cases (54a) moves in LF. When this LF *Wh*-movement happens across an intervening focus bearing element like negation, it results in unacceptability (54b).

(54) a. Wen hat peter wo gesehen

Whom has peter where seen

“Where did nobody see whom?”

b. ?? Wen hat niemand wo gesehen

Whom has nobody where seen

“Where did nobody see whom?”

Similar to German, Hindi/Urdu multiple questions also show intervention effects when a focus element precedes the in-situ *Wh*-phrase.

(55) a. *kis-ne siitaa-ko kahaaN dekhaa*

Who-Erg Sita-Acc where saw

“Who saw Sita where?”

b. **kis-ne siitaa-ko-hii kahaaN dekhaa*

Who-Erg Sita-Acc only where saw

“Who saw only Sita where?”

In this section, I will provide an alternative analysis of multiple questions, and suggest that multiple questions in Hindi/Urdu and German involve overt movement of all the *Wh*-phrases. I will then use this idea to argue that intervention effects seen in multiple questions in these two languages are a consequence of overt movement across an intervening focus element.

Multiple *Wh*-questions are often ambiguous between a single pair and a pair list reading. In other words, a multiple question can be answered in two ways, (a) identifying a single referent for the *Wh*s, i.e. pairing the *Wh*s with a single answer (single pair), and (b) giving an exhaustive list of referents, i.e. matching a list of *Wh* answer pairs (pair-list).

The availability of single-pair and pair-list interpretations differs across languages. Bošković (1998) looks at languages in which all *Wh*-phrases are obligatorily fronted and reports that Bulgarian and Serbo-Croatian differ with respect

to the readings available in multiple questions. Bulgarian allows only pair-list reading with multiple questions (56) whereas Serbo-Croatian allows both pair-list and single-pair readings (57).

(56) a. koj kakvo e kupil?

Who what is bought

“Who bought what?”

b. *Mary bought a cookie. [Single pair]

c. Mary bought a cookie, John bought a drink, Bill bought a cake. [Pair-list]

(57) a. . ko je šta kupio

Who is what bought

“Who bought what?”

b. Mary bought a cookie. [Single pair]

c. Mary bought a cookie, John bought a drink, Bill bought a cake. [Pair-list]

Bošković (1998) also reports a difference in the availability of single-pair interpretation in English and Japanese. Japanese (58b) allows whereas English (58a) disallows single-pair interpretation in multiple *Wh*-questions.

- (58) a. Who bought what? [Pair-list,*Single-pair]
 b. dare-ga nani-o katta no? [Pair-list, Single-pair]
 Who-Nom what-Acc bought Q
 “Who bought what?”

To further describe cross-linguistic variation in multiple *Wh*-question formation and interpretation, Bošković formalizes three types of superiority effects. Some languages are sensitive to syntactic superiority, i.e. a non D-linked *Wh*-phrase may not be fronted over a structurally higher *Wh*. Other languages don't have this restriction, and any *Wh* may front over any other. In the latter case, there are however some languages in which crossing a higher *Wh* results in loss of pair-list reading even though it doesn't result in unacceptability. All the four languages discussed above seem to fit the pattern well.


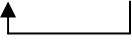
Both Japanese and Serbo-Croatian don't lead to unacceptability with superiority violation, however in both the languages, the pair-list reading gets destroyed when the lower *Wh* moves over the higher one (59).

- (59) a. nani-o dare-ga katta no? [*Pair-list, Single-pair]
 What-Acc who-Nom bought Q
 “Who bought what?”
 b. šta je ko kupio [*Pair-list, Single pair]
 What is who bought
 “Who bought what?”

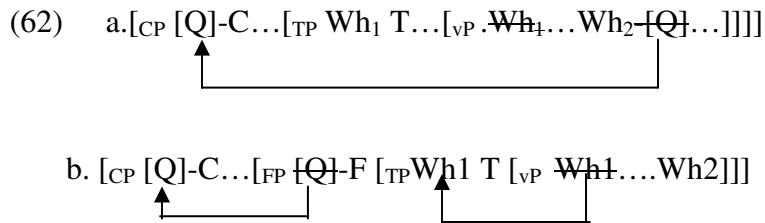
English and Bulgarian on the other hand however exhibit unacceptability with superiority violations.

- (60) a. *What did who buy?
 b. *kakvo koj e kupil?
 What who is bought
 “What did who buy?”

Bošković adopts Hagstrom’s (1998) approach to account for these facts and assumes that questions are licensed by a question particle [Q] (which may or may not be overtly realized), rather than by movement of a Wh. Displacement of Whs is driven by other properties of the grammar such as focus, whereas [Q] always moves to C to type the clause interrogative. It may do so from one of the two positions: a high position, c-commanding all Whs and a low position, by adjoining to the lowest Wh. Languages fall into two categories with respect to whether they allow single-pair in multiple questions or not; (i) Low Q: [Q] moves from some clause internal position to C (60a), (ii) High [Q]: [Q] is generated above all Whs and moves to C (61b).

- (61) a. [Q]-C...Wh1...Wh2-[Q]

 b. [Q]-C... [Q]... Wh1... Wh2


High [Q] is generated in the focus head. Syntactic movement of a *Wh* over high [Q] destroys single-pair reading and allows only a pair-list reading. In multiple *Wh*-movement languages, like Bulgarian, all *Wh*s move higher than C, and as a consequence never allow single-pair interpretation. In non *Wh*-movement languages, there are two options: the high [Q], ranges over all in-situ *Wh*-phrases, resulting in single-pair reading (62a), whereas low [Q] ranges only over *Wh*, yielding pair-list reading (62b).

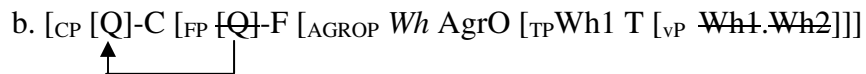


Wh-scrambling in zero *Wh*-movement languages like Serbo-Croatian moves the lower *Wh* to *AgroP*. This doesn't lead to unacceptability but the pair-list reading is lost.

(63) a. šta je ko kupio [*Pair-list, Single pair]

What is who bought

“Who bought what?”




Using Bošković's framework, Grohmann (2003) suggests that German patterns like Bulgarian with respect to the formation and interpretation of multiple

questions, and claims that German is a multiple *Wh*-fronting language even though it doesn't appear so since both the *Wh*-phrases don't appear at the left edge (64). German like Bulgarian forces only a pair-list interpretation in multiple *Wh*-questions, see (64).

- (64) Wer hat was gekafut [pair-list, *single-pair]
 Who has what bought
 “Who bought what?”

Grohmann (2003) adopts a slightly modified version of Rizzi's (1997) structure of Comp and proposes the following: CP > TopP > FocP > TopP > FP (>TP). He suggests that FocP and FP are the landing sites for multiply fronted *Wh*s in German, where F hosts high [Q].

- (65) [CP [Q]-C [FocP wer hat-Foc [FP was [Q] -F [TP ~~wer was~~ gekafut]]]


This proposal suggests that only topics can occur between the two *Wh*s. Grohmann shows that this prediction turns out to be true in German. Only monotone increasing quantifiers (like *many*), which can be topicalized, can occur between the two *Wh*s (66).

- (66) a. Viele Bücher hat Peter gestern gelesen.
 Many books has Peter read yeaterday
 “Many books Peter read yesterday.”

b. Wer hat VIELE Bücher wo gekauft?

Who has MANY books where bought

“Who bought MANY books where?”

Monotone decreasing quantifiers cannot be topicalized and cannot occur in between two *Wh*s in German multiple questions.

(67) a. * Wenige Bücher hat Peter gestern gelesen.

Few books has Peter read yesterday

“Few books Peter read yesterday.”

b. *Wer hat wenige Bücher wo gekauft?

Who has few books where bought

“Who bought few books where?”

In German, non-topicalized adverbs may be fronted if they are contrastively stressed. In these cases we would expect them to occur between the two *Wh*s, if the lower *Wh* remains in-situ. For instance, manner adverbs which sit low in the clause structure must follow the direct object unless it is focused in German.

(68) a. Peter hat das Buch gerne/komplett gelesen

Peter has the book with pleasure/completely read

“Peter read the book with pleasure/completely.”

- b. Peter hat gerne/komplett das BUCH gelesen
Peter has with pleasure/completely the book read

In multiple questions, these adverbs can't appear between the two Whs (69).
However when focused, they can appear in between the two Whs (70).

- (69) a. Wer hat was gerne/komplett gelesen?

Who has what with pleasure/completely read

“Who read what with pleasure/completely?”

- b. *Wer hat gerne/komplett was gelesen?
c. Was hat wer gerne/komplett gelesen?
d. *Was hat gerne/komplett wer gelesen?

- (70) a. GERNE/KOMPLETT, Peter hat das Buch gelesen

With pleasure/completely, Peter has the book read

- b. Wer hat GERNE/KOMPLETT, was gelesen

Who has with pleasure/completely, what read

“Who read what with PLEASURE/COMPLETELY?”

German however also differs from Bulgarian in allowing the movement of lower *Wh* over a higher one (71). Superiority condition in Bulgarian however can be escaped if *Wh*- phrases are D-linked (72).

(71) was hat wer gekafut

What has who bought

“Who bought what?”

(72) a. *kakvo koj e kupil?

what Who is bought

“What did who buy?”

b. konga kniga koj covek e kupil

Which book which person is bought

“*Which book did which person buy?”

Grohmann illustrates that this is the case in German where multiple *Wh*-phrases must be D-linked, even though they occur in bare forms. Multiple questions in German are subject to a felicity condition, called *Discourse-Restricted Quantification* (DRQ; Grohmann 1998).

(73) Discourse-Restricted Quantification

Questions involving two *Wh*-expressions are well-formed if the value of both *Wh*-expressions is determined by the context; determination of values is satisfied by providing a set of at least two possible referents in the discourse.

This condition says that in German multiple questions, all WHs are obligatorily D-linked. Compare, for example, the following two discourse contexts and the (in)felicity of a multiple *Wh*-question between English and German:

(74) Context I: A man comes to a newsstand and just sees three people leaving in different directions, each fiddling with their purchases, obviously excited. Asking the news agent whether he sold anything interesting to those three, the newsagent replies: “I can’t believe it! Within two minutes, I just sold the Anarchist newsletter, a Fascist magazine, and the Christian church news.”

a. Who bought what?

b. Wer hat was gekauft?

who has what bought

“Who bought what?”

(75) Context II: A jeweler comes home to his wife for lunch and exclaims excited: “I had a great morning, honey! I sold a platinum watch, a gold necklace, and a titanium wedding band.”

a. Who bought what?

b. #Wer hat was gekauft?

who has what bought

“Who bought what?”

As can be seen, German only allows for a felicitous binary *Wh*-question if the set of individuals is part of the common ground between speaker and hearer introduced in the discourse.

Multiple questions in Hindi/Urdu behave similar to German multiple questions in some ways. For instance, like German and Bulgarian, multiple *Wh* questions in Hindi/Urdu allow only pair-list interpretation (76).

(76) *kis-ne kyaa kharidaa* [Pair-list, *single-pair]

Who-Erg what bought

“Who bought what?”

Also like German, only topics can occur between two *Whs* in Hindi/Urdu. For instance, only a monotone increasing quantifier, which can also be topicalized, can occur between the two *Whs* in Hindi (77). A monotone decreasing quantifier can neither be topicalized nor can occur between the two *Whs* (78).

(77) a. *bahut-sii kitaabeN, raam-ne siitaa-ko dii*

Many books Ram-Erg Sita-Dat gave

“Ram gave MANY books to Sita.”

b. *kis-ne bahut-sii kitaabeN kis-ko dii*

Who-Erg many books who-Dat gave

“Who gave many books to whom?”

(78) a. **aadhe se kam roTii, raam-ne siitaa-ko dii*

Half from less bread, Ram-Erg Sita-Dat gave

“Ram gave less than half of the bread to Sita.”

b.* kis-ne aadhe se kam roTii kis-ko dii

Who-Erg half from less bread who-Dat gave

“Who gave less than half of the bread to whom?”

However unlike German, manner adverbs in Hindi/Urdu can appear between the two *Whs* (79).

(79) a. kis-ne kyaa mazee-se/purii-tarah paDhaa?

Who what pleasure-with/full-way read

“Who read what with pleasure/completely?”

b. kis-ne mazee-se/purii tarah kyaa paDhaa?

Who pleasure-with/full-way what read

“Who read what with pleasure/completely?”

Hindi/Urdu multiple questions, like German, don't exhibit unacceptability when a lower *Wh*-phrase moves across a higher *Wh*-phrase (80). Further all *Whs* in Hindi/Urdu need to be D-linked in multiple *Wh*-questions, (81)- (82).

(80) kyaa kis-ne kharidaa

What Who-Erg bought

“Who bought what?”

(81) Context I: A man comes to a newsstand and just sees three people leaving in different directions, each fiddling with their purchases, obviously excited. Asking the newsagent whether he sold anything interesting to those three, the newsagent replies: “I can’t believe it! Within two minutes, I just sold the Anarchist newsletter, a Fascist magazine, and the Christian church news.”

a. Kis-ne kyaa kharidaa

Who what bought

“Who bought what?”

(82) Context II: A jeweler comes home to his wife for lunch and exclaims excited: “I had a great morning, honey! I sold a platinum watch, a gold necklace, and a titanium wedding band.”

a. #Kis-ne kyaa kharidaa

Who what bought

“Who bought what?”

Given the facts discussed above, I propose to extend the Grohmann (2003) account of German multiple *Wh*-questions to Hindi/Urdu and suggest that multiple questions in Hindi/Urdu also involve overt movement of all *Wh* phrases. The proposal is that while both German and Hindi/Urdu pattern like Bulgarian in moving all the *Wh*-phrases, they differ with respect to the landing site and the nature of movement.

Evidence in favor of the movement of all the *Wh*-phrases in multiple questions in German and Hindi/Urdu comes from *Wh*-scope marking constructions. As we

discussed in the previous section, *Wh*-scope marking constructions seem to involve overt *Wh*-movement of the scope-marker. Under this framework, multiple questions in *Wh*-scope marking constructions would also involve *Wh*-movement. Notice that the *Wh*-element *kyaa* only appears when there is a *Wh*-phrase in the embedded clause (83c). This indicates that *kyaa* is associated with the embedded *Wh*-phrase.

(83) a. *kis-ne socaa ki miiraa-ne saaraa-ko dekhaa*

Who-Erg thought Comp Mira-Erg Sara-Acc saw

“Who thought that Mira saw Sara?”

b. **kis-ne kyaa socaa ki miiraa-ne saaraa-ko dekhaa*

Who-Erg what thought Comp Mira-Erg Sara-Acc saw

“Who thought that Mira saw Sara?”

c. *kis-ne kyaa socaa ki miiraa-ne kis-ko dekhaa*

who-Erg what thought Comp Mira-Erg who-Acc saw

“Who thought that Mira saw whom?”

Another piece of evidence in favor of the overt movement analysis proposed comes from the fact that multiple questions in both German and Hindi/Urdu also show island effects. Consider example (84) from Hindi/Urdu for instance, where the higher *Wh*-phrase (*kis-ko*) is outside the CNPC island and the lower *Wh*-phrase (*kyaa*) is inside that island. The presence of island effects in examples like (85) indicates overt *Wh*-movement out of the subordinate clause.

(84) a. *raam-ko [_{DP} vo laDkaa [_{CP} jo kyaa laayaa]] pasand hai [Hindi/Urdu]
Ram-Dat that boy that what bought like be-Pres

"What does Ram like the boy that bought?"

b. *kis-ko [_{DP} vo laDkaa [_{CP} jo kyaa laayaa]] pasand hai
Who-Dat that boy that what bought like be-Pres

"Who likes the boy that bought what?"

(85) a. *Wer mag Hans die Buecher, die gekauft hat [German]

Who likes John the books that bought has

"Who does John like the books that bought?"

b. *Wer mag die Buecher, die wer gekauft hat?

Who likes the books that who bought has

"Who likes the books that who bought?"

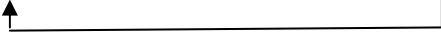
The evidence presented here for multiple *Wh*-questions in German and Hindi/Urdu indicates that in multiple *Wh*-questions, both the *Wh*-phrases undergo overt movement in Hindi/Urdu and German. There is however a difference between Hindi/Urdu and German in terms of the landing sites of the *Wh*s. Following Grohmann (2003), I assume that monoclausal multiple *Wh*-questions in German are multiple topicalizations of the *Wh*-phrases (86).

(86) a. Wer hat was gekafut

Who has what bought

"Who bought what?"

b. [CP [Q]-C [FocP wer hat-Foc [FP was [~~Q~~]-F [TP wer was gekafut]]]]



The facts in Hindi/Urdu, on the other hand, suggest that two *Wh*s move to two different landing sites. The proposal is that the first *Wh*-phrase moves to the C domain, whereas the second *Wh* gets its scope in the *v domain*. Evidence for this comes from the fact that an adverb can come between the two *Wh*s (see, 79) and that the *Wh*-scope marker associated with the lower *Wh* appears at the *v* (see, 83c). This idea is similar to Rackowski and Richards (2005) who suggested that both *v* and interrogative C have features that must be valued in the process of *Wh*-movement, and that they may also possess the EPP property, causing goals to move to them. If *v* (in addition to interrogative C) has features and the EPP which must be valued via *Wh*-movement, *Wh*-material will move to *vP*.

The *vP* in Hindi/Urdu has been claimed to host scope-taking elements. For instance, Bhatt (2005) suggested long-distance agreement (LDA) in Hindi/Urdu involve movement to *vP* edge. In LDA cases, the direct object triggers agreement on the verb of the embedded infinitival clause, the main verb and the Aux (87).

- (87) raam-ne [kitaab paRh-nii] caah-ii
 Ram.M-Erg book.F read-INF.F want-PFV.F
 “Ram wanted to read the book.”

More interestingly, the *vP* in Hindi/Urdu can host scope element and thus can alter the agreement relations within the language.

(88) a. raam-ne [har kitaab paRh-nii] caah-ii

Ram-Erg [every book-fem. read-fem.] want-fem.

“Ram wanted to read every book” (every book > want; want > every book)

b. raam-ne [har kitaab paRh-naa] caah-aa

Ram-Erg [every book-fem. read-default.] want-default

“Ram wanted to read every book.” (want > every book; every book > want)

The island effects observed in multiple questions in Hindi/Urdu (84) further strengthen the suggestion that the *Wh*s move to two different sites. Richards (2001) suggested differential acceptability of island violation sentences containing a single *Wh*-phrase and multiple *Wh*-phrases. He claimed that once a licit movement observes a constraint (like subjacency) it obviates the need for subsequent movements to the same head to be constrained by that condition (Principle of Minimal Compliance henceforth PMC). Evidence supporting Richard’s proposal comes from cases like island effects in Bulgarian (also reported in Bošković, 1998) where a *Wh*-extraction ill-formed in isolation (89a) is remedied by the addition of another *Wh*-word outside the island (89b).

(89) a*koja knjigai otrece senatorat [malvata ce pravitelstvoto iska da zabrani ti]

which book denied the-senator the rumor that the-government wanted to ban

“Which book did the senator deny the rumor that the government wanted to ban?”

b? koj senatorat koja knjigai otrece [malvata ce pravitelstvoto iska da zabrani ti]

Which senator which book denied the-rumor that the-government wanted to ban
“Which senator denied the rumor that the government wanted to ban which book?”

Assuming that there is a single attractor responsible for the movement of both *Wh*-phrases, Richards claims that once the matrix +*Wh* comp obeys subadjacency by attracting a *Wh*-phrase which is not in an island, the system ignores subadjacency violations, with that same matrix +*Wh* comp. The Hindi/Urdu island facts (example 84) however suggest that movement of the higher *Wh*-phrase, which is outside an island, doesn't free the movement of the other *Wh*-phrase, which is inside an island in Hindi/Urdu.

There are two possible explanations for these results, (i) PMC doesn't hold universally; or (ii) The nature of *Wh*-movement is different in Hindi/Urdu. Option (i) can't be true because PMC otherwise operates in these languages. For instance, Hindi/Urdu doesn't allow long-distance scrambling of adjuncts (90a) but allows arguments to be freely long-distance scrambled (90b). However if an argument also undergoes long-distance scrambling, scrambling of an adjunct is allowed (90c), even though it observes the same condition it does in (90a). In terms of PMC that should mean that the scrambling of the argument makes the scrambling of the adverb free.

(90) a* jaldii-se_i, [raam-ne socaa [ki siitaa-ne darwaazaa t_j kholaa]]

quickly [Ram-Erg thought [Comp Sita-Erg door opened]]

“Quickly, Ram thought that Sita opened the door.”

b. darwaazaa_j, [raam-ne socha [ki siitaa-ne t_j jaldii-se kholaa]]

door [Ram-Erg thought [Comp Sita-Erg quickly opened]]

“That door, Ram thought that Sita opened quickly.”

c. darwaazaa_j jaldii-se_i [raam-ne socha [ki siitaa-ne t_j t_i kholaa]]

door quickly [Ram-Erg thought [Comp Sita-Erg opened]]

“That door, quickly, Ram thought that Sita opened.”

I therefore argue for option (ii) and suggest that the difference between Bulgarian and Hindi/Urdu lies in the way multiple *Wh*-movement works in these languages. The difference between Bulgarian and Hindi/Urdu is that all *Wh*-phrases target a single head in Bulgarian but different heads in Hindi/Urdu. Movement of multiple *Wh*-phrases may either all be affected by the single head, or only one phrase may be attracted by it, leaving other *Wh*-phrases to be attracted by different heads. In the former case, exemplified by Bulgarian, all *Wh*-movements are triggered by the single (C head) and as a result the first “subjacency obeying” *Wh*-movement exonerates later *Wh*-movement attracted by that head of the need to obey subjacency. In the latter case, languages like Hindi/Urdu involve *Wh*-movement to two different heads. Hindi/Urdu multiple questions (91a) will therefore have a structure like (91b). Notice that in (91b), both the *Wh*-elements do indeed move overtly.

(91) a. kis-ne kyaa kharidaa

Who-Erg what bought

“Who bought what?”

b. [FP *kis-ne* [Q]-F [TP *kis-ne* T [vP *kyaa* [Q] -v [VP *kyaa* *kharida*]]]

Based on the above facts, I argue that in multiple *Wh*-questions, both the *Wh*-phrases undergo overt movement in Hindi/Urdu and German. We have seen earlier that both German and Hindi/Urdu show intervention effects in multiple *Wh*-questions when the second *Wh* is preceded by a focus element (92).

(92) a. ?? *Wen hat niemand wo gesehen*

Whom has nobody where seen

“Where did nobody see whom?”

b. **kis-ne kisi-ko-bhi kyaa nahi diya*

Who-Erg Nobody what not gave

“Who gave what to nobody?”

Given the discussion above, it is fair to assume that both German and Hindi/Urdu multiple questions involve multiple *Wh*-movement and that both instances of *Wh*-movement involve overt *Wh*-movement. If so, intervention effects appearing in these constructions, when the second *Wh* element crosses an intervening quantificational element, would then be a consequence of overt *Wh*-movement.

2.4 The unambiguous universal quantifier

The third kind of construction that Beck claims exhibits intervention effects involves the universal quantifier. Beck (1996) suggested that intervention by the universal quantifier disambiguates the sentence by restricting the number of available readings.

- (93) a. was glaubt jeder wen Hans gesehen hat?
What believes everyone whom Hans seen has
“Who does everyone believe that Karl saw?”
- b. For each person x: Who does x believe that Hans saw? ($\forall > Wh$)
- c. #For which x: Everyone believe that Hans saw x? ($Wh > \forall$)

Beck suggested that the intervening universal quantifier (*jeder*), in the above cases (93) of *Wh*-scope marking, blocks the LF movement of the *Wh*-element (*wen*) across it. As a consequence it blocks the reading where the *Wh*- phrase scopes over the universal quantifier ($Wh > \forall$). Sentences like (93) therefore have only one reading, the one in which the universal quantifier takes scope over the *Wh* ($\forall > Wh$).¹⁵

Consider the following example from Hindi/Urdu (94) now. The universal quantifier precedes the *Wh*-phrase and similar to German, the only available answer is the pair-list answer (94b), and not a single answer (94c).

¹⁵ See Sloan (1991) for arguments against this ambiguity. Sloan claims that the reading in which the universal quantifier takes scope over the *Wh* is not available for sentences like (92) in English.

- (94) a. har laDkee-ne kyaa socaa ki siimaa-ne kis-ko dekhaa
 every boy-Erg what thought Comp Seema-Erg who-Acc saw
 “Who does every boy think that Seema saw?”
- b. For each boy x: Who does x think that Seema saw? ($\forall > Wh$)
- c. #For which x: Every boy thinks that Seema saw x? ($Wh > \forall$)

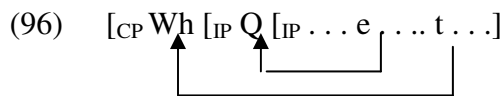
Beck’s account of examples like (93) is loosely based on May’s (1985) analysis of the ambiguity seen in examples like (95) in English. In his discussion of scope ambiguities, May (1985) noticed that questions in which a *Wh*-object is extracted across a subject quantifier, such as (95a) are ambiguous in English. The sentence either has “group purchase” reading (95b), or a “family of questions” reading (95c).¹⁶

- (95) a. What did everyone buy for Max?
 b. Everyone bought Max a Bosendorfer piano.
 c. Mary bought Max a tie, Sally a sweater, and Harry a piano.

According to May (1985), operators that govern each other are free to take on any type of relative scope relation. He analyzes the ambiguity in (95) in terms of a path theory of scope-relations (Pesetsky, 1982). In brief, his account rests on three

¹⁶ *Everyone* has sometimes been reported to have a functional interpretation, where *Everyone bought a book* can be interpreted as “everyone individually bought a different token of book.” This reading however is not relevant for the present discussion.

points:(i) A'-moved elements generate a path to their traces, (ii) Paths may not cross, (iii) A "family-of-questions" reading is possible for *Wh* and Q only when Q adjoins to the highest IP in the CP containing WH. Given (i)-(iii), a family-of-questions reading will be possible in sentences like (94a) in which Q c-commands *Wh* in underlying form. The relevant LF representation will involve no crossing paths, schematically (96).



Lasnik and Saito (1992) proposed an alternative analysis for the ambiguity seen in sentences like (95a), and suggested that May's original ambiguity is not actually a scope ambiguity. The "family of questions" reading is a quantificational reading, whereas the "group purchase" reading is not a quantificational reading. They used examples like (97) to show that the universal quantifier *every* in English can bind a singular pronoun whether it has wide or narrow scope.

- (97) a. What did everyone_i buy with his_i bonus money?
 b. Some coach gave every lineman_i his_i assignment.

Examples like (98) further show that that universal quantifier doesn't always have the "group reading". (98a) unlike (98b) can't anticipate the collective answer that one gets in (95b). If the group reading of the universal quantifier involves narrow

scope reading of the quantifier, it is not clear why the presence of a singular pronoun would suppress it.

- (98) a. What did everyone_i buy with his_i bonus money?
b. What did everyone_i buy with their_i bonus money?

They then suggested that “group purchase” reading involves a ‘group’ interpretation of the universal, not a genuine quantificational reading. The quantificational reading is involved in the family of questions reading. They proposed that a *Wh*-term is basically *Wh* plus an existential quantifier (99). This idea goes back to some early transformational accounts (Chomsky 1964, Klima 1964) where interrogative expressions are derived from an underlying question operator plus an indefinite.

- (99) a. What did you buy?
b. you bought *WH*-something
c. *WH* [you bought _-something]

The trace of *Wh*-movement is an indefinite and the relevant relation for ambiguity in sentences like (100a) is the relation between the quantifier and the trace of the *Wh*, the existential quantifier (100b).

- (100) a. What did everyone buy?
 b. *WH* [everyone bought _-something]

For them, distributive reading in (100) results from an interaction between the two quantifiers, the universal quantifier and the existential quantifier. The quantificational reading of the universal quantifier thus gives the distributive reading. Group reading on the other hand involves a “group” interpretation of the universal quantifier instead of a quantificational reading. Thus two readings are a result of the lexical ambiguity of the universal quantifier.

Here I adopt a version of Lasnik and Saito’s analysis to propose that the absence of group reading in examples like (101) is due to the fact that the universal quantifier is not lexically ambiguous in Hindi/Urdu and German.

- (101) a. was glaubt jeder wen Hans gesehen hat?

What believes everyone whom Hans seen has

“Who does everyone believe that Karl saw?”

- b. har kisi-ne kyaa khaaridaa

every one-Erg what bought

“What did everyone buy?”

This proposal predicts that the universal quantifier never has a group reading in Hindi/Urdu and German, even in cases that don’t involve *Wh*-quantifier interactions. Compare the following Hindi/Urdu examples (102) with the English

case (103). Notice that where in English the universal quantifier gets both group reading and distributive reading (due to lexical ambiguity), the universal quantifier in Hindi/Urdu only gets the distributive reading.

(102) a. har laDkee-ne siima- ke liye kuch khariidaa

every boy –Erg Seema-Gen for something bought

“Every boy bought something for Seema.”

b. #Reading: Every boy bought a car for Seema.

c. Reading: Ram bought a ring for Seema, Suresh a sari, and Hari a watch.

(103) a. Everyone bought something for Max.

b. Reading: Everyone bought Max a Bosendorfer piano.

c. Reading: Mary bought Max a tie, Sally a sweater, and Harry a piano.

Based on these facts, I suggest that the universal quantifier actually can't block the group reading when the *Wh*-phrase moves across them because the reading is not available at the first place. In other words, the universal quantifier doesn't block the movement of the *Wh*-operator across it which results in the group reading. Therefore, the claim is that the universal quantifier does not induce intervention effects.

The standard analysis of quantification says that determiner quantifiers (such as *every*) take an NP predicate and create a generalized quantifier. See structure (105) for example (104).

(104) a. har laDkee-ne kyaa khaaridaa

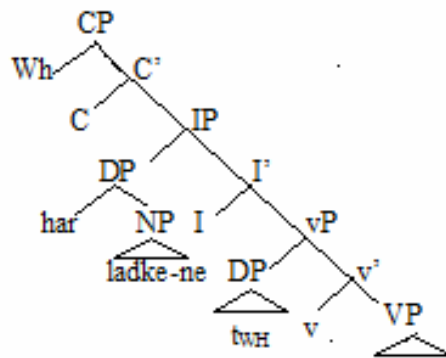
every boy-Erg what bought

“What did every boy buy?”

b. X bought a book, Y bought a pen and Z bought a tie.

c. # Every boy bought a car.

(105)



In this configuration, the universal quantifier is a complex phrase *har ladkee-ne*, and therefore doesn't act as a potential intervener for the *Wh*-head and as a consequence doesn't induce intervention effects.

2.5 Reanalysis of intervention effects

Beck (1996) claimed that it is a “quantificational” expression that participates in intervention effects. The term “quantificational” since then has been adopted in most of the literature that followed. Although it covers the majority of interveners, the term is misleading in two respects. On the one hand, there are expressions that are quantificational (like the universal quantifier) but don't act as interveners. In the previous section, we saw that the universal quantifier neither causes unacceptability

when a *Wh*-phrase moves across them (also noted by Beck, 1996), nor do they block any reading. On the other hand, there are non-quantificational interveners, such as “NP-also/only”, which cause intervention effects. For instance, in Hindi/Urdu, focus markers like “also” (marking inclusive contrastive focus) and “only” (marking exclusive contrastive focus) create intervention effects.

- (106) a. *raam-ne kyaa socaa ki siitaa-ne-bhii kis-ko dekhaa
 Ram-Erg what thought Comp Sita-Erg-also Who-Acc saw.
 “Who did Ram think that Sita also saw?”
- b. *raam-ne kyaa socaa ki siitaa-ne-hii kis-ko dekhaa
 Ram-Erg what thought Comp Sita-Erg-only Who-Acc saw.
 “Who did Ram think that only Sita saw?”

Beck (2006) and Kim (2002, 2005) offer new insight on the identification of potential interveners. Their generalization states that potential interveners are the expressions that come with the focus operator “~” in the sense of Rooth (1992). Building on the same generalization, however, Beck (2006) and Kim (2002, 2005) offer different analyses. For Beck, the intervention effects come about because of the interaction between Rooth’s (1992) semantics of “~” and Hamblin’s (1973) semantics of *Wh*-interrogatives, a truly in-situ theory of *Wh*-questions. Although Kim’s (2002, 2005) solution also appeals to focus as the source of intervention effects, it is essentially based on assumption that the question operator and the in-situ *Wh* must be

in *Agree* relation in the sense of Chomsky (2000). This relation is disturbed when there is an intervening element which also has a focus feature due to minimality.

$$(107) \quad * [Q-OP_{[WH, F]}]_{[F]} \sim [Wh_{[WH, F]}]$$

$\begin{array}{c} | \qquad \qquad \qquad | \\ \hline \text{No Agree!} \end{array}$

In short, there are two common assumptions in Beck (2006) and Kim (2002, 2005), (a) intervention effects are caused by focus-bearing elements rather than by quantificational elements, and (b) intervention effects involve interactions between the focus element and the “in-situ” *Wh*-phrase. I adopt the first of these assumptions here. As for the second one, we have discussed intervention effects in *Wh*-scope marking constructions and multiple *Wh*-questions in the previous sections, and have proposed that these constructions involve overt *Wh*-movement. We have seen in the previous sections that intervention effects get repaired under sluicing which suggests that they must be related to movement in overt syntax and not LF.

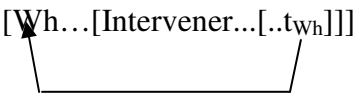
Given the discussion in the previous sections, I suggest that intervention effects arise from an interaction between the “focus” element and the *Wh*-head. In this section, I attempt to view intervention effects in terms of relativized minimality (Rizzi, 2004).¹⁷ The idea is that an intervening element blocks the relation between

¹⁷ . (A1...An) is a chain iff, for 1 ≤ I < n

- (i) A1 = Ai+1
- (ii) Ai c-commands Ai+1
- (iii) Ai+1 is in a Minimal Configuration with Ai.

the *Wh*-head and its trace.

(108) [Wh...[Intervener...[.t_{Wh}]]]



I therefore argue that intervention effects are minimality effects. However the fact that sluicing can repair intervention effects suggests that minimality effects can be repaired. Merchant (2000), on the other hand, claimed that minimality effects cannot be repaired.¹⁸ I believe that the difference between the two theories lies in the way they view minimality. Merchant (2000) views minimality as a derivational constraint whereas the notion of minimality (Rizzi, 2004) adopted in this thesis views it as a representational constraint. The attempt to treat some constraints on syntactic dependencies as representational constraints has also been supported in some recent work (Lasnik 2001, Aoun & Li 2003, Boeckx & Lasnik 2006 and Bošković, 2011).

Minimal configuration: Y is in a Minimal Configuration (MC) with X iff there is no Z such that

- (i). Z is of the same structural type as X, and
- (ii). Z intervenes between X and Y.

¹⁸ Merchant (2000) suggests this explanation in relation to superiority effects in sluicing. Merchant argued that superiority effects are immune to interface operations like ellipsis because they are due to a derivational constraint on movement. He assumes that superiority violations are minimality effects and since they cannot be repaired, they must be derivational. Bošković (2011) however provided arguments that showed that superiority is a minimality effect and should be treated in terms of a representational interface condition that can be repaired with PF operations.

Now let's return to the focus elements that cause intervention effect in languages like in Hindi/Urdu. Sharma (2003) suggested that discourse markers like focus markers in Hindi/Urdu are syntactic clitics, and appear adjacent to the nominal they modify (109a). Sharma (2003) further pointed out that the focus particle *hii* can also occur between the pronominals and their case markers (109b).^{19, 20}

- (109) a. in tiin laDkoN-ko-hii coT lagii
 these three boys-Dat-only hurt be-applied-to-Perf
 “(Only) these three boys got hurt.”
- b. in hiiN tiin laDkoN-ko coT lagii
 “(Only) these three boys got hurt.”

Sharma suggested that discourse clitics adjoin to the nominals they focus. She adopted Butt and King's (1999) proposal that Case-clitics in Hindi/Urdu head their own functional projections (110). She however claims that discourse clitics don't head their own projection even though they pattern similar to Case-clitics.

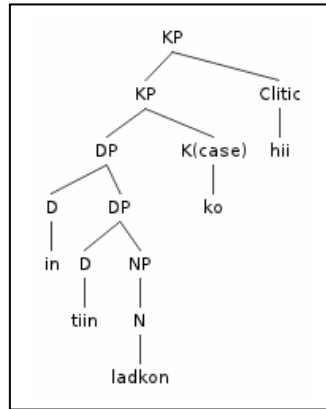
¹⁹ These clitics can also appear with other categorical hosts, such as verb, as we saw in Chapter-2.

²⁰ Sharma (2003) claims that discourse clitics may attach to a wider range of constituents in the nominal and reported the following possibilities too. She suggests a dialectal variation in the acceptability of (a). I however find both of them quite unacceptable.

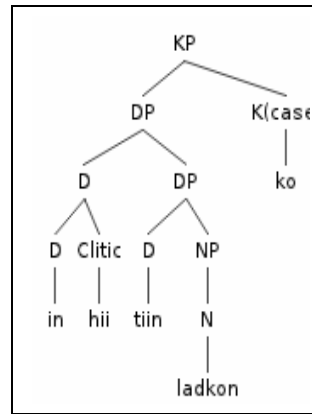
- a. (% in tiin laDkoN-hii-ko coT lagii
 ‘(Only) these three boys got hurt.’
- b. in tiin-hii laDkoN-ko coT lagii
 ‘(Only) these three boys got hurt.’

Surprisingly, she doesn't provide any explanation for this assumption. Sharma further suggested structures like (110a) and (110b) for sentences like (109a) and (109b) respectively.

(110) a.



b.

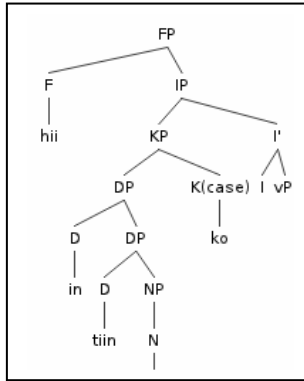


There are two important things to note about cases like (109b/110b); firstly that the focus particle takes scope over the entire phrase in (109b), even if it attaches only to the pronominal D in (110b), and secondly when the focus particle attaches to the pronominal *in*, it is incorporated into the pronominal (109b), in the sense that it fuses into the host and receives the phonological effects like negation (Koul 1990, McGregor 1995). In other words, the focus marker no longer remains a clitic after it adjoins to the pronominal. In this scenario, it is not clear how the focus particle will take scope over the entire phrase.

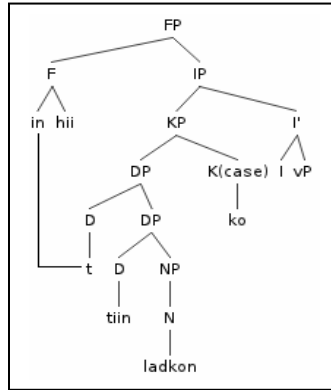
For the above mentioned reasons, I suggest a modification in Sharma's analysis of focus particles and propose that similar to Case-markers, focus particles occupy their own projection in Hindi/Urdu. Assuming that the finite clause is the domain within which restrictions on focus must hold, I propose that the focus particle

is associated with a clause level focus projection, and heads its own phrase (111a). There are two possible ways to satisfy the features requirements; either the D head *in* moves to the focus head (111c) or the entire KP moves to the specifier of FP (111b). In both the cases, the focus particle (*hii*) has scope over the nominal.

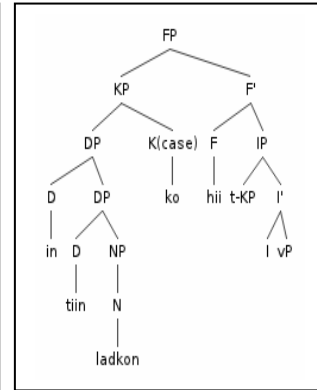
(111) a.



b.



c.



What is interesting for our purpose here is that both the configurations are sensitive to intervention effects (112).

(112) a. John-ne kyaa socaa ki in tiin laDkoN-ko kis-se

John-Erg what thought Comp these three boys-Dat Who-with
 mil-naa hai
 meet-inf be-Pres

“Who did John think that these three boys want to meet?”

b. * John-ne kyaa socaa ki in tiin laDkoN-ko-hii kis-se

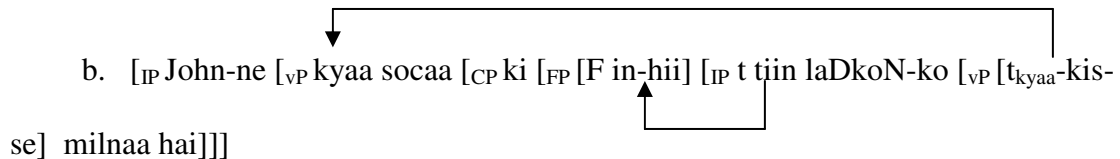
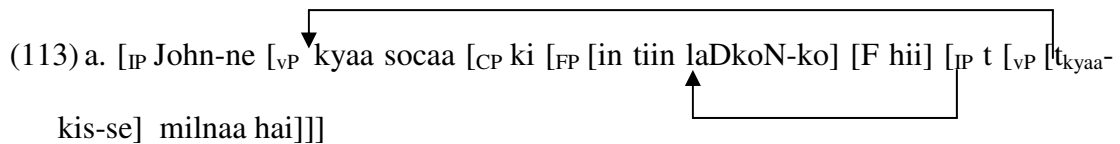
John-Erg what thought Comp these three boys-Dat-only Who-with
 mil-naa hai
 meet-inf be-Pres.

“Who did John think that only these three boys want to meet?”

c. John-ne kyaa socaa ki in-hii tiin laDkoN-ko kis-se

John-Erg what thought Comp these-only three boys-Dat Who-with
 mil-naa hai
 meet-inf be-Pres

Let’s see how this works. In section 2.2, I showed that *Wh*-scope marking constructions involve overt movement of the *Wh*-head. The *Wh*-head starts inside embedded clause and then moves to matrix vP. Consider structure (113) for example (112b). In this configuration, the focus particle *hii* c-commands the *Wh*-head, therefore it acts as an intervener and as a consequence induces intervention effects.



2.6 Some remaining questions

Intervention effects also have been reported to appear in mono-clausal questions in languages like Korean, Japanese and Hindi/Urdu (Kim and Beck, 1997).

(114) a * raam-hii kyaa khariide-gaa [Hindi/Urdu]

Ram-only what buy-Fut.

“What will only Ram buy?”

b* John-sika nani-o kawa-nai-no [Japanese]

John only what-Acc buy-not-Q

“What will only John buy?”

I would like to point out an important correlation between the existence of intervention effects and island effects. Hindi/Urdu (115a) and Japanese (115b) show sensitivity to island effects, in addition to being sensitive to intervention effects.²¹

(115) a. *raam-ne puchaa ki kyaa miiraa-ne kis-ko dekhaa

Ram-Erg asked Comp Whether Mira-Erg Who-Acc saw

“Who did Ram ask whether Mira saw?”

b *John-wa [Mary-ga nani-o taberu ka dooka] tazune-ta no

John-Top Mary-Nom what-Acc eat whether ask-past Q

“What did John ask whether Mary will eat?”

²¹ Hindi/Urdu show sensitivity to all island violations, whereas Japanese shows only *Wh* island violations. I will return to this issue in the next section.

Chinese *Wh*-arguments don't show sensitivity to island violations (116a) but more interestingly they also do not exhibit intervention effect (116b) (Huang, 1982 and Wang, 2002).

- (116) a. Ni xiang-xhidao [Lisi weisheme mai-le sheme]? (Wh-island)
 You wonder Lisi why bought what
 "What did you wonder why Lisi bought?"
- b. meiyouden gan gen shei dajia
 nobody dare person who fight
 "Who does nobody dare to fight?"

Chinese *Wh*-adverbs on the other hand behave like Hindi/Urdu *Wh*-phrases. They exhibit both island violations (117a) as well as intervention effects (117b).

- (117) a. *Ni zui xihuan [weishenme mai su de ren]
 you most like [why buy book prt person]
 "Why do you like [the man who bought the books t]?"
- b. * meiyouden gan gen weishenme dajia
 nobody dare person why fight
 "Why does nobody dare to fight?"

Another important correlation comes from sluicing. If sluicing involves overt movement of the *Wh*-phrase, followed by IP deletion (Merchant, 2001), it is

interesting to note that Hindi/Urdu (118) and Japanese *Wh*-phrases (119) allow sluicing.²²

(118) a. raam-ne kisi-ko dekhaa, par maiN nahiN jaanta ki raam-ne
Ram-Erg someone-Acc saw but I not know Comp Ram-Erg
kis-ko dekhaa
Who-Acc saw

“Ram saw someone but I don’t know who Ram saw.”

b. raam-ne kisi-ko dekhaa, par maiN nahiN jaantaa ki kis-ko
Ram-Erg someone-Acc saw but I not knows Comp Who-Acc

“Ram saw someone but I don’t know who.”

(119) a. john-ga dareka-o mita, sikasi dare-o ka sir-anai
John-Nom someone-Acc see-past but who-Acc Q know-not

“John saw someone but I don’t know who John saw.”

b. john-ga dareka-o mita, sikasi dare-o ka sir-anai
John-Nom someone-Acc see-past but who-Acc Q know-not

“John saw someone but I don’t know who.”

²² Here I am assuming that sluicing in Hindi/Urdu and Japanese involves overt displacement of the *Wh*-phrase, followed by TP deletion. For more details, see Takahashi (1994) for Japanese and Malhotra (2009) for Hindi/Urdu.

The difference between Chinese *Wh*-adverbs and Chinese *Wh*-arguments shows up in sluicing too. Chinese *Wh*-adverbials allow sluicing (120), whereas Chinese *Wh*-arguments don't (121), (Wang, 2002).

(120) a. Zhangsan maile dong fangzi, keshi wo bu zhidao Zhangsan zainali maile
Zhangsan bought a house but I not know Zhangsan where bought

dong fangzi

a house

“Zhangsan bought a house, but I don't know where Zhangsan bought a house”

b. Zhangsan maile dong fangzi, keshi wo bu zhidao zainali

Zhangsan bought a house but I not know where

“Zhangsan bought a house, but I don't know where

(121) a. Zhangsan zuotian yujian mouren,, keshi wo bu zhidao Zhangsan zuotian

Zhangsan yesterday met someone but I not know Zhangsan yesterday
yujian shei

met who.

“Zhangsan met someone yesterday but I don't who Zhangsan met yesterday.”

b. * Zhangsan zuotian yujian mouren, keshi wo bu zhidao shei

Zhangsan yesterday met someone but I not know who.

“Zhangsan met someone yesterday, but I don't know who.”

Based on the above facts, I would suggest that only those constructions that involve movement allow sluicing, and show sensitivity to island effects and intervention effects. Adopting the single cycle theory, where movement only happens in overt syntax and there is no movement at LF, I suggest that Hindi/Urdu, Japanese and Chinese *Wh*-adverbs involve movement whereas Chinese *Wh*-nominals don't.

I believe the difference between cases like Hindi/Urdu and Chinese *Wh*-arguments lies in the nature of their *Wh*-phrases. This distinction replicates the one that has been proposed to capture the difference between Chinese *Wh*-arguments and *Wh*-adverbs. Reinhart (1998) claims that Chinese *Wh*-arguments differ from *Wh*-adverbs in that the former consist of a free variable, but no operator. As a result *Wh*-arguments can be interpreted in-situ separately from the operator. *Wh*-adverbs, on the other hand, cannot be interpreted in-situ and therefore must move. Alternatively, Chomsky (2000 et al.) suggested that *Wh*-adverbs in Chinese have uninterpretable *Wh*-feature which force them to form a relation with the interrogative C head. Chinese *Wh*-arguments on the other hand have *Wh*-interpretable feature and as a result don't have any such obligation. The features of the interrogative C don't differ, they are always uninterpretable. In Chomsky's system, a relation between probe and goal is only possible if both contain uninterpretable features.

Two issues still remain. (a) If Hindi/Urdu and Japanese *Wh*-phrases and Chinese *Wh*-adverbials involve overt movement, why do they appear in-situ like Chinese *Wh*-nominals? And (b) If overt movement is behind intervention effects, why don't we see intervention effects with focus particles in English like cases. The next two subsections attempt to answer these questions.

2.6.1 *Wh*-movement in some apparent *Wh*-in-situ cases

We have evidence that movement of some kind of *Wh*-element takes place in overt syntax in Hindi/Urdu and Japanese. However we also know that in languages like Hindi/Urdu and Japanese nothing appears to move overtly (122).

(122) a. raam-ne kis-ko dekhaa [Hindi/Urdu]

Ram-Erg Who-Acc saw

"Who did Ram see?"

b. John-ga nani-o katta no [Japanese]

John-Nom what-Acc bought Q

"What did John buy?"

Here I adopt Watanabe's (1993) account of *Wh*-operator movement. The proposal is that interrogative expressions are derived from an underlying question operator plus an indefinite pronoun, an idea similar to Chomsky (1964), Klima (1964) among many. The *Wh*-DP decomposes into a *Wh*-indefinite and a *Wh*-operator, as in (123). Languages like Japanese are very similar to languages like English in terms of *Wh*-movement, both involve overt movement. The only difference between the two is that the *Wh*-operator is separable in Japanese but not in English; as a consequence, the entire *Wh*-phrase moves in English, whereas only the *Wh*-operator moves in Japanese.

(123) [*Wh*_{operator} - *Wh*_{indefinite}]

I propose that languages like Hindi/Urdu are similar to Japanese when it comes to *Wh*-movement. In languages like Hindi/Urdu, the *Wh*-operator (which I suggest is the head of the phrase) separates from the rest of the overtly realized *Wh*-phrase and moves to a higher projection. Consider structure (124b) for a sentence like (124a).

(124) a. raam-ne kis-ko dekhaa [Hindi/Urdu]

Ram-Erg Who-Acc saw

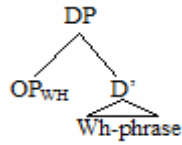
"Who did Ram see?"

b. [CP *Wh*_i operator [IP raam-ne [t_i-kisko] dekhaa]]

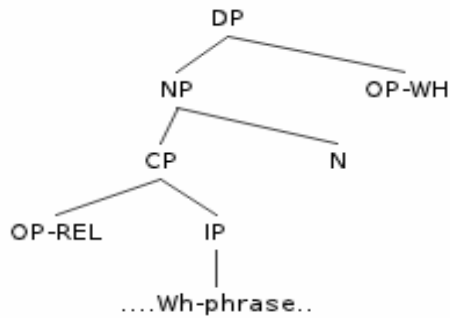


There is however a difference in the position of the *Wh*-operator between Japanese and Hindi/Urdu which also relates to the selective island sensitivity in Japanese as opposed to complete island sensitivity in Hindi/Urdu. Watanabe (1993) suggests that selective island sensitivity in Japanese is due to the varying origin position of the *Wh*-operator in Japanese. In some cases, like the *Wh*-island cases, the *Wh*-operator starts inside the *Wh*-DP (125a), whereas in others, for instance in case of relative clauses and complex noun phrases, the *Wh*-operator originates in the higher DP (125b) in Japanese.

(125) a.



b.



In cases like (125b), since the *Wh*-operator doesn't originate inside an island it never crosses one on its way to the higher projection, and as a consequence no island violations are observed in cases like (126a) in Japanese. On the other hand, when the *Wh*-operator starts low and inside an island, it crosses the island on its way up and hence results in island violation (126b).

(126) a. John-wa [nani-o katta hito]-o sagasiteiru no

John-Top [what-Acc bought person]-Acc looking.for Q

“What is John looking for the person who bought?”

b. ??John-wa [Mary-ga nani-o katta kadooka] siritagatteiru no?

John-Top [Mary-Nom what-Acc bought whether] know.want Q

“What does John want to know whether Mary bought?”

For Hindi/Urdu, I suggest that the *Wh*-operator always starts in the lower DP (as in 125a). As a consequence when the DP appears inside an island, the *Wh*-operator/head crosses the island on its way up to a higher projection. Hindi/Urdu thus shows no difference in the acceptability of cases involving *Wh*-islands (127a) and relative clause islands (127b).

(127) a. *raam [us aadmii-ko [jis-ne kyaa kharidaa]] DhunDh rahaa hai.

Ram that man-Acc Who-Erg what bought find Prog. be-Pres

“What is Ram looking for the person who bought?”

b. *raam jaan-naa caahtaa hai agar miiraa-ne kyaa kharidaa

Ram know-to want be-Pres Whether Mira-Erg what bought

“What does Ram want to know whether Mira bought?”

For the movement of this *Wh*-operator, I adopt a modified version of Chomsky (2000) which suggests that *Wh*-movement is triggered by an uninterpretable Q-feature on the functional C-head. The *Wh*-phrase has the interpretable Q-feature and uninterpretable *Wh*-feature. The movement of the *Wh*-element to C is driven by the need to check features, which implies that every *Wh*-element (operator or phrasal) with the relevant features will move.

I believe what distinguishes *Wh*-operator movement from *Wh*-phrasal movement is the presence of an EPP feature on the functional head. The assumption is that C may have an EPP feature and that this feature is a morphological property of such functional heads. If the C head has the EPP feature, the movement of the *Wh*-

operator/head is accompanied by the indefinite (e.g. English), and, if the C head doesn't have this feature,, only the *Wh*-operator moves. The idea is that both English and Hindi/Urdu type languages involve *Wh*-movement in the overt syntax. This makes the timing of *Wh*-movement in languages like Japanese and Hindi/Urdu similar to languages like English. The difference between English and Hindi/Urdu is therefore largely a question of what moves: the whole DP or just the *Wh*-operator.

This movement of the *Wh*-operator becomes visible in Hindi/Urdu, when structures like (128) are embedded inside another clause. In *Wh*-scope-marking construction, the *Wh*-operator *kyaa* associated with the *Wh*-phrase in the embedded clause appears at matrix v (129).

(128) raam-ne kis-ko dekhaa

Ram-Erg Who-Acc saw

"Who did Ram see?"

(129) siitaa kyaa maantii hai [ki [raam-ne kis-ko dekhaa]]

Sita what believes be-Pres Comp Ram-Erg Who-Acc saw

"Who does Sita believe that Ram saw?"

As before, I propose that the *Wh*-operator gets pronounced when it checks the EPP feature.²³ In Hindi/Urdu scope-marking constructions, the operator checks the feature at the v-head, so it appears there. In Japanese, it doesn't check the feature at

²³ This is similar to Richards' (1999) idea that feature strength on the functional head will determine whether we pronounce the upper or the lower copy.

any of these heads, so it doesn't get pronounced. The appearance of the operator at different heads in different languages is therefore a property of the phase heads.

Crucial evidence comes from non-interrogative sentences in Hindi/Urdu, where the EPP feature of the *v* head is checked by a pronominal element *yeh* (see 130). Mahajan (1990) proposed that *yeh* is a non-interrogative counterpart of *kyaa*, i.e. *kyaa* has a [Wh] feature that *yeh* doesn't. The difference between *yeh* and *kyaa* aside from [Wh] feature is that *kyaa* is obligatory whereas *yeh* can be optionally dropped. I assume this to be a consequence of the optional strong EPP features of the *v* head that marks definiteness or specificity when present. This suggests an association between EPP feature (a pure syntactic feature) with specificity (a semantic feature), similar to Rackowski & Richards (2005).

(130) *miiraa (yeh) maantii hai [ki [raam-ne siita-ko dekhaa]]*

Mira (this) believes be-Pres Comp Ram-Erg Sita-Acc saw

“Mira believes that Ram saw Sita”

To summarize, I claim that some apparent cases of *Wh*-in-situ like Hindi/Urdu and Japanese involve overt movement of the *Wh*-operator to a higher position. Although the *Wh*-operator doesn't get phonologically realized in some cases, it does move overtly. The operator only gets pronounced at the *v* head when it checks an EPP feature.

The proposal sketched here suggests a two-way distinction in the ways *Wh*-movement takes place in natural languages; *Wh*-phrasal movement (like in English) and *Wh*-operator movement (as in Hindi/Urdu and Japanese). The *Wh*-operator

movement approach that I have proposed here makes interesting claims about the constraints that regulate *Wh*-movement. In this section we saw that Hindi/Urdu and Japanese do seem to involve overt movement of the *Wh*-operator. Given the fact that these cases exhibit island effects, the analysis presented here implies that island effects (w.r.t. subjacency) detect both *Wh*-operator movement as well as *Wh*-phrasal movement as in English (131). The idea is that *Wh*-movement (whether phrasal or operator) exhibits sensitivity to island effects.


(131) * Who did John hear the rumor that Mary loves?

2.6.2 Absence of intervention effects with phrasal movement

The focus elements that cause intervention in the movement of *Wh*-elements in languages like Hindi/Urdu and German don't seem to cause any intervention in the movement of the *Wh*-phrases in languages like English (132).

(132)a. Who did only John see?

b. [_{CP} What did only John see t_{what}]]]



This empirical fact motivated the idea that “overt movement” is not sensitive to the constraint that causes intervention effects. The presence of intervention effects in constructions like *Wh*-scope-marking and multiple questions in Hindi/Urdu and German, and mono-clausal questions in languages like Hindi/Urdu and Japanese was linked to the assumption that these cases involve “covert movement” (Beck, 1996).

The discussion we had in the previous sections however suggests that the traditionally believed in-situ cases (*Wh*-scope marking, multiple questions etc) actually involve overt movement of the *Wh*-operator/head, and the intervention effects seen in these cases were explained accordingly.

Let's look at the English cases now. In English, focus elements have been proposed to be in a Spec-head relation with the nominal triggered by a series of movements that derive their adjacency to each other (Kayne 1998). Kayne (1998) proposed that focus particles like *only* in English originate in a functional head (FocP), and that they attract the focused constituent to their specifier position, with subsequent movement of the focus particle to a functional head (which Kayne labels "W") immediately above FocP and remnant movement of the complement of the Foc-head into the specifier position of WP. A sentence like (133a) will therefore have a derivation like (133b).

(133)a. John eats only biscuits.

b. Step 1: [_{FocP} only [_{TP} John eats biscuits]]

Step 2: [_{FocP} biscuits only [_{TP} John eats t_{biscuits}]]

Step 3: [_{WP} only [_{FocP} biscuits t_{only} [_{TP} John eats t_{biscuits}]]]]

Step 4: [_{WP} [_{TP} John eats t_{biscuits}] only [_{FocP} biscuits t_{only} t_{TP}]]]

What is crucial for the present discussion is the fact that the focus element in English is a head and therefore cannot be a potential intervener for the *Wh*-phrase. The absence of intervention effects in English cases like (134) is therefore expected.

(134) a. What did only John see?

b. [_{CP} What did [_{WP} only [_{FocP} John t_{only} [_{TP} t_{John} see t_{what}]]]]

The difference between English cases like (134a) and the Hindi/Urdu is that, (134a) involves overt phrasal-movement whereas Hindi/Urdu involves *Wh*-head movement. Therefore what seems to be the case is that intervention effects appear in cases of *Wh*-head movement only but not in case of phrasal movement.

An interesting fact is that similar to Hindi/Urdu, English in-situ *Wh*-phrases also show intervention effects (135).

(135)a. *I wonder what only John ate where.

b. *I wonder where only John ate what.


For cases like (135), I propose that they also involve *Wh*-head movement like the Hindi/Urdu case (136). The intervention effects seen in these cases are therefore due to the interaction between the *Wh*-head and the focus head.²⁴

²⁴ One prediction of this proposal is that English *Wh* in-situ would be sensitive to island effects since they also involve movement. But this is not what we see in English cases (1a).

1. Who persuaded the man who bought [*Wh*-which car] to sell the hubcaps?

Richards (1998) explains the lack of island effects in cases like (1) in terms of Principle of Minimal Compliance in the sense that the illicit movement (out of an island) of the *Wh* is improved by a licit *Wh*-movement of *who* to the same projection, see Sprouse (2007) for more details.

(136) a. [I wonder [*WH* what [_{WP} only [_{FocP} John t_{only} [_{TP} t_{John} ate t_{what} t_{WH-where}]]]]]



b. [I wonder [*WH* where [_{WP} only [_{FocP} John t_{only} [_{TP} t_{John} ate t_{WH-what} t_{where}]]]]]



It has also been reported that scrambled *Wh*-phrases in languages like Hindi/Urdu and Japanese don't display intervention effects (Beck and Kim, 1997). Compare the following examples (137a) and (137b) from Hindi/Urdu and notice that when the *Wh*-phrase (*kis-ko*) is scrambled across a focus particle, intervention effects don't appear. These cases involve local scrambling which has been proposed to be a case of A-movement (Mahajan, 1990). Also notice that cases like (137b) involve phrasal movement. It is therefore expected that a focus element (a head) won't act as an intervener for the *Wh*-phrase.

(137) a. * raam-hii kis-ko dekhee-gaa [Hindi/Urdu]

Ram-only who-Acc see-Fut

“Who will only Ram see?”

b. Kis-ko raam-hii t dekhee-gaa

Who-Acc Ram-only see-Fut

“Who will only Ram see?”

Similarly long-distance scrambling of the *Wh*-phrases also doesn't induce intervention effects as they involve phrasal movement (138). These cases are similar to overtly fronted *Wh*-phrases in languages like English.

(138)a. *kis-ko raam-ne kaha ki siitaa-ne-hii t maara*

Who-Acc Ram-Erg said Comp Sita-Erg-only *t* killed.

“Who did Ram say that only Sita killed?”

b. * *raam-ne kyaa kaha ki siitaa-ne-hii kis-ko maara*

John-Erg what said Comp Mary-Erg only who-Acc killed.

2.7 Chapter Summary

This chapter highlighted some of the problems in the previous accounts (Beck 1996 and Pesetsky 2000) of intervention effects, and suggested that contra the claims made in the literature, intervention effects are not LF effects. One argument in support of this idea is provided by the fact that sluicing, a PF deletion operation, can repair intervention effects.

The chapter provides a reanalysis of constructions that show intervention effects. For instance *Wh*-scope marking constructions in languages like Hindi/Urdu and German have been argued to involve overt movement of the *Wh*-head, thus indicating that intervention effects are due to overt *Wh*-movement. In this exploration, the chapter also sketches out an alternative account of *Wh*-movement for languages like Hindi/Urdu which are traditionally considered as “*Wh* in-situ” languages. The idea is that *Wh*-movement in these languages involves overt movement of the *Wh*-

operator/head. The *Wh*-operator is pronounced only when it checks an EPP feature at a functional head.

This chapter also draws parallel between island effects, intervention effects and sluicing and shows that constructions that show intervention effects are the constructions that show island effects. The reason behind this is that both island effects and intervention effects are due to constraints on overt movement. More interestingly only such constructions allow sluicing which provides further evidence for overt *Wh*-movement.

Here, intervention effects are seen as a consequence of overt movement of the *Wh*-head across an intervening focus element. Intervention effects are thus seen as minimality effects, where a potential c-commanding focus element acts as an intervener in the movement of *Wh*-head. Quantified elements like Focus particles and NPIs that appear in a head-position in Hindi/Urdu behave as potential blockers for the *Wh*-head movement. I claim intervention effects to result from overt head movement, and crucial evidence here comes from the fact that intervention effects can be repaired by sluicing, a PF deletion operation. And if so, they must result from some kind of PF violation.

Chapter 3

Intervention Effects and Raising Constructions

Chomsky (1999) suggests that an intervention effect obtains if probe α matches β which is closer to α than matching γ . This bars any relation between α and γ . This section is an attempt to explain the complex nature of intervention effects by looking at cross-linguistic patterns in raising constructions involving dative NPs. In doing so, the chapter ascribes the differences in blocking effects among languages like English, Hindi/Urdu and Icelandic to some language specific displacements that interact with raising.

3.1 Cross-linguistic facts about Raising Constructions

Icelandic does not allow raising of an embedded subject to the matrix Spec-TP across a dative NP, whether the dative is a full NP (1b) or a pronoun (1c).

(1) a. Ólafur virðist [t vera gáfaður] [Holmberg and Hróarsdóttir, 2004]

Olaf-Nom seem-Sg be intelligent

“Olaf seems to be intelligent”

b. *Ólafur virðist einverjum nanni [t vera gáfaður]²⁵

Olaf-Nom seem-Sg some man be intelligent

“Some man finds Olaf intelligent”

c. *Ólafur virðist mér [t vera gáfaður]

Olaf-Nom seem-Sg me-Dat be intelligent

“I find Olaf intelligent”

This prohibition of movement of an embedded subject across a dative that we see in Icelandic is often referred to as the “dative intervention effect” and has been attributed to a blocking effect created by the dative element in the matrix clause.

The dative intervention effect on raising is found not only in Icelandic but also in many other languages including Spanish, Italian and French. Spanish is quite similar to Icelandic. In Spanish, the experiencer phrase, either a full NP or a pronoun, in the matrix clause doesn’t allow the movement of embedded subject across it, (2).

(2) a. Esta taxista_i parece [t_i estar cansado] (Kim, 2005)

this taxi driver-Nom seems be tired

“This taxi driver seems to be tired.”

²⁵ Holmberg and Hróarsdóttir (2003) provided a non raising translation for these Icelandic examples. These examples however involve raising and therefore should have a raising translation like “Olaf seems to some man to be intelligent”.

b. *Este taxista_i parece a Maroa [t_i estar cansado]²⁶

this taxi driver-Nom seems to Maria be tired

“It seems to Maria that this taxi driver is tired.”

“This taxi driver seems to Maria to be tired.”

b. *Este taxista_i parece me [t_i estar cansado]

this taxi driver-Nom seems to me be tired

“It seems to me that this taxi driver is tired.”

“This taxi driver seems to me to be tired.”

Languages like Italian and French also show intervention effects in raising constructions involving an experiencer. They however behave little differently from Icelandic. In Italian experiencer constructions, the dative in full DP form prevents the embedded subject from undergoing movement across it (3a). On the other hand, when the dative is cliticized, the blocking effects are no longer found (3b).

(3) a. *Gianni_i sembra a María [t_i essere stanco] (Cuervo 2003)

Gianni-Nom seems to Mary be ill

“Gianni seems to Mary to be ill.”

b. Gianni_i mi sembra [t_i essere stanco]

Gianni-Nom to me seems be ill

“Gianni seems to me to be ill.”

²⁶ Here again, Kim (2005) gives only the non raising translations of the Spanish examples. From now on, I will provide raising translation for those examples where it is required but has not been provided.

Similarly in French, the raising of the embedded subject is only possible when the dative argument undergoes cliticization. In other words, the in-situ dative blocks the movement of the embedded nominative (4a) but its clitic movement allows for raising of embedded nominative to matrix TP (4b).

(4) a. * Valerie_i semble (à) Pierre [t_i avoir bien joué] (Park & Park 2004)

Valerie-Nom seems to Pierre to have well played

“It seems to Pierre that Valerie played well.”

“Valerie seems to Pierre to have played well.”

b. Valerie_i me semble [t_i avoir bien joué]

Valerie-Nom to me seems to have well played

“It seems to me that Valerie played well.”

“Valerie seems to me to have played well.”

Languages like English and Hindi/Urdu however seem to drift away from the pattern. Raising of the embedded subject to the matrix Spec-TP is allowed in English in the presence of a dative, regardless of categorical status of the intervening dative element.

(5) a. John seems to Mary [t_i to be a nice guy]

b. John seems to her [t_i to be a nice guy]

Given the notion of minimality, minimal link condition (Chomsky, 1995) or relativized minimality (Rizzi, 1990), English cases like (5) present quite a puzzle.²⁷ If one assumes that English allows raising across a dative (5) because being embedded inside a PP the latter doesn't establish the required c-command relation with the moved element and thus doesn't act as an intervener, there is counter evidence that suggests the experiencer phrase does c-command into the embedded subject. The Condition C effect in (6) can only be captured if *him* c-commands *John*.²⁸

(6) *They seem to him_i [t to like John_i]

The question is, if the dative c-commands into the embedded clause, why doesn't it block the movement of the embedded subject across it? Various solutions have been offered in the literature to resolve this aspect of raising constructions in English. They will be reviewed in section 3.2.

Another interesting aspect of dative intervention comes from agreement facts. It has been claimed in the literature (Boeckx, 1998) that in English expletive-*there* constructions, the experiencer blocks the agreement between the matrix T and the

²⁷ Minimal Link Condition: H(K) attracts α only if there is no β , β closer to H(K) than α , such that H(K) attracts β .

Relativized Minimality : X α -governs Y iff there is no Z such that

- i. Z is a typical potential α -governor for Y,
- ii. Z c-commands Y and does not c-command X.1
- iii. α -governors: heads, A Spec, A' Spec.

²⁸ This problem was first noted in Chomsky (1995)

embedded NP associate. This is to say that even though English and Icelandic differ from each other with respect to allowing movement of the embedded subject across a dative, they have been proposed to behave similarly in agreement blocking effects. Consider the following representative examples from English (7a) and Icelandic (7b).

(7) a. *There seem to a woman to be men in the room.²⁹

b. Það virðist/*virðast einhverjum manni [TP hestarnir vera seinir]

Expl seem.Sg/ seem.Pl some man-Dat the horses-Nom be slow-Nom

“A man finds the horses slow”.

We will look at cases like these in more detail in the section 3.2.2 and will see that the agreement facts discussed here are more complicated than reported. Moreover the claim that these are instances of dative intervention effect stems from the analysis adopted to account for expletive-associate constructions in general.

Hindi/Urdu, like English, presents an interesting case too. The dative in Hindi/Urdu is assumed to be a Case-marked NP, as opposed to a PP. It can c-command into the embedded clause and bind a pronoun (8a), and can also produce principle C effects (8b).

²⁹ Not all English speakers agree with these judgments. Some speakers find such sentences perfectly fine.

- (8) a. miiraa_i-ko lagtaa hai ki saaraa us_i-kii jaan pehcaan-kii hai
 Mira-Dat seems be-Pres Comp Sara her-Gen familiar-Gen be-Pres
 “It seems to Mira that Sara is familiar to her.”
- b. * saaraa us_i-ko [miiraa_i-kii jaan pehcaan-kii] lagtii hai
 Sara her-Dat Mira-Gen familiar-Gen seems be-Pres
 “Sara seems to her to be familiar to Mira.”

Given the fact that the Hindi/Urdu dative can c-command the embedded subject and create principle C effects (8b), minimality predicts that it would act as an intervener in the movement of the embedded clause across it. However this doesn't seem to be the case in Hindi/Urdu.³⁰

- (9) a. raam_i [t_i thakaa huua] lagtaa hai
 Ram [tired happen] seems be-Pres
 “Ram seems to be tired.”
- b. raam_i [siitaa-ko] [t_i thakaa huua] lagtaa hai
 Ram Sita-Dat tired happen] seems be-Pres
 “Ram seems to Sita to be tired.”

³⁰ The dative NP in Hindi/Urdu can also appear higher in the tree, i.e. above the moved embedded subject.

- a. siitaa-ko raam_i [t_i thaka hua] lagtaa hai
 Sita-Dat Ram [tired happen] seems be-Pres
 “Ram seems to Sita to be tired.”

To summarize, languages seem to vary with respect to dative intervention effect depending on the nature and position of the intervening dative element. Icelandic and Spanish don't allow raising of the embedded subject across a dative NP. In both Italian and French on the other hand, the intervening experiencer phrase in only a full DP form prevents the embedded DP from undergoing movement across it. English and Hindi/Urdu appear to drift away from the pattern by allowing raising in the presence of a dative in the matrix clause. These cross-linguistic facts about raising across an intervener present a puzzle, i.e. why is raising across an intervener blocked in some cases/languages and not others?

3.2 Previous analyses

3.2.1 Covert movement of the dative: Kitahara (1997)

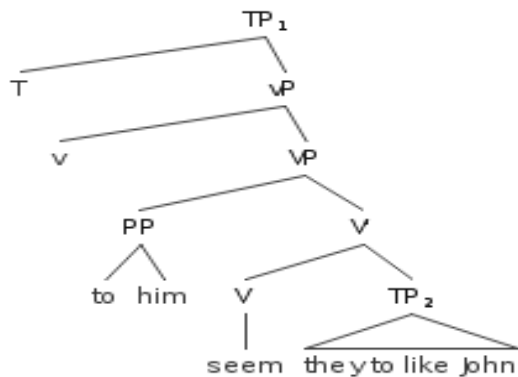
As we noted in the previous section, English seems to exhibit contrasting evidence regarding the c-commanding status of the dative NP.

- (10) a. John_i seems to Mary [t_i to have left]
b. *They_j seem to him_i [t_j to have left John_i]

Since English experiencer phrases allow raising across them (10a), it should be the case that the experiencer is not in a c-commanding relation with the embedded subject. However cases like (10b) show that the experiencer does c-command inside the embedded clause. Boeckx (1999) called this the “conflicting c-command requirement”.

Kitahara (1997) presents a syntactic (derivational) solution to this problem, where the experiencer c-commands into the embedded clause after raising of the embedded subject. In other words, the experiencer does not c-command into the embedded clause prior to raising of the embedded subject. This made possible via the following Larsonian shell (11). In (11), the PP node dominates *him* and as a consequence *him* cannot c-command into the embedded clause. *Him* therefore does not act as an intervener in the movement of *they* across it, as in (10a), neither does it qualify as the “closer element”.

(11)



In order to account for cases like (10b), Kitahara assumes that binding is licensed at LF and therefore it is by LF that *him* must c-command *John*. For Kitahara, *him* covertly raises and adjoins to P to check its Case, and it is only after this movement that *him* can c-command into the embedded clause forcing Condition C violation. Since the experiencer moves covertly it does not affect any overt operation.

Boeckx (1999) criticizes Kitahara's account for relying on the existence of a covert component. Given recent claims in the literature that there is no covert movement (single cycle model; Pesetsky 1998, Bobaljik 1995 etc.), it is unclear how raising of the experiencer will not block raising of the embedded subject.³¹ Furthermore, Kitahara assumes that covert movement affects binding relations. This is at odds with the claim that covert movement does not affect interpretive relations (Lasnik, 1995).

- (12) a. Some applicants seem to each other to be eligible for the job.
b. No applicants seem to any of the deans to be eligible for the job.
- (13) a. *There seem to each other to be some applicants eligible for the job.
b. *There seem to any of the deans to be no applicants eligible for the job.

Boeckx points out that if binding is determined at LF and if the associate NP *some applicant* moves covertly in (13), these sentences should be as good as (12) but they are not. The difference between (12) and (13) is that of overt and covert movement of the NP *some/no applicant* and the absence/presence of an expletive. Accordingly, the difference suggests that covert movement doesn't affect semantic relations.

³¹ It is however possible to translate Kitahara's proposal into the single cycle model if we assume that the dative moves overtly (gets into a c-commanding position), but what gets pronounced is the lower copy. Although this assumption can account for the binding facts, it still doesn't account for the lack of intervention by the dative element, until we assume that this moved element only affects binding relations but doesn't affect movement across it.

A further problem with Kitahara's covert movement analysis is that it fails to account for cases like (14). Given the assumption that bound pronouns require a c-commanding antecedent, in (14), even if the dative raises covertly after the embedded subject has moved to the matrix T, the bound pronoun would have no way to be bound by its antecedent. If A-movement does not reconstruct (Chomsky 2001 and Lasnik 2001), *his mother* has no point during derivation at which it has *everyone* as its antecedent.

(14) [His mother]_i seem to everyone [t_i to be nice].

3.2.2 Dative DPs; Inherent Case or Structural Case: McGinnis (1998)

McGinnis (1998) suggests that the lack of intervention effects of an experiencer phrase in English raising constructions is due to the nature of the experiencer phrase. An experiencer with the dative marker in English raising constructions is an inherent Case-marked PP. Being inherently Case-marked, the Case-features on the experiencer are morphologically marked and cannot be checked at T, thus making the inherently Case-marked experiencer ineligible for movement. As a consequence the experiencer cannot raise to the subject position.

- (15) a. Sally seemed to each boy [t to like his picture best] (McGinnis 1998)
b. *To each boy seemed t [Sally to like his picture best].

McGinnis argues that the ill-formedness of raising the matrix experiencer phrase in English (15b) has nothing to do with the fact that it leaves the embedded subject in the subject position of the infinitival. Raising the experiencer phrase is also impossible when the embedded subject is PRO (16), or when the embedded clause is finite (17).

- (16) a. It was suggested to each boy [PRO to comb his hair].
b. *To each boy was suggested t [PRO to comb his hair].
- (17) a. It seemed to each boy [that Sally liked his picture best].
b. *To each boy seemed t [that Sally liked his picture best].

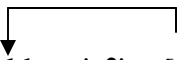
In (16a), since the raising of the embedded subject is driven by its uninterpretable nominative (structural) Case, an inherent Case-marked DP does not block its movement.³² Thereby the embedded subject can move to Spec TP in English raising constructions.

McGinnis further suggests that inert case is not forced by semantic role.³³ The experiencer seems to have the same semantic role in English and Icelandic, but it has inert case in English and quirky case in Icelandic. In Icelandic, the embedded subject can also raise to the subject of a matrix clause (18a). However, since the matrix clause contains an experiencer, it is the experiencer that raises to subject position, as

³² McGinnis doesn't account for Principle C effects in English raising constructions.

³³ McGinnis (1998): Inert Case is a kind of inherent Case. It differs from quirky Case by not being visible for A-movement.

it is structurally higher than the embedded subject, compare (18b) and (18c).

(18) a.  Haraldur virðist [t hafa gert þetta vel].

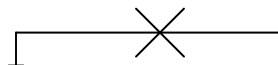
H.Nom seems to.have done this well

“Harald seems to have done that well.”

b.  Mér virðist t [Haraldur hafa gert þetta vel].

me.Dat seems H.Nom to.have done this well

“Harald seems to me to have done that well.”

c.  *Haraldur virðist mér [t hafa gert þetta vel].

H.Nom seems me.Dat to.have done this well

“Harald seems to me to have done that well.”

To account for the English facts (19a), Chomsky (1998) argues that the experiencer is inherently Case-marked, and as such “inactive” for Attraction. That is, it does not block raising of the embedded subject because it has no (structural) Case features to match those of the attractor (matrix T). In Chomsky’s account, the experiencer, being inherently Case-marked, is “inactive” or “invisible” for attraction even though the experiencer c-commands (into) the embedded clause and is closer for attraction. This proposal however doesn’t account for cases like (19b).

- (19) a. John_i seems to Mary [t_i to have left]
b. *They_j seem to him_i [t_j to have left John_i]

Boeckx (1998) criticizes this approach and argues that the assumption that inherent case renders an NP inactive is not forced by “virtual conceptual necessity”. The null hypothesis in fact should be that inherent Case is licensed in a Spec-head relation, much like structural Case (Lasnik 1995).

Moreover the idea that an inactive intervening element cannot block movement is inconsistent with the current interpretation of “intervention” in the form of Defective Intervention Effect (20), where even an “inactive” intervener can create blocking effects.

- (20) Defective Intervention Effects: * $\alpha > \beta > \gamma$ [" ... $>$ is c-command, β and γ match the probe α , but β is inactive so that the effects of matching are blocked (Chomsky 2000:123)."]

According to the constraint in (20), if there is γ with inactive feature between the Probe α and its Goal β , no relation between α and β is possible, because the intervening γ , albeit defective, prevents that relation between the two.

3.2. 3 Dative DPs as T-oriented or V-oriented: Boeckx (1998, 1999, 2000)

Boeckx (2000) suggested that English, like Icelandic, is also sensitive to dative intervention. Though the experiencer allows movement across it in English (21a), it doesn't allow agreement across it (21b).

- (21) a. John seems to Mary to be a nice guy.
b. There seems/*seem to Mary to be men in the room.

To capture the above stated contradiction in English, Boeckx (2000) distinguishes nominative subject agreement from nominative object agreement to show the contrast between cases like (21a) and (21b) in English. He suggests the former corresponds to cases like (21a) where the dative in English does not disrupt overt raising of the embedded subject across it. The latter corresponds to cases like (21b) where the dative disrupts the agreement between the matrix T and the associate in expletive *there* constructions, and as a consequence the verb takes on a default agreement. Boeckx argues that the [+person] feature renders experiencer T-oriented while the [-person] features renders it V-oriented, as [+person] is checked at T. In order to account for the above cases, Boeckx makes the following assumptions:

- (22) a. The experiencer in English has the [-person] feature. It is therefore is V-oriented, which gives it an object-like status.
b. The associate of the expletive *there* also is V-oriented and has the object like status.

c. The Person Case Constraint (PCC) does not work in nominative subject agreement but does in nominative object agreement cases.³⁴

The experiencer, *to Mary*, in (21b) has the object-like status (c.f. 22a), and thus it only affects the nominative agreement between the matrix T and the object (21b) but does nothing to the agreement between the matrix T and the subject (21a), nor does it disrupt the raising of embedded subject across it. In (21b) on the other hand, the associate NP, *men*, also has the object like status (c.f. 22b). The experiencer therefore constrains the agreement between the matrix T and the nominative object (*men*). When the experiencer intervenes between the matrix T and the associate *men* in (21b), the default agreement is realized on the verb in accordance with the PCC.

Though Boeckx (2000) explains the pattern reported in (21) quite nicely, there are some concerns. First, given the expletive-associate analysis Boeckx adopts, if the number agreement between the matrix T and the associate is blocked by the intervening experiencer, it is not clear why the Case checking between the associate nominative and T is not blocked. Given the standard assumption that Case and agreement are tightly linked with Case being a reflex of agreement, this should pose a problem for Boeckx's analysis.³⁵

Second, Boeckx argues that the experiencer in raising constructions in English, as compared to other languages, has a [-person] feature that makes it object-like. And being object-like it doesn't interrupt the relation, movement or agreement,

³⁴ Person Case Constraint (Bonet, 1994): If a verb agrees with a dative element and an accusative element, the morphology of the agreement with the associate is necessarily 3rd person.

³⁵ Boeckx however rejects this idea and suggests that Case and agreement are checked separately.

involving subject NPs. This assumption seems quite problematic as subject and object are relational notions and it is not clear how the grammar would distinguish subject and object NPs on the basis of a semantic feature, especially given the fact that phi-features (person, number and gender) constitute the feature matrix of any NP. Furthermore, the suggestion that it happens only in English seems very stipulative.

Third, the English agreement facts reported here (21) are not entirely correct. Many English speakers find (21b) acceptable. Moreover it seems that the lack of number agreement in expletive constructions is actually independent of an effect created by the dative. Hornstein (2009) points to cases of defective agreement in English expletive constructions (23), and suggests that the lack of agreement is actually due to default agreement and not intervention.

- (23) a. (?) There seems to be men in the room [Hornstein, 2009]
b. There is a dog and a cat on the roof.³⁶

Notice that it is the singular agreement that is the default form. Singular associate and plural agreement on T is not acceptable (24).

- (24) *There seem to be a man in the room.

We can thus conclude that the lack of agreement that we see in expletive constructions involving the dative phrase (21b) is not due to an intervention effect created by the experiencer between the T and the associate.

³⁶ There is an interfering factor here. This example might involve first conjunct agreement.

3.2.4 Dative NPs are adjuncts: Stepanov (2001)

To account for the absence of dative intervention effects in English, Stepanov (2001) argues that the dative NP is an adjunct and it can accordingly be merged post-cyclically (Lebeaux 1991, Ochi 1999, Bobaljik 2002, and Nissenbaum 2000). According to the analysis, the adjunct *to Mary* in (25), for example, can be merged post-cyclically after *John* moves to the matrix subject position. Since there is no dative element intervening between two positions, the raising is allowed.

(25) John seems to Mary to have left.

Stepanov suggests that syntactic objects that contain uninterpretable features in their label must be merged cyclically and those that do not post-cyclically. The idea is that uninterpretable features can trigger projection of a full category in addition to causing movement (Fukui, 2001). Consider the following case (26) for instance. In (26a), the adjunct *with a hammer* has to be merged post-cyclically as it doesn't contain any uninterpretable feature; the uninterpretable Case-feature of *a hammer* is checked by the preposition. In (26b) on the other hand, the adjunct *how* must be merged cyclically as it has an uninterpretable feature [Wh].

- (26) a. Mary fixed the car [with a hammer].
b. How did Mary fix the car t?

Similarly in cases like (27), since *Mary* is Case-checked by the preposition, the adjunct *Mary* does not contain any uninterpretable feature and therefore must be merged post-cyclically. To support his claim further, Stepanov argues that if *Mary* is merged cyclically, it should be undesirably be attracted to the matrix subject position since it is closer than *John* to T at the timing of raising.

(27) [*To Mary]_i seems t_i John to be a nice guy.]

For languages that exhibit dative intervention effects, Stepanov suggests that the dative argument is not a PP. It therefore has an uninterpretable feature in the label since the dative doesn't have a P to check its features. The dative NP in these cases is merged cyclically and brings the intervention effects on raising of the embedded subject across it.

There are however a few problems in this proposal. The first problem is similar to Kitahara's. In (28), If the dative *to everyone* is merged post-cyclically, the bound pronoun would have no way to be bound by its antecedent. Before raising, *to everyone* is not yet merged by assumption; after raising and subsequent merge of *to everyone*, the once raised *his mother* would not be bound. If A-movement does not reconstruct, *his mother* has no point during the derivation at which it has *everyone* as its binder.

(28) [His mother]_i seem to everyone [t_i to be nice].

A second piece of evidence comes from *Wh*-movement. Stepanov assumes that the *Wh*-feature may reside in the label of the *Wh*-phrase or in the label of the PP containing the *Wh*-phrase. If the uninterpretable *Wh*-feature resides in the PP label, the PP can be merged cyclically (29a). However if the uninterpretable *Wh*-feature resides in the *Wh*-phrase itself, and the PP is merged post-cyclically, the *Wh*-phrase won't be able to undergo *Wh*-movement (29b).

- (29) a. [To whom]_i does John_j seem t_i [t_j to be a nice guy]
 b. [*Whom]_i does John_j seem [to t_i] [t_j to be a nice guy]]

Now if *to whom* is merged cyclically in (29a), it is not clear why it doesn't block the movement of *John* across it at the following point in the derivation.

- (30) T seem [to whom] [John to be a nice guy]

3.2.5 Dative NP as available subjects: Park and Park (2004)

According to Park and Park (2004), the parametric difference is due to the availability of a dative subject. In other words, if a language allows a dative subject, this always prevents the nominative DP from undergoing movement to Spec-TP. In contrast, if a language does not allow an experiencer dative subject, the experiencer cannot prevent the embedded nominative DP from raising across it. For instance Icelandic allows a dative subject in Spec-TP (31a) and shows dative intervention effect (31b),

whereas English (32) doesn't allow dative subject and also doesn't show dative intervention effect.

- (31) a. *Dormaranum virtist [að bornin hefðu leikið mjög vel]*
the judge-Dat seemed that the kids have played very well
“It seemed to the judge that the kids have played very well.”
- b. **Hestarnir virgast einverjum nanni [t_i vera seinir].*
the horses-Nom seem some man-Dat be slow
“It seems to some man that the horses are slow.”
“The horses seem to some man to be slow.”
- (32) a. **To the judge seems that the kids played well.*
- b. *The kids seemed to the judge to have played well.*

This approach however fails to account for the cross-linguistic patterns that we noticed in the earlier section. The first problem is presented by French. French doesn't allow dative subjects (33a), it however still exhibits dative intervention effects (33b).

- (33) a* *A Valeriei semble ti [que Pierre a bien joué]*
Valerie-Dat seems that Pierre has well played
“It seems to Valerie that Pierre has played well.”

b. *Valeriei semble à Pierre [ti avoir bein joué]

Valerie-Nom seems to Pierre to have well played

“It seems to Pierre that Valerie played well.”

“ Valerie seems to Pierre to have played well.”

The second one comes from Hindi/Urdu. Hindi/Urdu allows dative subjects (34a) but still doesn't exhibit dative intervention effects (34b).

(34) a. siitaa-ko lagtaa hai ki raam thakaa huaa hai

Sita-Dat seems be-Pres Comp Ram tired happen be-Pres

“It seems to Sita that Ram is tired.”

b. raam_i [siitaa-ko] [t_i thakaa huaa] lagtaa hai

Ram Sita-Dat [tired happen] seems be-Pres

“Ram seems to Sita to be tired.”.

Park & Park (2004) also make some interesting claims about *Move* and *Agree*. According to them, *Move* and *Agree* are separate operations and that *Move* applies before *Agree*. This assumption is in contrast with the dominant definition of *Move* according to which *Agree* is a prerequisite subcomponent of *Move* (Chomsky, 2000). We will return to this debate between *Move* and *Agree* in the following section.

In summary, none of the accounts we have discussed so far provide a fool-proof solution to the experiencer paradox. The purpose of the next section is to provide a solution that is, if nothing more, at least free of the criticisms listed so far.

3.3 The Proposal

The proposal I am suggesting below attempts to resolve the experiencer paradox while trying to account for the cross-linguistic patterns. Leaving aside the well-behaved cases of Icelandic and Spanish for a moment, I would like to focus the discussion on English and Hindi/Urdu cases, and the contrast they hold with Icelandic.

3.3.1 Lack of dative intervention in English

Icelandic exhibits dative intervention effect by disallowing the movement of the embedded subject across a dative (35). This happens because the dative phrase in Icelandic is a Case-marked NP. Being an NP, it can c-command into the embedded subject and can intervene in the movement of the embedded subject across it; a classic minimality effect.

(35) a. *Hestarnir virğast einverjum nanni [t_i vera seinir].

the horses-Nom seem some man-Dat be slow

“It seems to some man that the horses are slow.”

“The horses seem to some man to be slow.”

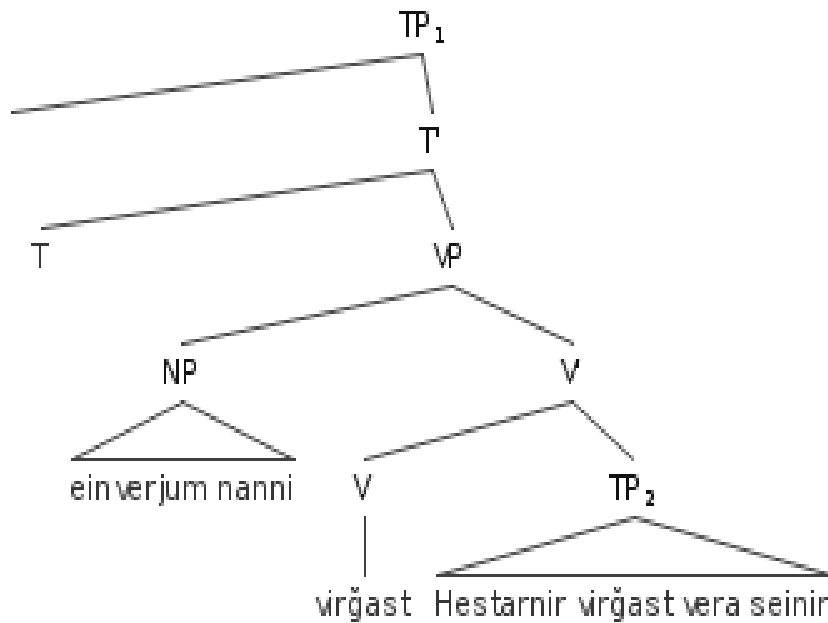
b. *Hestarnir virğast mér [t_i vera seinir].

the horses-Nom seem me-Dat be slow

“It seems to me that the horses are slow.”

“The horses seem to me to be slow.”

(36)



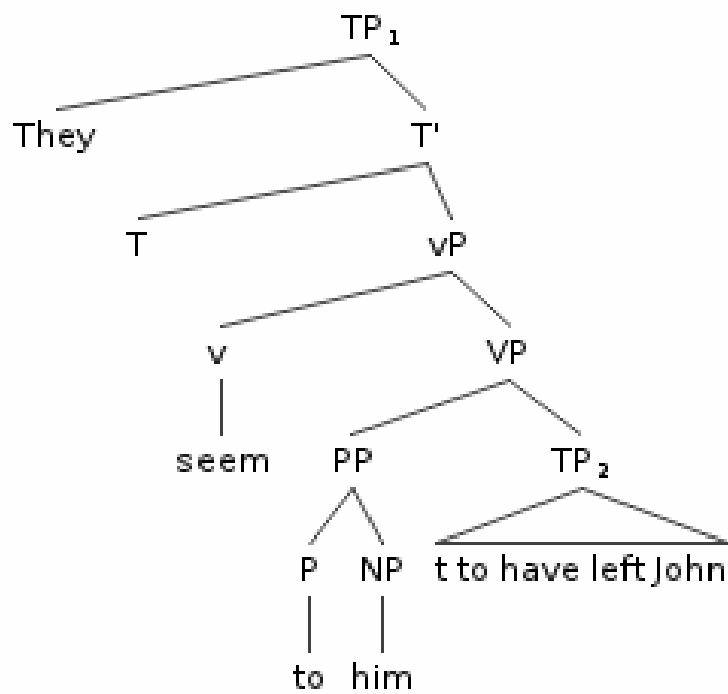
English on the other hand doesn't exhibit dative intervention effects; the dative doesn't block the movement of the embedded subject across it (37a). The lack of intervention presents a challenge especially because the dative phrase does seem to c-command the embedded subject (37b). This presents a contradicting c-commanding requirement.

- (37) a. John seems to Mary to be a nice guy.
b. *They seem to him_i to like John_i

To account for such cases, I would like to propose a revised execution of Kitahara's account, but one that is free from the criticism articulated in Boeckx (1999). I suggest that Kitahara is right in assuming that the experiencer binds into the

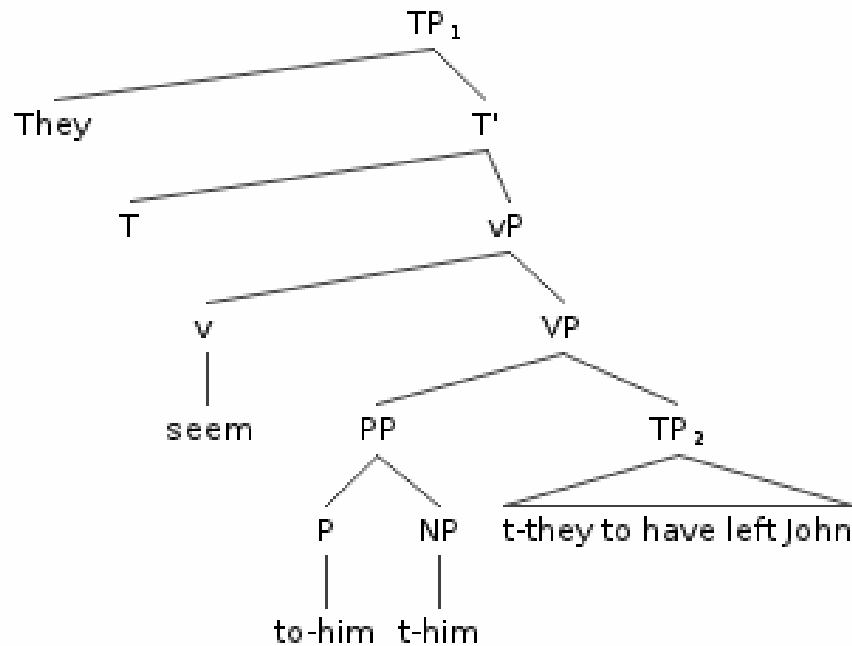
embedded clause by moving into a higher position. What I differ in is the idea that this binding relation is established via a covert movement which happens “after” the raising of the embedded subject. The experiencer in English originates inside a PP. By virtue of being embedded inside the PP, it cannot c-command into the embedded clause (38). For it to get into a c-commanding position, it must move.

(38)



To resolve this issue, I propose that in cases like (38), the N-head *him* moves and adjoins to P (39).

(39)



When the N-head moves, it carries a bundle of features, (interpretable) phi-features, (uninterpretable) Case feature and the categorial feature (+N, -V) with it.³⁷ The P head on the other hand carries only two sets of features, the (interpretable) Case-feature and the categorial feature (-N, -V). By virtue of this head movement, the Case-feature is checked (the uninterpretable feature of the N-head gets checked against the interpretable feature of the P-head), the phi-feature is shared among the N

³⁷ This head to head movement is only restricted to pronominals in English. Complex DPs don't undergo this kind of movement. This difference, I suppose, stems from the D versus N distinction. We will explore this distinction further in Chapter 5.

and the P head, and the categorical feature (being contradictory) is neutralized. As a consequence, the newly formed complex head has the following set of features; interpretable phi features, Case feature and neutralized categorical feature. So, even though this head-adjunction doesn't involve morphological fusion, it results in a new feature matrix for the complex head.

I further assume that all the features of this newly formed head-head complex (P-N) are preserved in the PP.³⁸

The theory I am adopting here is a non-covert movement, non-*Agree* approach. Following the single cycle model (Pesetsky 1998, Groat & O'Neil 1996, among others), I assume that movement is never covert, and always happens overtly. I also don't adopt *Agree* as a substitute operation for covert movement, for mainly two reasons. The first one is a conceptual reason. If the motivation for eliminating LF movement was to eliminate multiple cycles, which is more costly, then adding an extra operation like *Agree* is no cheaper (see Hornstein, 2009 for more detailed arguments). Under this assumption, I adopt a modified version of Kitahara's analysis and suggest that instead of covert movement, the dative phrase in English involves internal head-to-head movement forming a complex head P-N.

Under the assumption that the PP has the features of the P-N complex head, I suggest the PP can bind into the embedded clause; it c-commands and has the

³⁸ One might wonder about the order of the constituents in this head adjunction. In the proposal sketched here, it's the N-head that moves and adjoins to the P head but the order in English is P-N. For this I assume that there is a low-level morphological process which determines the ordering of the elements in this head adjunction.

relevant features; this explains why in sentences like (40), *him* binds into the embedded clause and causes Principle C effects.

(40) They_i seem to him_j [t_i to have left John_j]

Let's talk about the absence of intervention effects in English now. I suggest that the PP doesn't block the raising of the embedded subject across it, as it doesn't have the relevant categorical features (+N, -V) to do so.³⁹ The complex P-N head also doesn't cause any intervention; it is neither in the c-commanding position, nor it is of the "same type" as the moving phrasal element. This explains why the experiencer in English (41) doesn't prevent raising of the embedded subject across it.

(41) John seems to-him [t to be a nice guy]

Evidence in favor of this analysis comes from French, where an in-situ phrase creates blocking effect but when it is head moved the blocking effects disappear. French experiencer phrases are not embedded inside a PP, they are Case marked DPs. Therefore similar to Icelandic, full DP in French creates a blocking effect for the movement of the embedded subject across them (42a). French pronominal clitics on the other hand behave differently and don't intervene in the movement (42b).

³⁹ Although PPs in English can check EPP features and move to the subject position (as in the following example), the dative PPs can't because they involve complex heads (P-N). The N to P movement checks the EPP of the P head and makes it inactive for further feature-checking.

(a) [Under the table] seems to be [the only place Mary haven't cleaned]

- (42) a. * Valerie_i semble (à) Pierre [t_i avoir bein joué]
 Valerie-Nom seems to Pierre to have well played
 “It seems to Pierre that Valerie played well.”
 “Valerie seems to Pierre to have played well.”
- b. Valerie_i me semble [t_i avoir bein joué]
 Valerie-Nom to me seems to have well played
 “It seems to me that Valerie played well.”
 “ Valerie seems to me to have played well.”

French pronominal clitics are traditionally analyzed in terms of syntactic movement: they are regarded as full NPs generated in their usual argument position and then transformationally attaching to the T, via head movement. (Perlmutter, 1970 and Kayne 1994 among others). French clitics, like English datives, can c-command into the embedded clause and can create Condition C effects (43) but don't create intervention effects for the movement of the embedded subject (42b). These French cases, I suggest, involve a structure similar to English dative pronominals (39).

- (43) *Valerie lui_i semble [t aimer Peter_i]
 Valerie him-Dat seem love Peter
 “Valerie seems to him_i to like Peter_i.”

3.3.2 Dative intervention and agreement

English and Icelandic have also been claimed to exhibit an intervention by the dative in the agreement between the expletive and the associate. Consider the following examples (44) from Holmberg and Hróarsdóttir (2004).

(44) a. Það finnst/*finnast einhverjum student tölvurnar ljótar

Expl find.Sg/find.Pl some student-Dat the computers-Nom ugly

“Some student considers the computers ugly.”⁴⁰

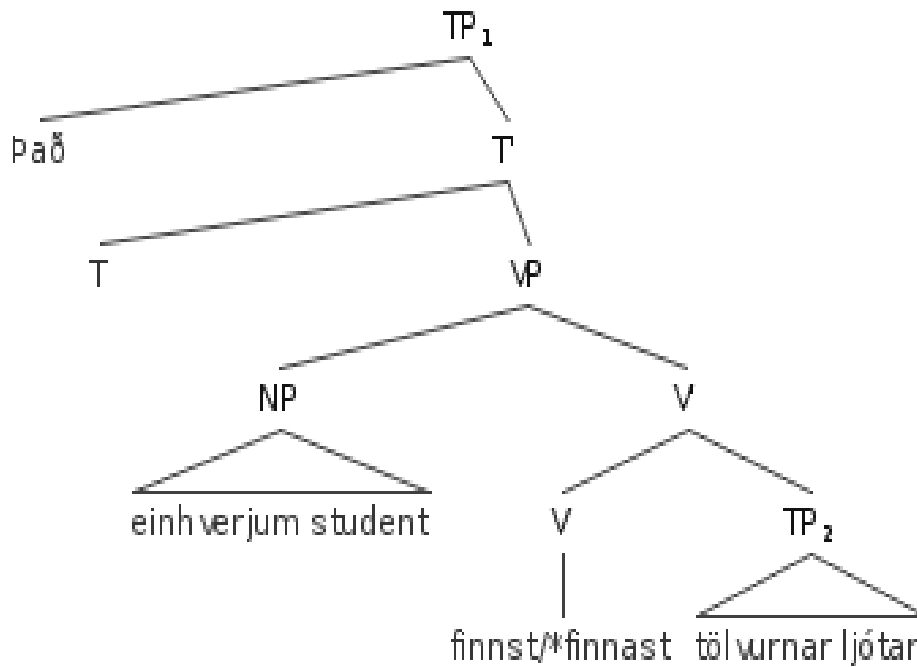
“It seems to some students that the computers are ugly.”

b. There seems/*seem to some student to be computers in the room.

Various analyses (Sigurðsson 1996, Boeckx 1998; 2000, Chomsky 2000 and Holmberg and Hróarsdóttir 2004) proposed to account for these facts suggest that the intervening dative phrase blocks the *Agree* relation between the matrix T and the associate, the embedded subject. This proposal is based on the assumption that expletive constructions involve an *Agree* relation. For constructions like (44), the standard *Agree*-based analysis is that the finite T^0 probes the associate to check feature agreement thereby establishing an *Agree* relation and resulting in the required morphological agreement between the two (45).

⁴⁰ Holmberg and Hróarsdóttir (2003) provide a translation which doesn't contain the expletive, even though the Icelandic version has one. I have provided a translation which matches the gloss.

(45)



There are a few empirical as well as theoretical problems with this account. First, it fails to explain how the nominative Case is licensed on the associate DP. If Case licensing is a reflex of agreement and if the dative acts as an intervener and blocks agreement between the T and associate, why doesn't it block the licensing of the nominative Case?

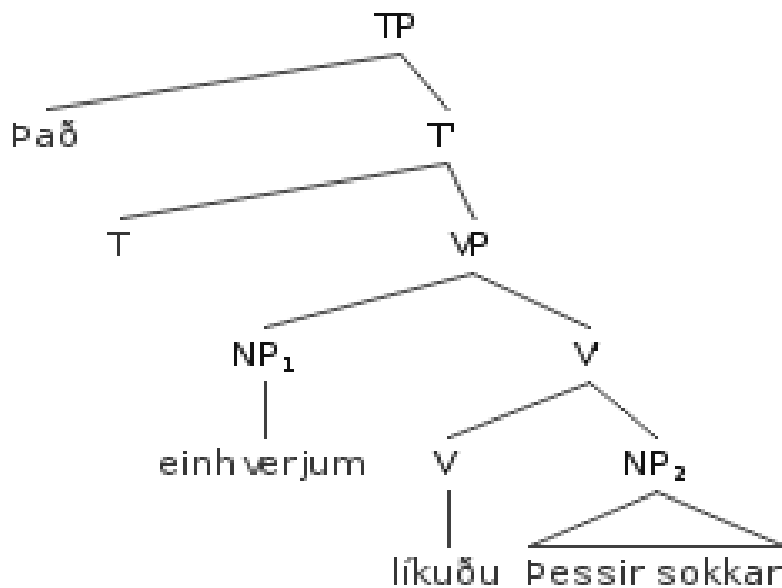
The second problem is that the data on agreement itself is not very clear. In the previous section, we have seen this to be the case with English. Even for Icelandic, the story isn't very different. Holmberg & Hróarsdótti (2004) mentioned the following Icelandic example in a footnote that showed that agreement in the presence of a dative is possible in Icelandic in some cases.

- (46) Það finnst/finnast mörgum stúdentum tölvurnar ljótar
 Expl find-Sg/find-Pl many students-Dat the computers-Pl ugly
 “Many students consider the computers ugly.”
 “It seems to many students that the computers are ugly.”

Furthermore, the lack of agreement in the presence of a dative is visible only in bi-clausal structures in Icelandic. In mono-clausal structures, when the dative and the nominative are arguments of the same verb, the finite verb may *Agree* with the nominative argument (47).

- (47) a. Það líkuðu einhverjum Þessir sokkar (Jónsson, 1996:153)
 Expl liked-Pl somebody-Dat these socks-Pl
 “Somebody liked these socks.”

b.



If minimality is what accounts for the lack of agreement in cases like (44), it is not clear why it doesn't predict that the agreement between the finite verb and the nominative argument would also be impossible in examples like (47).

Sigurðsson and Holmberg (2006) further claimed that the intuitions reported in Holmberg & Hróarsdótti (2004) about Icelandic agreement facts are not shared by all native speakers. They suggested three varieties of Icelandic with respect to the agreement patterns; Icelandic A, which doesn't show lack of agreement in the presence of a dative (48a); Icelandic B, which shows lack of agreement in some cases (48b) and Icelandic C, which shows lack of number agreement in the presence of a dative (48c).

(48) a. Það finnst einhverjum student tölvurnar ljótar

Expl find-Pl some student-Dat the computers-Nom ugly

“Some students consider the computers ugly.”

b. Það finnst/finnst einhverjum student tölvurnar ljótar

Expl find-Sg/find-Pl some student-Dat the computers-Nom ugly

“Some student consider the computers ugly.”

c. Það finnst einhverjum student tölvurnar ljótar

Expl find-Sg some student-Dat the computers-Nom ugly

“Some student consider the computers ugly.”

And, as we discussed earlier, Icelandic (I guess in all the three varieties) doesn't allow movement across a dative phrase. (Holmberg & Hróarsdótti 2004). If

this is true, it shows that raising and agreement are independent of each other. Icelandic A, for instance, allows agreement across a dative but not movement.

(49) *Ólafur hefur virst mér [t vera gáfa>ur]

Olaf-Nom has seemed me-Dat be intelligent

“I have found Olaf intelligent”

Another interesting fact pointed out by Holmberg & Hróarsdótti (2004) is that once the dative is *Wh*-moved, raising of the subject is possible but agreement isn't in dialect C. This suggests that while a *Wh*-trace blocks agreement, it doesn't block movement.

(50) a. Hverjum hefur Ólafur virst vera gáfa>ur?

who-Dat has Olaf-Nom seem-Sg be intelligent

“Who has found Olaf intelligent?”

b. Hva>a stúdent veist flú a> finnst/*finnast t tölvurnar ljótar?

which student-Dat know you that find-Sg/ find-Pl the computers-Nom ugly-Nom

“Which student do you think found the computers ugly?”

Facts like these add to the debate of *Move* and *Agree*. If *Agree* is an essential prerequisite for *Move*, and *Agree* is what defines the agreement relation between the T head and the associate, as assumed in Chomsky (2000) and Holmberg & Hróarsdótti (2004), it should not be the case that *Agree* is allowed across a dative but movement is not. But this is what we see in Icelandic variety A.

I conclude two things from the above stated facts, (a) *Agree* doesn't determine the agreement that we see in expletive associate constructions, and (b) the dative isn't responsible for the lack of agreement, by virtue of acting as an intervener in the *Agree* relation between the T and the associate. The lack of agreement that we see in Icelandic variety C as well as English is therefore not a dative intervention effect. This conclusion offers a different approach to expletive associative constructions themselves.

Let's talk about English first. Lasnik (1992,1995) (also Belletti, 1988) makes an important point about the expletive constructions, which is quite relevant to the present discussion. Belletti suggested that the associate doesn't receive nominative Case from the T head, it instead gets a partitive Case from *be*.⁴¹ Lasnik (1992) further proposes that it is *there* and not the associate which determines verbal agreement. If agreement and Case are closely associated, and if the T head doesn't assign Case to the associate, this also means that the T head doesn't establish agreement with the associate. As a consequence what we see in expletive constructions is a kind of indirect agreement between the T and the associate. The associate agrees with *there* and *there* agrees with the T.

⁴¹ Hornstein (2009) suggested that evidence in support of this proposal comes from cases involving definite associates, where we find accusative case surfacing on the pronouns and nominative case being prohibited.

- a. Who can we get to play a leading role in the spring production? There's always Bob/him/*he
- b. Who can we get to play leading parts in our new production? There's always those guys in our acting class/them/*they

Hornstein (2009) explores this approach further and proposes a solution along the lines of Sportiche (1988). The idea is that the relation between the associate and the expletive is not via *Agree* but due to the fact that *there* and the associate start off together in a DP (51), and later get separated via movement.⁴²

- (51) a. _____ seem [to be [there-men] in the room]]
b. [There seem [to be [t-men] in the room.

Hornstein further suggests that in English, the expletive never agrees in number with its associate, thus when *there* agrees with T, it is a default form for number that is manifest.

- (52) There seems to Mary to be men in the room.

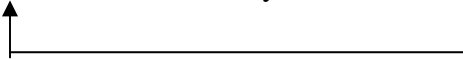
But why doesn't dative block the movement of *there* across it? It is because *there* is not a head in English, it's the specifier of D (53), and a P-N head complex (formed after the movement of N to P) would not intervene in its movement. See the representative structure below.

⁴² This idea is quite similar to Chomsky (1995a) which unites the associate and expletive at LF through covert movement of the associate. Assuming that covert movement doesn't exist (c.f. Single cycle theory), Hornstein's proposal differs from Chomsky's in forming this relation overtly.

(53)



(54) [____] seems [PP to-Mary] [to be [DP there-men] in the room].

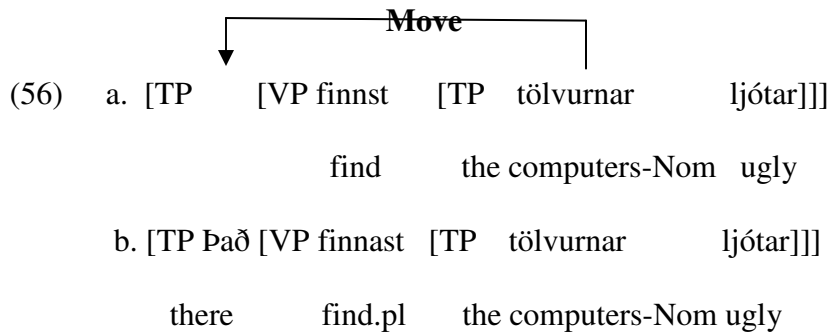


For Icelandic, I propose that the Icelandic expletive is ambiguous between a sentential expletive and a nominal expletive. If the dative element is present in the matrix clause, it prevents the nominal NP (or a part of it) from undergoing movement across it. In such cases, the expletive we see in Spec, TP is the sentential expletive. The sentential expletive exhibits default agreement with the verb.

(55) a. [TP [VP finnst einhverjum student [TP tölvurnar ljótar]]]
find some student-Dat the computers-Nom ugly

Insert
↓
b. [TP Það [VP finnst/* finnast einhverjum student [TP tölvurnar ljótar]]]
it find.sg/find.pl some student-Dat the computers-Nom ugly

On the other hand, if the dative element is not present in the matrix clause, either the nominal element or a part of it moves to the matrix TP. In either case, we see agreement with the verb.



Evidence in favor of this idea is provided by Vangsnes (2002) who pointed out that nominative NPs in Icelandic expletive-associate constructions don't always satisfy the definiteness requirement. The definiteness requirement is related to the positioning of the nominative NPs. The nominative NP in Icelandic expletive constructions may occur in two positions, either postverbally or in a position between the finite and the nonfinite verb ("the intermediate position"). It is only the post-verbal NPs that are subject to definiteness effect as in English (57a). The nominative NP in the intermediate position is less restrictive in that it allows both universally quantifying and partitive noun phrases in addition to ordinary indefinites (57b).

- (57) a. a hafa veri *allir kettirnir/*bá ir kettirnir í eldhúsinu.
 Expl have been all cats.the / both cats.the in kitchen.the

- b. a hafa allir kettirnir/bá ir kettirnir veri í eldhúsinu.
 Expl have all cats.the /both cats.the been in kitchen.the

If definiteness is a result of an association between the expletive and the associate (57), the lack of definiteness I assume indicates a lack of association. What I derive from here is that the post-verbal associate cases are the ones that involve the nominal expletive. The intermediate NPs on the other hand are not real associates and the expletive in those cases is the sentential expletive (58).

- (58) a. [_{TP} There [_{T'} T [_{VP} V [_{V'} cats. in kitchen]]]]
 b. [_{TP} It [_{T'} T [_{VP} [cats. in kitchen] [_{VP} V t]]]]

I extend this proposal to suggest that the presence of the dative argument affects the position of the nominative NP. When the dative NP is not present, the nominative NP is post-verbal and the one associated with the nominal expletive. The nominal expletive starts with the embedded NP and then moves up in the course of the derivation (similar to what is proposed for English). Such are the cases that exhibit agreement between T and the associate (59a). However when the dative NP is present, the nominative NP appears at the intermediate position (presumably Spec of vP). The expletive in such cases is the sentential expletive and thus exhibits default agreement (59b).⁴³

⁴³ The correlation between indefiniteness and agreement seems to exist for some English speakers too.

Consider the following set of examples.

- (59) a. Það finnast tölvurnar ljótar
 Expl find-Pl the computers-Nom ugly
 “The computers are considered ugly.”
- b. Það finnst/*finnast einhverjum student tölvurnar ljótar
 Expl find-Sg/find-Pl some student-Dat the computers-Nom ugly
 “Some student considers the computers ugly.”

3.3.3 “Lack of” Dative Intervention Effects in Hindi/Urdu

Unlike Icelandic, the dative in Hindi/Urdu doesn’t seem to block the movement of the embedded subject across it (60), even though the dative is an NP and can c-command into the embedded clause. (61).

- (60) raam_i [siitaa-ko] [t_i thakaa huaa] lagtaa hai
 Ram Sita-Dat [tired happen] seems be-Pres
 “Ram seems to Sita to be tired.”
- (61) a siitaa_i-ko lagtaa hai ki raam us_i-kii jaan-pehcaan-kaa hai
 Sita-Dat seems be-Pres Comp Ram her-Gen familiar-Gen be-Pres
 “It seems to Sita that Ram is familiar to her.”

a. *There seem to a woman to be men in the room. (p.c. Howard Lasnik)
 b. There seem to the woman to be men in the room.

b. * raam us_i-ko [siitaa_i-kii jaan pehcaan-kaa] lagtaa hai

Ram her-Dat Sita-gen familiar-Gen seems be-Pres

“Ram seems to her to be familiar to Sita.”

Though the Hindi/Urdu facts appear to pose a challenge for minimality at face value, I suggest that it’s not a real problem and some language specific aspects give a way out. Before we work out the raising problem, let’s revisit word order facts about Hindi/Urdu again. As we discussed in Chapter 2, Hindi/Urdu shows a dichotomy in its word order; SOV order with nominal complements (62a) and infinitival complements (62b), and SVO with finite clausal complements (62c).

(62) a. raam-ne siitaa-ko dekha

Ram-Erg Sita-Acc saw

“Ram saw Sita”

b. raam-ne [_{IP}siitaa-ko dekh-naa] caahaa

Ram-Erg [_{IP}Sita-Acc see-Inf] wanted

“Ram wanted to see Sita.”

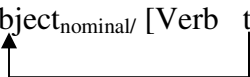
c. miiraa-ne (yeh) socaa [_{CP}ki raam-ne siitaa-ko dekhaa]

Mira-Erg (this) thought [_{CP}Comp Ram-Erg Sita-Acc saw]

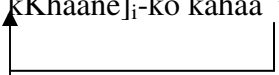
“Mira thought that Ram saw Sita.”

To account for this word order dichotomy of Hindi/Urdu, I suggest Hindi/Urdu is a non-verb final (SVO) language in its basic word order (c.f. Mahajan

(1997) and Simpson and Bhattacharya (2003)). The head-final structures are derived when for Case checking reasons the object moves to the left of the verb. The finite embedded clause in Hindi/Urdu also starts to the right of the verb (see Bhatt and Dayal (2007) for an alternative view). Since they don't have any feature checking requirement like Case they stay in-situ (63a). On the other hand, the nominal objects in Hindi/Urdu start to the right of the verb, but later move to the left of the verb, to a specifier position for Case feature checking (63b).

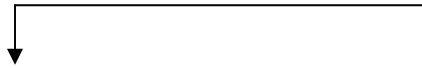
- (63) a Subject Verb Object_{Finite clause}
 b. Subject [_{VP} Object_{nominal/} [Verb t]]
- 

The same is the case with embedded infinitival clauses. Infinitival clauses are Case marked nominalized IPs, in Hindi/Urdu (Dayal, 1996) and behave like object NPs (64a). I assume that the Infinitival IPs like Object NPs move to the Spec of v for Case checking reasons and therefore appear to the left of the verb (64b). Notice the Accusative Case-marking on the infinitival clause in (64) below.

- (64) a. John-ne mary-ko [PRO roTii khaa-ne]-ko kaha
 John-Erg Mary-Acc bread eat-Inf Acc told
 “John asked Mary to eat bread.”
- b. John-ne Mary-ko [PRO roTi kKhaane]_i-ko kaha t_i
- 

In raising constructions, since the embedded clause is non-finite, I assume that it starts to the right of the verb but later moves left to the specifier of the matrix verb for Case reasons. Even the IO (*Mary-Dat*) moves to Spec, vP.

(65) a. [_{VP} v [_{VP} *Mary-Dat* [_{V'} seems [_{TP} John be tired]]]]



b. [_{TP} [_{VP} [_{TP} John be tired] v [_{VP} *Mary-Dat* [_{V'} V- t_{TP}]]]]



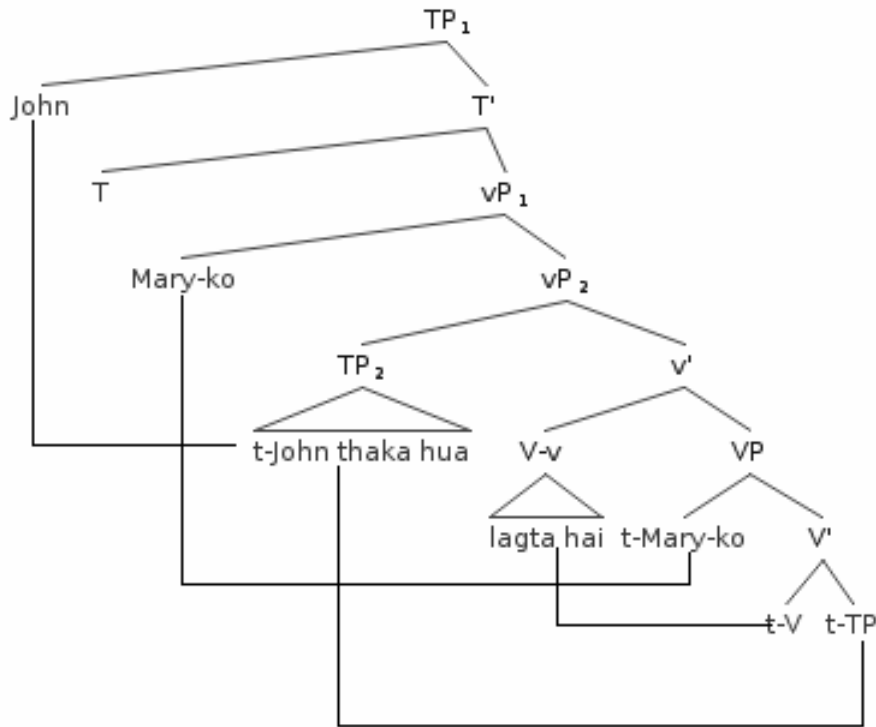
c. [_{TP} [_{VP} *Mary-Dat* [_{VP} [_{TP} John be tired] v [_{VP} t_{Mary-Dat} [_{V'} V- t_{TP}]]]]]

Kidwai (2000) suggests that in Hindi/Urdu ditransitives, the Agro head (in Agr-less theory, the v) bears two Case features that must be checked by raising the two arguments into its specifier. The DO raises to [Spec, vP] to check structural accusative Case, and the IO adjoins to the outer specifier. Since this raising is facilitated by verb-raising to v, neither movement violates locality. After the two elements move to the Specifier of vP, they become equidistant from the T. But since it is the DP subject of the embedded IP which has the relevant features, it is the one that moves to Spec, TP without any intervention from the dative NP which has already checked its Case feature (66).

(66) a. John [*Mary-ko*] [*thakaa huaa*] lagtaa hai

John *Mary-Dat* tired happen seems be-Pres

b.



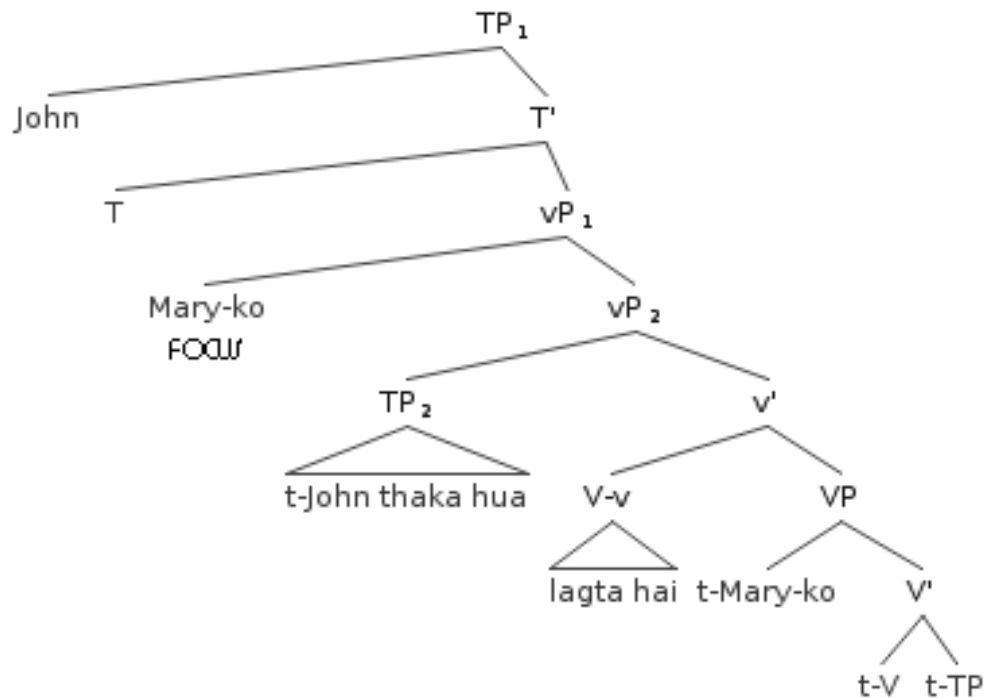
The proposal sketched here suggests that movement out of a moved infinitival clause is allowed. With Takahashi (1994), if we assume that movement freezes the internal structure of the moved element, then any displacement out of moved infinitival complement is a problem. However I propose two things, (a) infinitival clauses are not phases and (b) movement within a phase (in this case movement within the vP) doesn't create such freezing effects. If freezing effects are a consequence of linearization, and it is only at the end of each phase that all elements are ordered, then movement of an infinitival clause within its phase should not create freezing effects.

An important thing to mention here is that the dative NP in the raising constructions in Hindi/Urdu bears contrastive focus for some Hindi/Urdu speakers.

- (67) John_i [Mary-ko]_{CF} [t_i roTii khayaa huaa] lagtaa hai
 John Mary-Dat [bread eaten happen] seems be-Pres
 “John seems to [Mary]_{CF} to have eaten the bread.”

I suggest that the dative gets focus by virtue of being in an outer specifier of the vP. In the literature, the grammaticalized focus position in Hindi/Urdu has been claimed to be the preverbal position in linear word order (Butt and King,1996). Kidwai (2000) suggested that this focus position is base-generated position immediately dominating the verbal phrase.

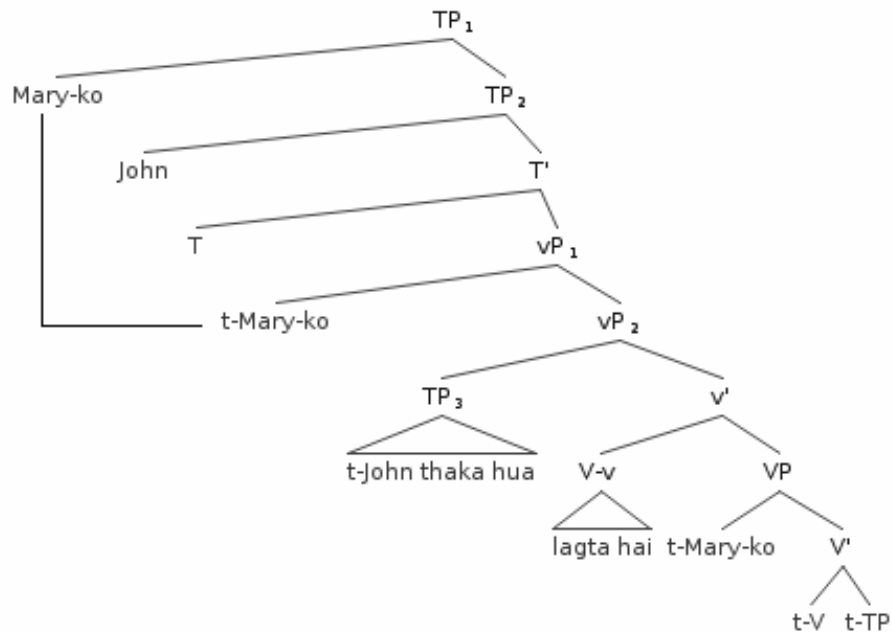
(68)



The dative element in Hindi/Urdu can also alternatively move to the projection above the TP (69) and bears a topic like meaning. Jayaseelan (1990) suggests that dative subjects in languages like Hindi/Urdu can land at a “subject-like” position, i.e. left of the canonical subject position, thus appearing as the most prominent elements in the constructions.⁴⁴

- (69) a. Mary-ko John_i [t_i thakaa huaa] lagtaa hai
 Mary-Dat John [tired happen] seems be-Pres
 “John seems to Mary to be tired.”

b.



⁴⁴ Also Davison (2004) which suggests that lexical marked dative NPs have the option of raising to Spec, TP. Davison (2003) suggests the “Dative subject parameter”: Lexical dative case may/may not move to Spec/TENSE to check a Formal Feature such as EPP. Formally, DP[dat] does/does not match the [D] feature on TENSE.

The matrix verb always exhibits default agreement (which is 3rdPerson Singular Masculine) in the expletive constructions (70a). Therefore it is not clear if the presence of a dative in Hindi/Urdu affects agreement in the expletive constructions (70b). I assume that lack of agreement in the matrix clause is due to the fact that the expletive in Hindi is always a sentential expletive.

- (70) a. aisa lagtaa hai ki saara thakii-huii hai
 Expl seems.3PSM be-Pres Comp Sara tired.3PSF be-Pres
 “It seems that Sonia is tired.”
- b. aisa [Mary-ko] lagta hai ki saara thakii-huii hai
 Expl Mary-Dat seems. 3PSM be-Pres. Comp Sara tired.3PSF be-Pres
 “It seems to Mary that Sonia is tired.”

3.4 Chapter Summary

To sum up, this chapter reviewed a seemingly complex cross-linguistic effect of dative intervention with special reference to raising. The chapter studied dative intervention effects in three representative languages, namely English, Icelandic and Hindi/Urdu. Through the review, it was found that English and Icelandic occupy the extremes in terms of the dative Intervention effect on raising. English dative NP being embedded inside a PP allows movement of the embedded subject across it, while Icelandic dative being an NP does not. Hindi/Urdu datives being an NP should create an intervention but this language finds a way out through some language specific movements (head to head movement, object shift etc.). Various previous approaches

reviewed are not free of criticism, some have empirical problems or conceptual ones. A solution has been proposed in terms of relativized minimality and the apparent exceptions are explained in terms of some language specific properties (like word order facts). In its exploration, the chapter also contributes to the debate between *Move* and Agree, and supports the idea that the former is in itself sufficient to account for various cross-linguistic phenomena.

Chapter 4

Intervention Effects and Ditransitive Passives

Ditransitive constructions exhibit two different kinds of patterns in passives; the symmetric pattern and the asymmetric pattern. In the symmetric pattern, both the objects can passivize while in the asymmetric pattern, only one of the objects can passivize. Even within asymmetric passives, there are two subtypes; in some cases, only the higher object can passivize, whereas in others, it is only the lower object that can passivize. This chapter investigates these patterns in more detail, and shows that the variation seen in ditransitive passives across languages is an outcome of the way minimality interacts with some language specific properties.

4.1 Patterns in Ditransitive Passives

In ditransitive passives, one of the objects raises to the subject position. Minimality predicts that it will be the higher object that will move, blocking the raising of the lower object. This pattern is what we see in one type of asymmetric passive languages like American English, Chichewa and Swahili. In these cases, passivization results from a local derivation, in the sense that only the higher object in a double-object construction can be passivized. In American English for instance, the Indirect Object

(IO) can c-command the Direct Object (DO) and can bind inside it, but the DO can't do the same (Barss and Lasnik 1986). Consider the following example (1).⁴⁵

- (1) a. I read each author his book.
b. * I read its author each book.

And as expected, it is only the IO that can be passivized. Direct object passives are not allowed (2). The unacceptability of (2c) is often attributed to minimality (Relativized Minimality (Rizzi 1990), or the Minimal Link Condition (Chomsky, 1995), that bans agreement or attraction across an intervening argument.^{46,47}

⁴⁵ English has two types of ditransitives, one in which the indirect object has a categorical status of a DP (e.g. 'John gave Mary a book.') and the other in which it is a PP (e.g. 'John gave a book to Mary.'). The focus of this chapter is on the passivization pattern of the first type of ditransitives, namely, double object constructions, where the two internal arguments have the categorical status of a DP.

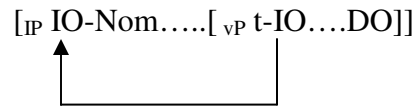
⁴⁶ Minimal Link Condition : K attracts α iff there is no β , β closer to K than α , such that K attracts β .
(Chomsky 1995, 311)

⁴⁷ It must be noted that the status of (2c) is not as bad as a standard cases of minimality violation in raising constructions (*John seems it was told t that Bill is crazy"), and it therefore could raise doubts about whether (2c) is really a case of minimality violation. I would assume that it is and factors like long versus short distance movement contribute to the difference in status, as raising involves long-distance inter-clausal movement whereas passivization involves short-distance intra-clausal movement.

(2) a. John fed the rabbits some corn.

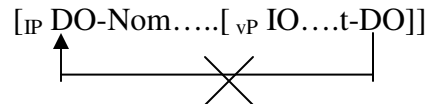
b. The rabbits were fed some corn.

[Goal passive]



c. * Some corn was fed the rabbits.

[Theme passive]

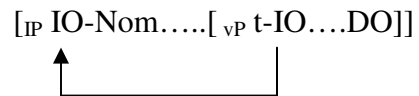


On the other hand, in “symmetric-passive” languages (e.g. British English, Swedish, and Norwegian), the lower argument can also raise to the subject position, see example (3) below.

(3) a. John gave the boy a book.

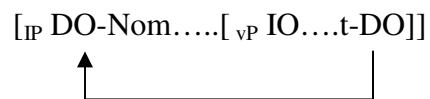
b. The boy was given a book

[Goal passive]



c. A book was given the boy.

[Theme passive]



The existence of symmetric-passive languages presents an interesting problem for theories of locality by permitting a non local derivation in addition to the local one. In cases like (3c), the DO moves across an IO. The IO doesn't act as an

intervener in the movement of DO across it even though the former c-commands the latter, as in (1) above.

There is also a third pattern that can be found in languages such as Greek and Dutch (Ura 1996 and Anagnostopoulou 2003). In Greek and Dutch, passivization of the lower internal argument, i.e. theme-passivization, is disallowed. However, theme-passivization becomes acceptable if the higher Goal argument undergoes cliticization, clitic-doubling, *Wh*-movement (in the case of Greek), or scrambling (in the case of Dutch). In other words, movement of the lower Theme argument can be salvaged by some changes in the intervening Goal argument.

In particular, Greek disallows theme-passivization in a genitive construction (which corresponds to the double object variant), as (4a) illustrates. However, when the genitive Goal argument is cliticized or clitic-doubled, it suddenly becomes possible to raise the theme, as shown in (4b).

(4) a. ?*To vivlio charistike tis Marias apo ton Petro.

The book-Nom awarded the Maria-Gen from the Petros

?*”The book was awarded Mary by Peter.”

b. To vivlio tis charistike (tis Marias).

The book-Nom Cl-Gen awarded (the Maria-Gen)

“The book was awarded to Mary.”

In addition to the cliticization and clitic doubling of intervening genitive (or dative) Goals, *Wh*-movement of Goals also makes it possible for a Theme to undergo A-movement to subject position in passivization, as illustrated in (5).

(5) Tinos dhothike to vivlio? (Anagnostopoulou, 2003)

Who-Gen gave-3SG the book-Nom

“Who was the book given to?”

The same pattern is observed in Dutch. Den Dikken (1995) shows that passivization of the Theme is licit only when the Goal undergoes scrambling, as the position of the Goal to the left of VP-external adverb “probably” in (6b) indicates. This is in contrast with (6a), where the Goal is unscrambled and placed to the right of the adverb. This demonstrates the fact that the Goal argument induces blocking effect for the Theme-movement unless it undergoes scrambling.

(6) a. ?*dat het boek waarschijnlijk Marie gegeven wordt. (den Dikken, 1995)

that the book-Nom probably Marie-Dat given is

b. dat het boek Marie waarschijnlijk gegeven wordt.

that the book-Nom Marie-Dat probably given is

“That the book is probably given to Marie.”

Even in American English, theme-passivization becomes better if the Goal argument appears as a weak pronoun (7) (Ura 1996, Anagnostopoulou 2003). Ura (1996) suggests that that might be due to the movement/clitization of the Goal NP.

(7) A letter was given me by Mary.

A fourth pattern in passivization is presented by languages like Hindi/Urdu (Kidwai, 2000), Albanian (Massey, 1992) and Georgian (McGinnis, 1998) where it is only the lower object, the DO, which can be passivized in double object constructions. The unmarked word order in Hindi/Urdu is S-IO-DO-V (8a). Consider the following representative example from Hindi/Urdu, where Goal passivization is not allowed (8b) but theme passivization is (8c).

(8) a. raam-ne siitaa-ko kitaab dikhaa-yii

Ram-Erg Sita-Dat book showed

“Ram showed Sita a book.”

b. *siitaa kitaab dikhaa-yii gayii

[Goal passive]

Sita book showed went

“Sita was shown a book.”

c. kitaab siitaa-ko dikhaa-yii gayii

[Theme passive]

book Sita-Dat showed went

“A book was shown to Sita.”

In languages like Hindi/Urdu, the IO doesn't act as an intervener in the movement of DO, even though it can c-command the DO in active sentences in Hindi/Urdu, compare (9a) with (9b). Hindi/Urdu therefore presents a tricky case as ditransitive passives in this language seem to prefer non-local derivation over a local one.

(9) a. raam-ne har laRkee_i-ko us_i-kii behan dikhaa-yii

Ram-Erg every boy_i-Dat his_i sister showed

“Ram showed every boy his sister.”

b *raam-ne us_i-kii behan-ko har laRkaa_i dikhaa-yaa

Ram-Erg his sister-Dat every boy showed

“Ram showed his_i sister every boy_i”

To summarize the data, in languages such as American English passivization of the lower internal argument is ungrammatical, whereas Greek and Dutch allow it under certain restrictions. Namely, the otherwise banned Theme-passivization (i.e. passivization of the lower internal argument) becomes possible if the higher Goal argument undergoes some sort of movement. Unlike these two types, languages like Norwegian freely allow passivization of the lower internal argument. A fourth kind is the languages (like Hindi/Urdu) which only allow passivization of the lower argument. These passivization patterns seen in natural language present an interesting paradigm for the theory of minimality. Most accounts of this paradigm proposed in the literature (Ura 1996, Anagnostopoulou 2003, McGinnis 2001 etc.) argue that the

apparent cases of minimality violation are not derived by the same means as the usual passive cases, and that this difference allows them to apparently elude the minimality constraint. I review some of the previous analyses of these patterns in the next section.

4.2 Previous Approaches

In the GB-era, Case-theoretic approaches (cf. Larson 1988, Baker 1988, among others) were used to account for the patterns observed in passivization. Larson (1988), for example, assumes that a goal argument bears a structural Case while a theme argument an inherent Case. In theme-passivization, the theme argument is assigned Nominative case in subject position, but the goal argument ends up Case-less since the passivized verb cannot assign Case. Thus, Case-filter violation arises and we get ungrammaticality. Anagnostopoulou (2003) criticizes these accounts for being empirically inadequate; they don't account for symmetric passivization nor for languages like Greek, which has designated morphological case for goals (typically dative, but sometime genitive) and themes. In Greek, both the Goal and the Theme arguments satisfy their respective Case requirements but passivization of the theme is disallowed nonetheless.

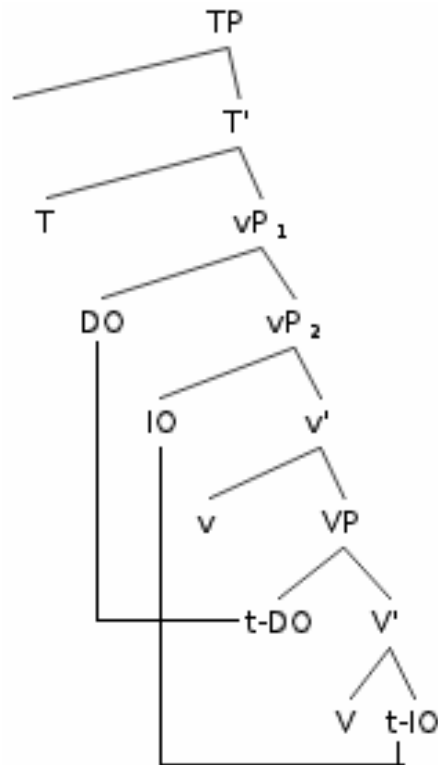
With the introduction of minimalism, the proposals to account for symmetric/asymmetric passives became more "locality" oriented. They also had empirical advantages over the Case oriented proposals. We discuss some of these analyses below.

4.2.1 “Escape Hatch” Approach: Ura (1996)

Ura (1996) links the factors distinguishing symmetric from asymmetric passives to the parametric availability of multiple specifiers. He postulates a strict correlation between the availability of (certain types of) object shift and symmetric passivization. More specifically, he assumes that passivization is directly fed by object shift. Object shift is implemented as movement to a layered specifier of the highest VP-shell (which also serves as an escape hatch for successive cyclic movement to T).

Ura argues that in symmetric passivization cases, both the arguments object shift; i.e. raise into multiple specifiers of the light verb, and as a consequence are equidistant from Spec, TP for the purpose of movement.

(10)



On this view, if a language permits multiple object shift, it also licenses symmetric passivization. Norwegian (also Swedish), for instance, freely allows object shift, see (11a) where the IO moves to [spec, vP] across the vP adverbial *ikke* “not”. Norwegian also, as predicted, permits symmetric passivization (12).

(11) a. De ga Marit ikke blomstene
 they gave Marit not the flowers
 “They did not give Marit the flowers.”

b. De ga [_{VP} ikke [_{VP} Marit blomstene]]
 they gave not Marit the flowers

(12) a. Jon ble gitt boken (Holmberg and Platzack 1995)

Jon was given the-book
 “John was given the book.”

b. Bogen ble gitt Jon
 the-book was given Jon
 “The book was given John.”

Danish on the other hand, lacks object shift (13), and as Ura correctly predicts, doesn’t allow symmetric passivization as well (14).

(13) a.* Peter viste Marie ikke/jo bogen (Ura, 1996)

Peter showed Marie not the book
 “Peter did not show Marie the book”

b. Peter viste _{VP} [ikke/jo [_{VP} Marie bogen]]

Peter showed Marie not the book

(14) a. Jeans blev givet bogen (Holmberg and Platzack 1995)

Jeas was given the-book

“John was given the book.”

b. Bogen blev givet Jeans

the-book was given John

“The book was given John.”

Anagnostopoulou (2003) however points out that although Danish doesn't allow object shift of full DPs, it does allow object shift of pronouns (15). Danish however doesn't allow symmetric passivization (14b), and shows that object shift and symmetric passivization are not related.

(15) Jeg gav hende ikke bogen

I gave her not the book

“I didn't give her the book.”

Ura assumes that languages like Dutch mark their objects with distinct morphological cases, therefore treats object shift of full DPs and object shift of pronouns as two different phenomena. The object shift-passive generalization refers to only full DPs whereas shifted pronouns are cliticized. Holmberg 1986 and

Holmberg and Platzack 1995 have however shown that object shift of full DPs and object shift of pronouns don't require two distinct analyses.

Another empirical problem that Anagnostopoulou (2003) points out in Ura's proposal is its inability to account for the Icelandic facts. Icelandic employs object shift of IO and DO definite DPs (16) but doesn't tolerate symmetric passives (17). Icelandic data therefore suggests that there is no direct correlation between object shift and the availability of symmetric passivization.

(16) a. Ég skilað ekki manninum bókinni (McGinnis, 2001)

I returned not man-the-Dat book-the-Acc

“I didn't return the man the book.”

b. Ég skilað manninum ekki bókinni

I returned man-the-Dat not book-the-Acc

c. Ég skilað manninum bókinni ekki

I returned man-the-Dat book-the-Acc not

(17) a. Honum var gefin bókin

him-Dat was given-Nom the book-Nom

“He was given the book.”

b. *Bókin var gefin honum

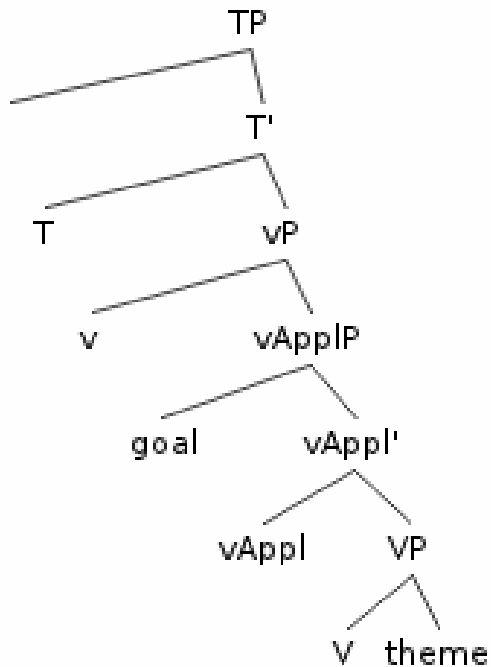
the book-Nom was given-Nom him-Dat

“The book was given to him.”

4.2.2 The Parametric approach: Anagnostopoulou (2003)

Anagnostopoulou (2003) is couched within Chomsky's (1995) system. In Chomsky (1995), computational operations implementing displacement properties in natural language are assumed to be Feature Attraction and Move. Feature Attraction affects the phrase that has appropriate features and is closest to the target (*Shortest Move/Closest Attract*, Chomsky 1995). The closeness depends on the notion of a minimal domain.⁴⁸ For the structure of the underlying double object construction, Anagnostopoulou adopts Marantz's (1993) proposal (18).

(18)



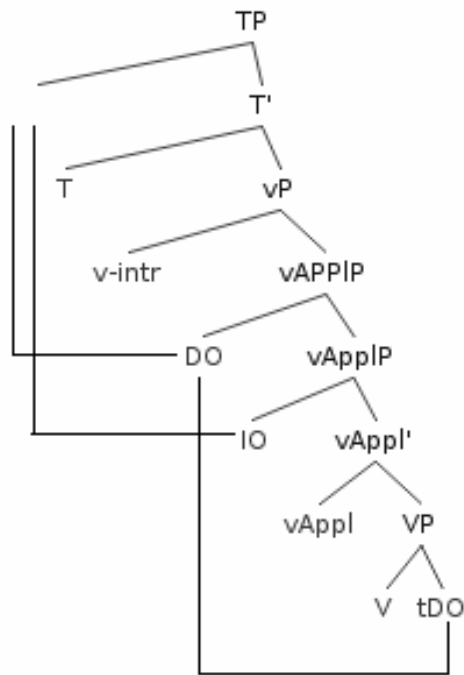
⁴⁸ The minimal domain $\text{Min } \delta(\text{CH})$ of CH is the smallest subset K of $\delta(\text{CH})$ such that for any $\gamma \in \delta(\text{CH})$, some $\beta \in K$ reflexively dominates γ . (Chomsky, 1995)

In (18), the goal/benefactive argument is not in the same domain as the theme argument and is closer to the target T than the theme, hence the movement of the theme over the goal/benefactive is banned due to Shortest Move. In symmetric applicatives/double object constructions, where the theme and the goal/benefactive can be passivized, Anagnostopoulou proposes *the Specifier to vAppl parameter* to allow the apparent non-local movement of the theme in passivization.

(19) *The Specifier to vAppl parameter*: Symmetric movement languages license movement of DO to a specifier of vAPPL. In languages with asymmetric movement, movement of DO may not proceed via vAPPL.

According to (19), languages that allow both the direct and indirect objects to passivize capitalize on the extra specifier position of vAPPL for the movement of a theme direct object, see (20) below.

(20)



The intermediate movement of the theme direct object (DO) to the specifier of vAPPL on its way to the specifier of T makes DO and IO equidistant from the target T in Chomsky's (1995) system, in which multiple specifiers are treated as equidistant from the target of movement. Thus either the theme DO or the goal IO can be passivized in conformity with locality. Unlike symmetric passive languages, asymmetric passive languages, however, do not have the option of passing through vAPPL by the parameter setting. Therefore the movement of the theme over the goal directly to T incurs a violation of locality, i.e., Minimal Link Condition (MLC).

Anagnostopoulou (2003) gives a movement analysis of cliticization and clitic doubling in Greek, a language which allows theme-passivization only when the genitive goal is cliticized (21b).

(21) a. ?*To vivlio charistike tis Marias apo ton Petro.

The book-Nom awarded the Maria-Gen from the Petros

?*”The book was awarded Mary by Peter.”

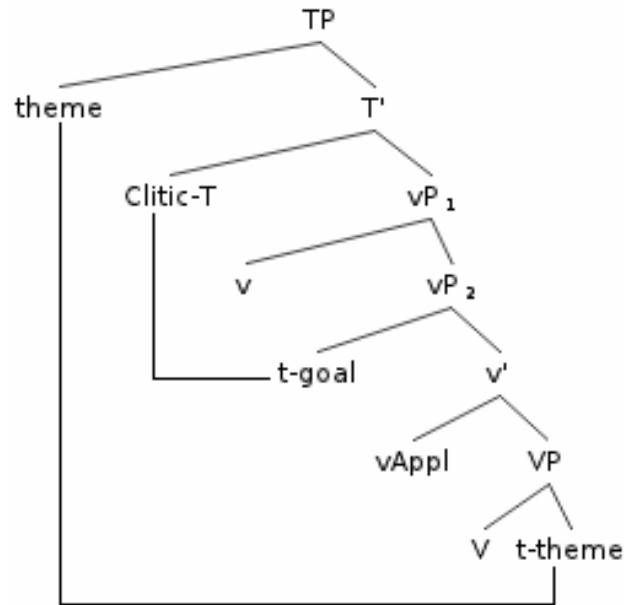
b. To vivlio tis charistike (tis Marias).

The book-Nom Cl-Gen awarded (the Maria-Gen)

“The book was awarded to Mary.”

Anagnostopoulou argues that in Greek cliticization (21b), goal clitics undergo movement from the indirect object position to the T head, a head targeted by the theme as well (22). First the higher dative clitic moves to T, and then the theme moves to Spec, TP. Since both the goal and theme arguments target the same functional head and both are in the complement domain of that head, intervention effects are obviated.

(22)



In Dutch, theme passivization is not allowed when the goal sits in-situ (23a). However the movement of the Goal out of the VP allows passivization of the lower theme argument. Consider (23b) below, where movement of the theme is allowed when the goal moves above the adverb *waarschijnlijk*. Assuming that argument placement to the left of the VP external adverbs signifies scrambling, these facts suggest that passivization of the theme is possible only when the goal undergoes scrambling.

(23) a. ?*dat het boek waarschijnlijk Marie gegeven wordt.

that the book-Nom probably Mary-Dat given is

b. dat het boek Marie waarschijnlijk gegeven wordt.

that the book-Nom Mary-Dat probably given is

“That the book is probably given to Mary.”

Jeong (2007) criticizes Anagnostopoulou's (2003) approach for being highly stipulative. Jeong argues that this parametric approach, which explains the asymmetries in passives with a parameter that boils down to whether a language has an escape hatch/extra specifier position or not in the realm of applicatives/double object constructions, is just a descriptive stipulation. Whether the parameter could be reduced to independent properties of asymmetric and symmetric passive languages is still open to question.

4.2.3 Applicatives based Approach: McGinnis (2001)

Marantz (1993) takes the double object variant of ditransitive constructions as akin to applicative constructions found in Bantu and Austronesian languages (cf. Baker (1988)). Double object variants of ditransitive verb phrases are assumed to have a complex verbal structure consisting of a main VP and an additional applicative (Appl) head sandwiched between the main VP and external argument-introducing light verb phrase (i.e. Chomsky's (1995) vP), as shown in (24).⁴⁹ In this structure, indirect objects (i.e. Goal/Benefactive) are assumed to be semantically external to the event described by VP and are merged in the specifier position of the light applicative verb (vAPPL).

⁴⁹ The *to*-dative is not an applicative construction and so does not encode for possession. The dative argument in *to*-dative is introduced by a prepositional phrase (PP) instead of a DP (see Barss & Lasnik 1986, Larson 1988).

(24) [vP Agent v [ApplP Ben/Goal Appl [VP V Theme]]]

Recently, Pykkänen (2002) argued that these asymmetries in ditransitive (or applicative) constructions can be derived if we assume that there are actually two types of applicatives, "high" and "low." Pykkänen (2002) argues that these newly identified applicatives have different lexical semantics: (i) A high applicative (ApplH) denotes a relation between an event and an individual (thus simply adding another participant to the event described by the verb), as illustrated in (25a). It is located above VP but below the position of the external argument, and (ii) A low applicative (ApplL), which is located in the complement position of the verb root, and relates two individuals in a possessive relationship, as shown in (25b). In other words, the low applied (or indirect) argument bears no semantic relation to the verb but only bears a transfer of possession relation to the direct object (Theme). According to Pykkänen (2002), because of this different semantics, ApplH head merges with an (eventive) VP complement and a DP specifier, and ApplL head with a DP complement and a DP specifier.

(25) a. High Applicative

[VoiceP DP_{AGENT} [Voice' Voice [ApplP DP_{Ben/Loc/Instr} [Appl' Appl [VP V DP_{THEME}]]]]]

b. Low Applicative

[VP v [VP V [ApplP IO_{RECIPIENT}[Appl' ApplL DO_{THEME}]]]]]

McGinnis (2001) attempts to derive the escape hatch effect by adopting a theory of applicatives (Marantz 1993, Baker 1998 and Pylkkänen's 2002) and the theory of *phases* (Chomsky, 2000, 2001, 2004). McGinnis (2001) uses Pylkkänen's (2002) semantic typology of applicative constructions to account for the variable behavior of passivization in double object constructions. She argues that ditransitive verb phrases with symmetric and asymmetric passive patterns have high and low applicative structures, respectively, and that the different applicative structures underlie the passivization asymmetry. McGinnis makes use of two possible base generation sites for IO, only one of which will be associated with an escape hatch position by virtue of being a phase. The possible base generation sites for IO are reducible to semantic distinctions (Pylkkänen's low/high applicative distinction).

The central proposal of McGinnis (2001) is that the distinction between high and low applicatives that Pylkkänen (2002) made corresponds to a phasal distinction. The latter underlies the asymmetries found in the realm of applicatives. Specifically, McGinnis proposes that the high applicative is a phase. Being a phase, the high applicative structure provides an escape hatch through the phase-EPP feature, which attracts an element to its edge (i.e., specifier). Not being a phase, the low applicative lacks this option.⁵⁰

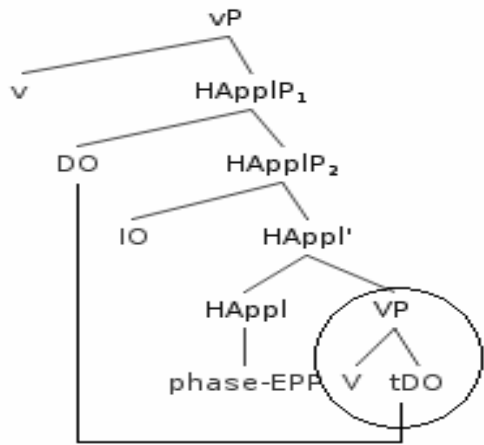
McGinnis (2001) tries to derive the phasehood property of the high applicative head from broader generalizations, and one of her speculations is that the

⁵⁰ Chomsky (2001): The complement of a phase head, is not accessible to operations at/above the next higher phase, but the specifier and the head of a phase is accessible to such operations. An EPP feature is added to a phase head, providing an escape hatch for a lower argument to move to its edge.

constituents represented as V or N are actually category-neutral lexical roots in the sense of Marantz (2000) and the head which assumes responsibility of determining the morphological category of a root might be a phase head. In this line of speculation, if the lexical root is the sister of D, it is nominal morphologically, whereas if it is the sister of ν or of HAppl, it is morphologically verbal. In other words, D, ν and HAppl may head a phase since they determine the morphological category of the root. McGinnis also attempts to provide independent evidence for the phasal status of the high applicative head by pointing out that in addition to passivization, differences in phonological phrasing (discussed in Seidl 2001) and pronoun incorporation between the two types of languages and/or constructions follow nicely in the phase-analysis. For instance in Bantu languages, there is phonological evidence showing that in high applicatives, the two objects are grouped together in a phonological phase with the verb. In low applicatives, on the other hand, only the indirect object and the verb are in the same phase; the direct object is in a different phase.

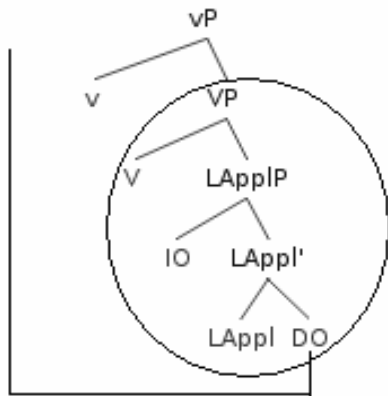
According to McGinnis, in symmetric passive languages, the lower theme is embedded within the domain of the HApplP phase (26). The HAppl, being a phase head with an EPP-feature, can attract the lower Theme into its specifier. From this position, the lower Theme, being a closer element to T, can move further into the subject position, yielding a Theme-passive. Alternatively, the applied object can move directly to T^o, as it is directly merged into the edge of HAppl (a phase), hence accessible to material outside the phase.

(26)



Asymmetric passive languages result from a low applicative structure (27). Both the Goal and the Theme are embedded within the domain of the vP phase. Within the phase, the Goal is higher than the Theme, and the low applicative head cannot provide an escape hatch, being a non-phase head. Hence, movement of the lower Theme over the higher Goal results in a violation of locality (minimality).

(27)



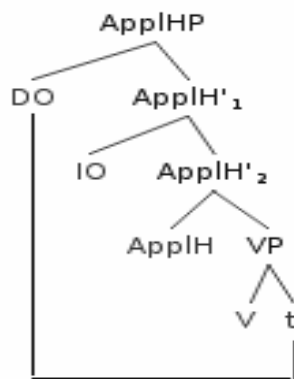
The essence of McGinnis's accounts is that the asymmetric double object construction emerges when DO and IO compete for one position (access to the phase edge), whereas the symmetric double object construction arises when only one object, DO, has to raise to the edge of the phase, the other object, IO, being there already. It is interesting to note that McGinnis's proposal gives rise to a somewhat puzzling state of affairs: it is only when the two objects in a double object construction are base-generated further away from one another that they can behave symmetrically. If they are base-generated too close to one another, only one of them will be allowed to survive for further operation.

A problem for McGinnis's analysis (as with Anagnostopoulou, 2003) is that the linking of phasal/non-phasal split to a high/low applicative is very stipulative. Even though she is correct in pointing out that high applicative have different semantic properties/structure than low application, it is not clear how that corresponds to differences in phasehood.

Lee (2005) offers a less stipulative solution to this problem by reducing the difference in high/low applicative structures to locality/anti-locality effects. Assuming that the escape hatch movement is in principle possible in a high applicative structure but is impossible in a low applicative structure, Lee argues that the unavailability of an escape hatch movement in low applicatives is due to anti-locality. Anti-locality imposes a lower bound of movement and states that movement cannot be too short and it must travel some distance to be licit (Grohmann, 2003). Anti-locality prohibits movement from complement to specifier position of a single head.

In high applicative structures, the DO moves from the complement position of V to the outer spec of ApplHP. This intermediate movement makes the DO closer to T than the IO making the theme-passivization possible without invoking locality violation.⁵¹

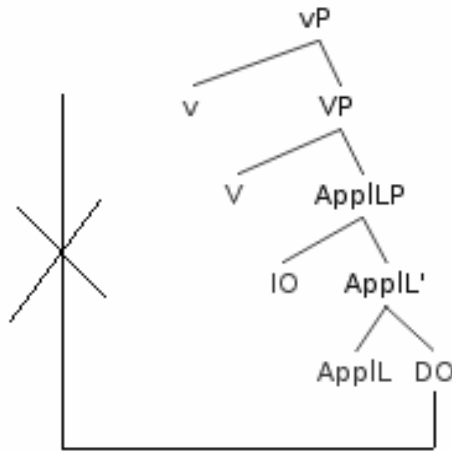
(28)



In low applicative structures, DO is the complement of ApplL and thus cannot move into the outer spec of the ApplL head where IO is hosted.

⁵¹ Jeong (2007) also derives the absence of phase-like effects in the context of low applicatives from anti-locality, and the presence of phase-like effects with high applicatives, from a specific notion of successive cyclicity.

(29)



In short, a symmetric passive language has a high applicative structure and an escape hatch in the specifier position of a high applicative phrase makes the apparent non-local derivation possible. In an asymmetric passive language, which has a low applicative structure, the movement of a theme over a goal is prohibited by locality condition. The movement via specifier of a low applicative (being too short) is blocked by anti-locality, thereby blocking even the escape hatch strategy.

So far, we have seen that locality-based accounts can provide an adequate account for the patterns of symmetric and one pattern of asymmetric passivization (in which the higher object raises) across languages. In double object constructions, passivization of the lower internal argument is not possible unless the two identified locality circumvention strategies, i.e. "escape hatch" strategy (Ura 1996) or the movement of the higher argument (McGinnis, 2001 and Anagnostopoulou 2003), are utilized. Assuming that one of the above stated strategies is responsible for the passivization asymmetry between American English and Norwegian, we now have a

question regarding what happens in Hindi/Urdu where the lower argument is passivized over a higher argument. The issue is whether this language poses a challenge to the theory of locality or whether this effect may be reduced to some independent properties of the language. To tackle this issue we first need to ask what kind of structure Hindi/Urdu ditransitives have, to which we will turn in the following section.

4.3 Ditransitive constructions in Hindi/Urdu

English allows two ditransitive configurations, the *to*-dative configuration (30a) and the double object configuration (30b). In *to*-dative configuration, the order is DO-IO, and the IO is realized as a PP, whereas lack of a PP (30b), makes it a double object construction (DOC).

- (30) a. John gave the flowers to Mary. [DO-IO] (*to*-dative construction)
b. John gave Mary the flowers. [IO-DO] (DOC)

Hindi/Urdu on the other hand does not seem to display the two types of ditransitive constructions. In the ditransitive constructions in Hindi/Urdu, the IO always carries the dative case marker and the unmarked order of the arguments is IO-DO.^{52,53}

⁵² The dative Case in Hindi/Urdu is associated with a goal argument (Verma and Mohanan 1990).

⁵³ The DO-IO order is also possible in Hindi/Urdu. However it is the marked order (derived from scrambling of the DO to the left), The dative case marker is attached to the IO even in this order.

(31) raam-ne miiraa-ko kitaab dii [IO-DO]

Ram-Erg Mira-Dat book gave

“Ram gave a book to Mira.”

Similar to English DOC constructions (1), only the IO that can c-command the DO in Hindi/Urdu ditransitives (32a), and not the other way round (32b).

(32) a. maiN-ne har lekhak_i-ko [us-kii_i kitaab] dii

I-Erg each author-Dat he-Gen book gave

“I gave each author his book.”

b *maiN-ne us-ke lekhak -ko har_i kitaab dii

I-Erg it-Gen author-Dat each book gave

“I gave its author each book.”

We can therefore assume that Hindi/Urdu ditransitives are like English DOCs, and the IO in Hindi/Urdu is Case marked. This idea is in contrast with the traditional analyses which suggest that Hindi/Urdu ditransitives are like English *to*-datives because the dative object is a PP. The approach assumes that the IO is generated higher than DO in Hindi/Urdu, and that the thematic hierarchy of arguments in

raam-ne kitaab miiraa ko dii [DO-IO]

Ram-Erg book Mira-Dat gave

‘Ram gave a book to Mira.’

Hindi/Urdu is opposite to the one suggested for English (AGENT>THEME>GOAL>OBLIQUES; Larson, 1988). A similar position has been adopted by many Japanese scholars (Hoji 1985, Takano 1998, Miyagawa 1997, etc) in relation to the ditransitive structures in Japanese.

One fact pointed out on DOC that is relevant for our purpose has to do with the fact that DOCs (but not *to*-datives) may be associated with a causative meaning (Oerhle 1976, Harley 1995, Pesetsky 1995 etc). Consider the following examples from English in this connection.

- (33) a. The interview gave me a headache.
b* The interview gave a headache to me.

Data like this has led to the view that DOC constructions have different argument structure than the *to*-datives. The DOC construction seems to imply a causative meaning (“The interview caused me to have a headache”), which the *to*-datives don’t (34). Cases like these clearly show that *to*-datives and DOC structures in English are associated with two different meanings (contra Larson, 1988).

- (34) a. Bill caused Mary to see himself in the mirror.
b. Bill showed Mary himself in the mirror.⁵⁴

⁵⁴ It is not clear in English that verbs like “show” are derived from “caused to see”. Languages like Hindi/Urdu however provide morphological evidence in this regard. We will discuss the Hindi/Urdu Case in next few pages.

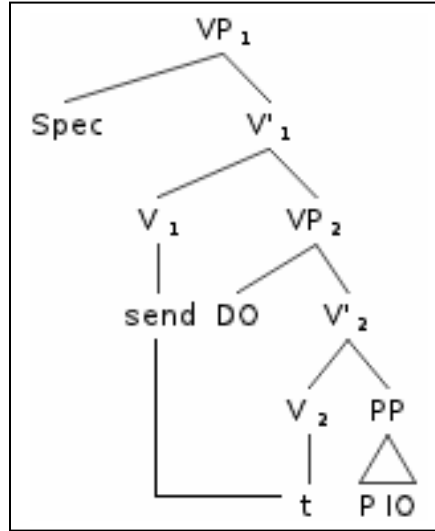
Another piece of evidence for this difference comes from the distinct nature of the goal phrase in the two forms. It has been noticed that the goal phrase in the DOC is restricted in comparison to the *to*-datives (Pesetsky (1995) and Mazurkewich and White (1984).

- (35) a. I sent Mary/*Delhi a packet.
b. I sent a packet to Mary/Delhi.
- (36) a. I gave NYC a great review.
b. I gave a great review to NYC.

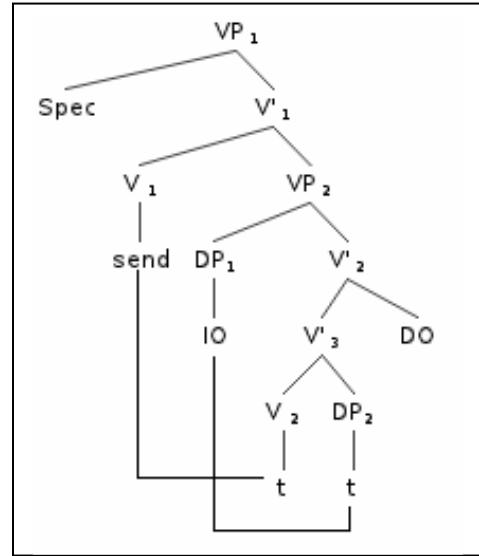
As we can see in the above examples, the goal phrase in DOC can only be a beneficiary, however in the *to*-datives both beneficiary and locative goal phrases are allowed. It has been proposed that the requirement of the goal phrase to be beneficiary in DOC arise out of the semantic nature of the of the goal phrase as a possessor.

These facts argue against an approach adopted by Larson (1988) which suggested that *to*-datives and DOCs are derivationally related; the *to*-dative is basic and the DOC is derived by a passive like operation causing dative shift.

(37) a. *to*-dative

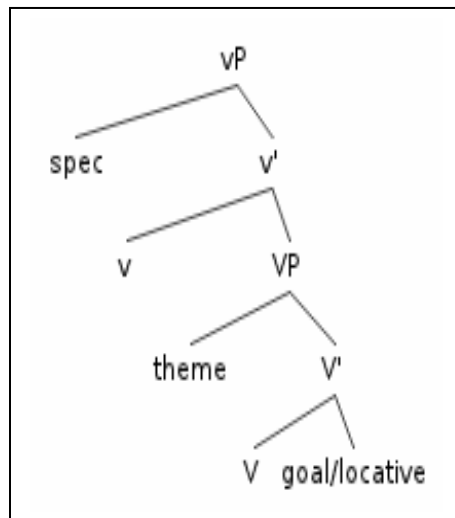


b. DOC

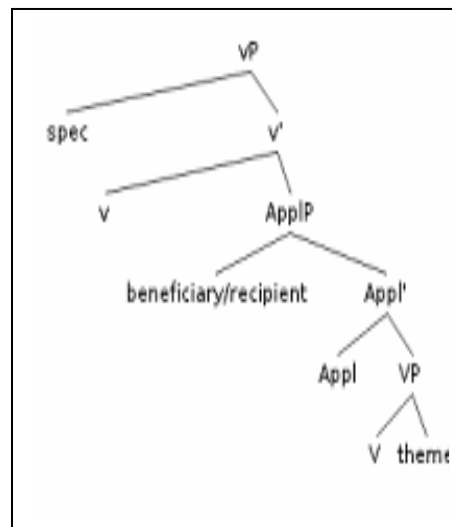


Given the difference in the meanings of the two ditransitive constructions, Marantz (1993) and Pesetsky (1995) argue for a different D-structure for the DOC (38a) than *to*-datives (38b). They suggested that the difference between the two lies in their VP shell.

(38) a.



b.



Hindi/Urdu ditransitives show a very interesting association with English DOCs. Similar to English DOC, verbs like “show”, in Hindi/Urdu only allow an animate (beneficiary) IO.

- (39) a. raam-ne siitaa-ko kitaab dikh-aa-yii
Ram-Erg Sita-Dat book show-Caus-Pst
“Ram showed Sita a book.”
- b. *raam-ne dilli kitaab dikh-aa-yii
Ram-Erg Delhi book showed
“*Ram showed Delhi a book.”

Verbs like “send” on the other hand allow both animate (beneficiary) and inanimate (locative) goal phrases. A distinction between the beneficiary and locative goal phrase is maintained by the presence/absence of the dative case marker (40). The dative case marker (-*ko*) with the goal phrase is only realized if the respective argument is human or animate (Mohanani 1994), which in this case is the beneficiary.

- (40) a. raam-ne dilli(*-ko) kitaab bhejii
Ram-Erg Delhi-Dat book sent
“Ram sent Delhi a book.”
- b. raam-ne siitaa *(-ko) kitaab bhejii
Ram-Erg Sita-Dat book sent
“Ram sent Sita a book.”

Hindi/Urdu ditransitives also show a relation to causatives similar to English DOCs. Ditransitive verbs like “show” (“sing”, “teach” etc.) carry an overt morphological causative marker (-aa), and are of the form “cause to V”. The causative marker licenses a dative argument which otherwise is not part of the argument structure of the verb.

- (41) a. raam-ne siitaa-ko kitaab dikh-aa-yii
Ram-Erg Sita-Dat book see-Caus-Pst
“Ram showed Sita a book.”
- b. *raam-ne siitaa-ko kitaab dekhi
Ram-Erg Sita-Dat book saw
“Ram saw Sita the book.”

However there are other ditransitive verbs like “send” (“pass” etc.) in Hindi/Urdu, which do not carry any overt causative morpheme.

- (42) a. raam-ne siitaa-ko kitaab bhejii
Ram-Erg Sita-Dat book sent
“Ram sent Sita a book.”
- b. raam-ne dilli kitaab bhejii
Ram-Erg Delhi book sent
“Ram sent a book to Delhi.”

Though there is no causative marker attached in cases like (42), the decomposed meaning of the verb indicates a causative meaning. Sentences like (42) convey the meaning that *Ram* did something that led to *Sita* possessing the book. This causative meaning is not available with a locative IO.

The distinction that we see between verbs like “show” and “send” in Hindi/Urdu has also been claimed to exist in Japanese. Matsuoka (2003) claimed that different types of ditransitive verbs in Japanese have different base generated orders. Matsuoka investigated the inchoative variants of Japanese ditransitive verbs like “pass” and “show” and suggested that the inchoative invariants are morphologically related to the ditransitive verbs. They do not project the external arguments of ditransitives, but instead promote one of their internal arguments to the subject position. There are two types of verbs that differ with respect to which argument they select for the subject of the inchoative variant. One type is represented by “pass” which chooses the accusative argument over the dative for the subject and the other type is represented by “show”, which chooses the dative argument over the accusative one. It is argued that the difference in the alternation pattern between the two types of verbs reflects a difference in the base generated position of the dative argument and each type of verb promotes the higher argument to the subject of the inchoative variant.

Hindi/Urdu also shows distinction between “pass” type verbs and “show” type verbs with respect to their inchoative variants. For instance, verbs like “show” *dikhaa-naa* have the inchoative form *dekh-naa* “to see” and promote only the IO to the subject position (43), indicating that the IO is higher than the DO in these cases.

- (43) a. miiraa-ne kitaab dekhii
 Mira-Dat book saw
 “Mary saw the book.”
- b. *kitaab miiraa dekhi
 book Mira saw

On the other hand verbs like “send” *bhej-naa* in Hindi/Urdu have two morphologically different inchoative forms *mil-naa* “get/receive” and *pahunCna* “reach” depending on the thematic form and nature of the goal argument. The inchoative form “mil-na” which occurs with possessor and beneficiary goal phrases allows only the IO to be promoted to the subject position (44). The other inchoative form “pahuNcna” which occurs with the locative goal phrase, allows only its DO to be promoted to the subject position (45).

- (44) a. miiraa-ko kitaab milii
 Mira-Dat book got
 “Mira got the book”
- b. *kitaab miiraa milii
 book Mira received
- (45) a. kitaab dilli pahuNcii
 book delhi reached
 “The book reached Delhi.”

- b. *dilli kitaab pahuNcii
delhi book reached

The above-mentioned facts suggest that there are two different kinds of ditransitive verbs in Hindi/Urdu. Verbs like “show” behave differently from verbs like “send”. “Show” type verbs in Hindi/Urdu are like English DOC constructions; they exhibit causative meaning and involve an overt causative marker, (b) they have restriction on the nature of the goal phrase, and (c) they promote only the IO in the inchoative variant. These findings imply that the IO is higher than the DO (IO>DO) in “show” type verbs.

There seem to be two patterns for verbs like “send” in Hindi/Urdu. Similar to English, where the DOC and to-dative distinction arises from the requirement of the goal of the DOC to be construed as the possessor of the theme while in the to-dative the goal is construed as locative (Mazurkewich and White (1984)), verbs like “send” in Hindi/Urdu maintain this possessor-locative distinction..

Miyagawa and Tsujioka (2004) observed similar facts in Japanese and proposed that Japanese ditransitives like “send” have both the DOC and the *to*-datives. These two forms however don’t result in two different word orders in Japanese. They suggested that the order goal-theme is DOC when the goal is a possessor but the same order must be *to*-dative with a locative goal.

In Japanese both the goals (possessor and locative) can appear with the same verb (46a). However the word order is quite rigid when both the goals are present in a sentence (46b).

- (46) a. Taroo-ga Hanako-ni tokyo-ni nimotu-o okutta
 Taroo-Nom Hanako-Dat Tokyo-to package-Acc sent
 “*Taroo sent Hanako a package to Tokyo.”
- b. *Taroo-ga nimotu-o Hanako-ni tokyo-ni okutta
 Taroo-Nom package-Acc Hanako-Dat Tokyo-to sent
 “*Taroo sent Hanako a package to Tokyo.”

Miyagawa and Tsujioka further suggested that the theme and the low goal are in the same VP, whereas the high goal belongs to the higher VP. As a consequence, the lower VP containing the low goal and the theme can prepose, leaving behind the high goal, which is in the higher VP.

- (47) a. [_{VP} Tokyo-ni nimotu-o okuri]-sae Taroo-ga Hanako-ni sita
 Tokyo-to package-Acc send even Taro-Nom Hanako-Dat did
 “Even send a package to Tokyo, Taro did to Hanako.”
- b. * [_{VP} Hanako-ni nimotu-o okuri]-sae Taroo-ga Tokyo-ni sita
 Hanako-Dat package-Acc send even Taro-Nom Tokyo-to did
 “Even send a package to Hanako, Taro did to Tokyo.”

The two forms of ditransitives are therefore associated with two dative positions, *high* and *low*. The *to*-datives have their goal phrases in the lower VP whereas the DOCs have their goal phrases in the higher VP. Hindi/Urdu behaves quite similarly to Japanese in this regard. As in Japanese, both the goal phrases can

exist in a sentence with verbs like *bhej-naa* “to send” (48a). And the presence of two goal phrases makes the word order rigid in Hindi/Urdu as well (48b)

- (48) a. raam-ne siitaa-ko dilli patr bhejaa
Raam-Erg Sita-Dat Delhi letter sent
“*Ram sent Sita a letter to Delhi.”
- b. * raam-ne dillii siitaa-ko patr bhejaa
Ram-Erg Delhi Sita-Dat letter sent

VP preposing in Hindi/Urdu as well allows the low goal and the theme to be preposed, leaving behind the high goal.

- (49) a. [_{VP}dilli patr bhej-ne ka kaam] raam-ne siitaa-ko dii-yaa
Delhi letter send-to of work Ram-Erg Sita-Dat gave
“Ram gave Sita the task of sending letter to Delhi.”
- b* [_{VP} siitaa-ko patr bhej-ne ka kaam] raam-ne dilli dii-yaa
Sita-Dat letter send-to of work Ram-Erg Delhi gave

The above set of examples shows that with verbs like “send”, the low goal and the theme are in two separate VP projections. The lower goal (locative) and the theme are in the same VP and thus can be preposed together. The higher goal (possessor) is in the higher VP and as a consequence cannot be preposed along with the V. Verbs like “send” in Hindi/Urdu therefore seem to be associated with two different IOs

(possessor and locative) and two different hierarchies: IO (possessor)>DO and DO>IO (locative). “Send” *type-1* (with high goal) are like English DOCs. They involve a causative meaning, take only possessor as their IOs, and promote the IO in their inchoative variant. “Send” *type-2* verbs (with low goal) correspond to the prepositional construction “equivalent” to the DOC, the to-dative (*to*-dative) in English. They don’t involve a causative meaning, take locative as their IOs and promote the DOs in their inchoative variants.

4.3.1 Hindi/Urdu Ditanitives and Applicative constructions

Let’s talk about Hindi/Urdu “send” type verbs first. In the previous section, we saw that “send” type verbs contain two goal arguments and a theme argument; When both the goals are present the order (high goal> low goal) is strict (see, 48). It has been proposed that such structures include two distinct positions where two goal arguments may appear: the high goal and the low goal positions. We also saw that when both goals surface at the same time, the first one has a possessive interpretation, and the second one locative.

- (50) raam-ne siitaa-ko dilli patr bhejaa
 Raam-Erg Sita-Dat Delhi letter sent
 “Ram sent Sita a letter to Delhi.”

The meaning of this sentence is that *Ram* sent a package to *Delhi*, which is a location, with the intention that it will eventually end up in the possession of *Sita*. *Sita*

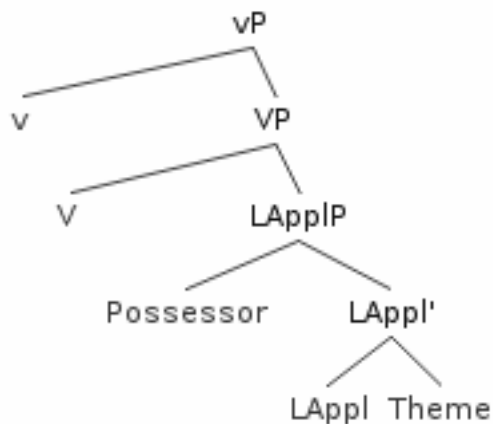
is perceived to be the ultimate “possessor” of the theme *letter* whereas *Delhi* is only the location where the *letter* ends up. An important thing to consider here is that it is the high goal (*Sita*) that implies the possessive interpretation, the low locative goal (*Delhi*) is not associated with the possession relation. In Pylkkänen’s (2002) model, possession is attributed to the low ApplP, the high ApplP does not encode for possession. The semantics of the applicatives suggest that the high-goal (possessor) in Hindi/Urdu must involve a low applicative structure denoting the relation between two individuals.

(51) a. raam-ne siitaa-ko kitaab bhejii

Ram-Erg Sita-Dat book sent

“Ram sent Sita a book.”

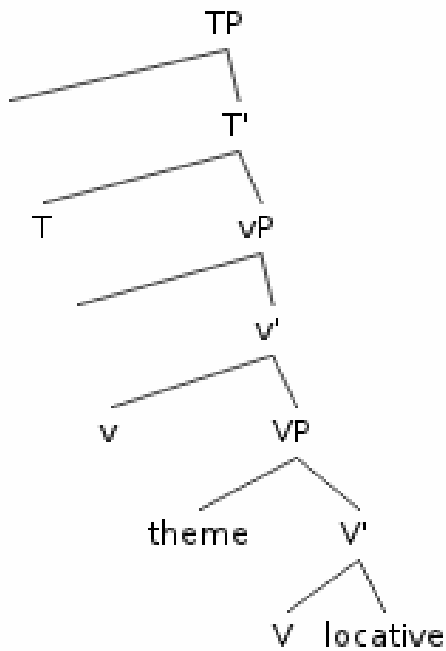
b.



In contrast to the above structures, the low locative goal would not be associated with an applicative; it can’t be a low applicative because it lacks possession. This lack of possession relation that we see with the low goal is also not

present in the English to-dative counterpart which Marantz (1993), among others, suggests lacks a change of possession interpretation, and thus doesn't have an applicative head.

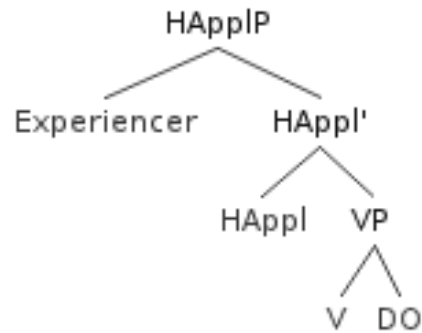
(52)



Verbs like “show” on the other hand seem to select an experiencer IO. The experiencer applicative, which appears with “show” type verb, can't be a low applicative as it doesn't involve possession. The experiencer constructions like (53a) can be understood to be composed of two events, a core event denoted by the lexical VP “saw a book”, and an event of experience, combining the applicative argument “Sita” and the lexical VP. The applicative in this case is a high applicative, as it denotes a relation between an event and an individual.

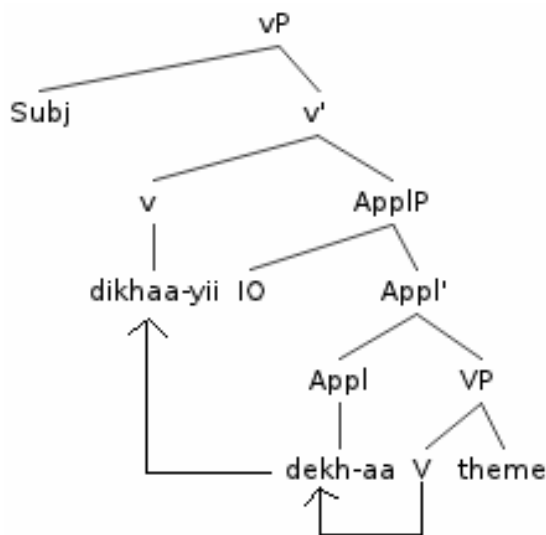
- (53) raam-ne siitaa-ko kitaab dikh-aa-yii
 Ram-Erg Sita-Dat book see-Caus-Pst

“Ram showed a book to Sita.”



This structure also involves head movement. The lexical verb “see” first moves to the Appl head, and then the complex moves to v. The head adjunction between the V and the Appl head results in morphological fusion (see+caus=show). This fusion changes the argument structure of the verb and licenses a dative argument which otherwise was not part of the argument structure of the verb “see”.

- (54)



Notice that in the above structure, I assume a non-head final base generated structure for Hindi/Urdu. As discussed in the earlier sections, I suggest that the DO in Hindi/Urdu starts at the right of the verb but later in the course of the derivation moves to Specifier of the verbal projection for Case/Agreement reasons and results in a head-final structure.

4.3.2 Ditransitive passives in Hindi/Urdu

An obvious prediction of the proposal sketched above is that in Hindi/Urdu ditransitive passives, the “show” type verbs would promote their goal over the theme. Similarly “send” *type-1* verbs (with high goal) would promote their goal whereas “send” *type-2* verbs (with low goal) would promote their theme. In “send” *type-2* verbs, as expected, the theme gets passivized over the locative (55) in Hindi/Urdu. Since the theme is higher than the locative in “send” *type-2* verbs, the promotion of the theme over the locative is what we see.

- (55) a. patr dilli bhejaa gayaa
letter Delhi Send gone
b* dilli patr bhejaa gayaa
Delhi letter send gone

The problem however comes from the “show” and “send” *type-1* verbs (with high-goal) where the possessor/experiencer is higher than the theme, however it is the

theme, which can be passivized in these cases. Notice the contrast that (56a) shows with (56b) and (57a) with (57b).

(56) a. *kitaab merii-ko dikhaaii gayii*

book Mary-Dat showed went

“A book was shown to Mary.”

b* *merii kitaab dikhaaii gayii*

Mary book showed went

(57) a. *patr (siitaa-ko) bhejaa gayaa*

letter Sita-Dat Send gone

“A letter was sent to Sita.”

b. **siitaa patr bhejaa gayaa*

Sita letter send gone

Before we try to resolve the above stated patterns that we see in Hindi/Urdu ditransitive passives, let’s first take a look the way passivization works in this language. The following section brings the detour.

4.3.2.1 Passivization in Hindi/Urdu

In passive constructions in Hindi/Urdu (58), the direct object of the verb surfaces as the subject. The verb is in the perfective participial form, followed by the auxiliary verb *ja* “go”. The agent of the action is usually not overtly realized. However when it is, it is marked with an instrumental marker *dwara* “by”.

- (58) raam dwara raavan yuuDh meN maaraa gayaa
 Ram by Ravan battle in killed went
 “Ravan was killed in the battle by Ram.”

Passive construction in Hindi/Urdu has been an unsettled issue in the literature, especially with respect to the promotion of the object. Mahajan (1995) argues that the construction in (58) is only passive-like and not actually passive. He calls it “active passive” and claims that the underlying object does not become the surface subject whereas the underlying subject remains an active subject. He provides evidence from pronominal co-reference etc., to show that the by (*dwara*) phrase is in subject position and the object is a true object. For instance pronominal possessives in Hindi/Urdu have anti-subject orientation (59a), which is maintained by the agentive phrase in passive constructions (59b).

- (59) a. siitaa_i-ne uske_{j/*i} ghar-kaa nirikSan kiyaaa
 Sita-Erg her house-Gen inspection did
 “Sita_i inspected her_{j/*i} house.”
- b. siitaa_i dwaaraa uske_{j/*i} ghar-kaa nirikSan kiyaa gayaa
 Sita by self’s house-Gen inspection did Pass
 “Her house was inspected by Sita.”

On the other hand, the object in the passive (60b) behaves the same as it does in active constructions (60a).

- (60) a. siitaa-ne_i miiraa-ko_j [us-kee *_{i/j} ghar] bhej diyaa
 Sita-Erg Mira-Acc her home send gave
 “Sita_i sent Mira_j to her*_{i/j} home.”
- b. siitaa_i dwaaraa miiraa-ko_j [us-kee*_{i/j} ghar] bhej diyaa gayaa
 Sita by Mira-Acc her home send gave Pass
 “Mira was sent to her home by Sita.”

Bhatt (2003) however suggests that regular passives also exist in Hindi/Urdu. Firstly, unlike other oblique subjects, the *dwaaraa*-phrase is optional in Hindi/Urdu.

- (61) a. kal (miiraa-dwaaraa) mere ghar-kaa nirikSan kiyaa gayaa
 yesterday Mira by my house-Gen inspection did Pass
 “Yesterday my house was inspected (by Mira).”
- b. ???(miiraa-ne) mere ghar-kaa nirikSan kiyaa
 Mira-Erg my house-Gen inspection did
 “??(Mira) inspected my house.”

Secondly, the object also seems to get promoted in some passives. Alongside a Case-marked object (62a), we also find a non-Case marked object (62b). As pronominal direct objects must be overtly Case marked in Hindi, the grammaticality of (62b) can only be explained by an analysis that promotes the logical object to a structural Case position. In short, the non ko-marked object is the promoted object whereas the ko-marked object is the unpromoted one.

(62) a. mujh-ko pehcaan liyaa jayee-gaa

me-Dat recognition taken go-Fut

“I will be recognized.”

b. maiN pehchan li jaun-gii

I recognition taken go-Fut

“I will be recognized.”

Moreover, the promoted objects obviate pronominal possessors in passives (63).

(63) a. siitaa_i us-kee_{j/*i} ghar-ke paas dekh-ii gayii

Sita her-Gen home-Gen near seen Pass

“Sita was seen near her home.”

b. siitaa-ko_i us-kee_{i/j} ghar-ke paas dekh-aa gayaa

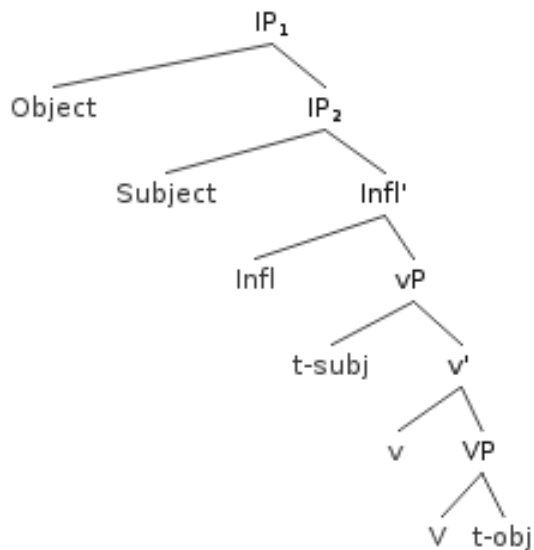
Sita-Acc her-Gen home-Gen near seen Pass

“Sita was seen near her home.”

Even though Bhatt (2003) correctly distinguishes a promoted object from a non-promoted one, it doesn't establish the position where the object is promoted. The passive in Hindi/Urdu seems to be a case of double subject construction (DSC) since both the *dwara*-phrase and the promoted object exhibit subject-like properties. The structure is quite similar to what we saw in case of dative subject constructions in the previous chapter.

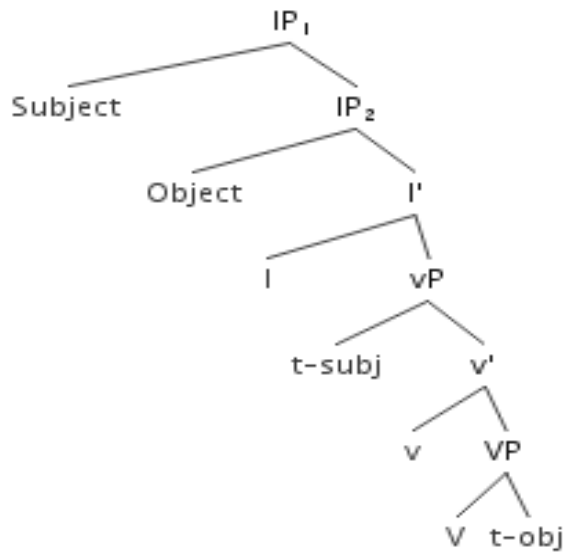
The idea that passives are double subject constructions goes back to Keenan and Comrie (1977), who suggested that in several languages, passivization brings about a construction in which there are two subjects, a promoted object and a logical subject (the one which has not been demoted). Ura (1995) called such constructions, “anti-impersonal passives”. The anti-impersonal constructions involve only object promotion but not subject demotion and both the NPs are in Spec of Infl. The logical subject is in the inner spec whereas the promoted object occupies the outer spec position.

(64)



The structure in (64) cannot be adopted as it is for Hindi/Urdu passives because the logical subject is higher than the promoted object in Hindi/Urdu passive (see 58). To get the Hindi/Urdu word order facts right, I suggest that in Hindi/Urdu, the subject moves to the outer spec position of the IP (65) and the object moves to the inner spec. This is similar to the case of dative subject construction (Chapter 3).

(65)



4.3.2.2 Object shift and ditransitive passives in Hindi/Urdu

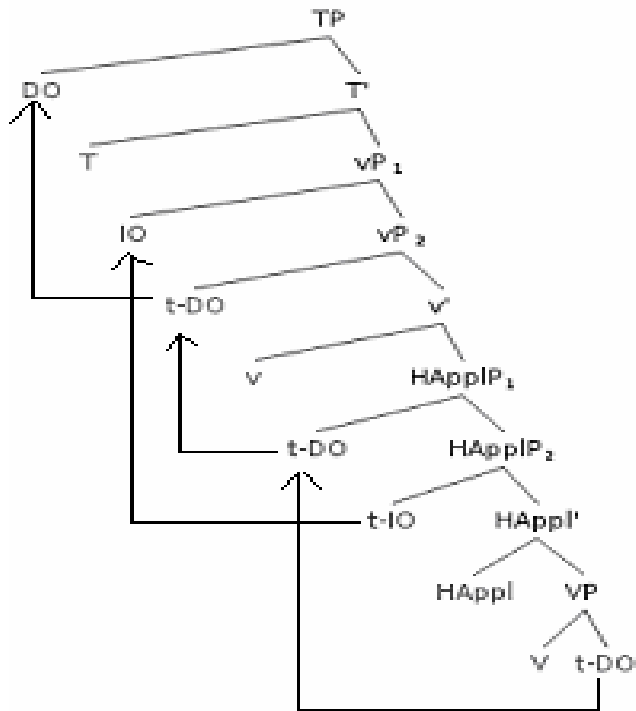
Given what we know about passivization in Hindi/Urdu, let's now return to our discussion of ditransitive passives. Kidwai (2000) suggested that in Hindi/Urdu, the AgrO-head (the small *v* in modern terms) in ditransitive constructions bears two Case features, which must be checked by raising DPs into its checking domain. In ditransitive structures, both the goal and the theme arguments need to check their Case features structurally. As a consequence, the theme raises to [Spec, vP] to check structural Accusative Case and the goal adjoins to Spec, vP to check structural Dative Case. In ditransitive passives, only the structural Accusative Case is absorbed in Hindi/Urdu.

In the previous section, I proposed the ditransitive verbs like “show” take an experiencer IO and thus include a high Appl structure. In line with McGinnis (2003), I assume that the High Appl is a phase in Hindi/Urdu and therefore allows an extra specifier position. The DO in Hindi/Urdu carries two relevant features [-Case] and

[+AGR]. In an attempt to check its features, it first moves to the specifier of the high APPL. This movement makes the DO and the IO equidistant from v. Both the DO and the IO then further move to Spec, vP. At [Spec, vP], the IO checks its structural Dative Case. The DO however only checks the Agreement features and not the Case features; passivization absorbs Accusative Case. Being at [Spec, vP], both the DO and the IO are equidistant from the T. Since it is the DO, which has the relevant features [-Case], it is the one that moves.

(66) a. *kitaab merii-ko dikhaaii gayii*
 book (DO) Mary-Dat (IO) showed went
 “A book was shown to Mary.”

b.



Ditransitive verbs like “send” *type-I*, where the goal is a possessor, include a low applicative structure. Incorporating the Anagnostopoulou intuition into the McGinnis proposal, I propose that phasehoodness of the Low Appl is parametric, in the sense that it is a phase in Hindi/Urdu but not in English. Though this suggestion sounds pretty stipulative, it not only accounts for the ditransitive structures (and the inchoative patterns) in Hindi/Urdu but also the facts we observe w.r.t ditransitive passives. Let’s see how.

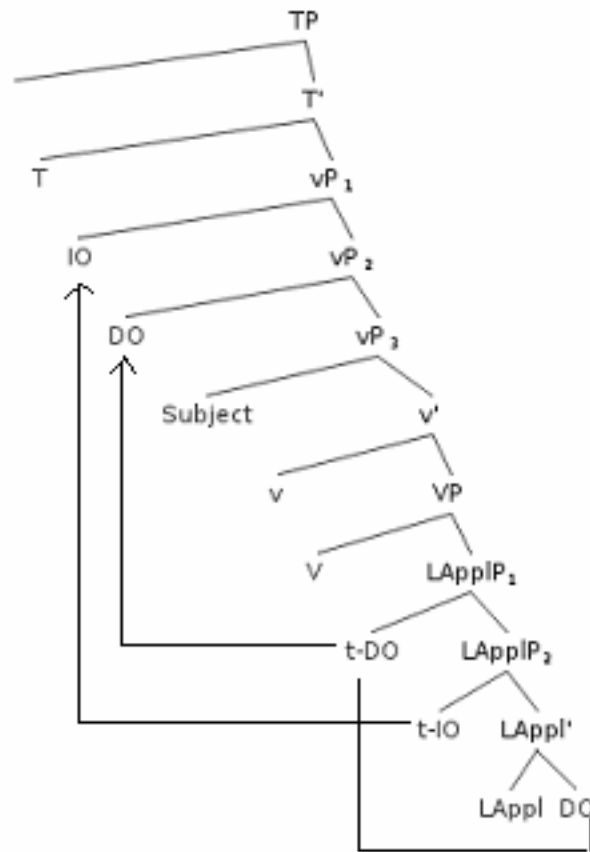
Given the assumption that both the goal and the theme arguments need to check their Case features structurally in ditransitive structures in Hindi/Urdu, and as a consequence, raise to [Spec, vP], an obvious minimality violation can only be saved by an extra specifier/escape hatch position with the Low Appl. Consider the following structure (66). The movement of DO from inside the LAppl to Spec, vP is only possible if it moves via the extra specifier position at the LAppl. Otherwise it will result in minimality violation given the presence of the intervening IO at [Spec, LAppIP].

(67) a. raam-ne siitaa-ko kitaab bhejii

Ram-Erg Sita-Dat (IO) book (DO) sent

“Ram sent Sita a book.”

b.



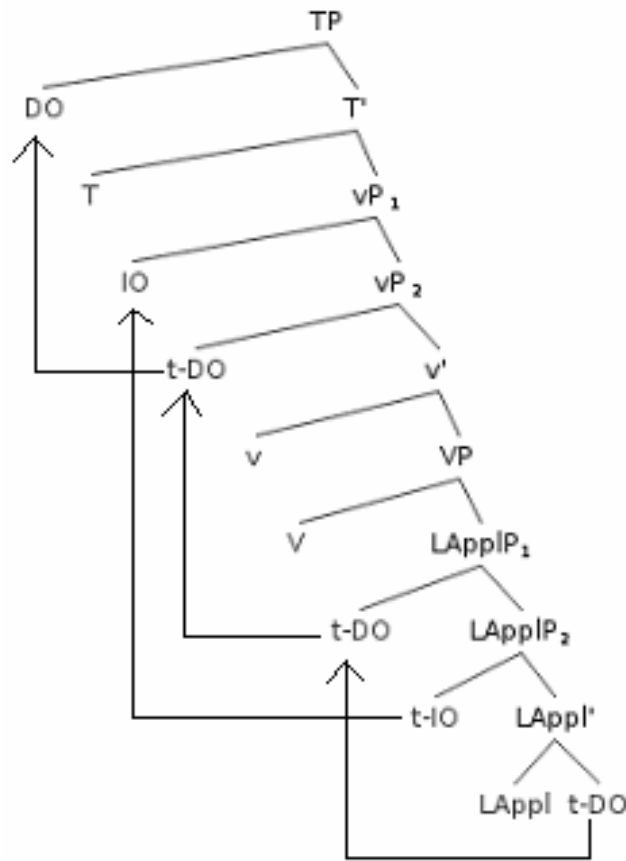
In passivization, the derivation by which both the DO and IO reach [Spec, vP] to check their respective feature is similar to the one we saw in (67). This derivation, as in ditransitive structures, again is only possible if an extra specifier is available at LAppI. Once the DO and the IO reach [Spec, vP], the DO and the IO are equidistant from T, and since it is the DO which has the relevant Case feature, it moves further up to T (68).

(68) a. kitaab (siitaa-ko) bhejii gayii

book Sita-Dat sent gone

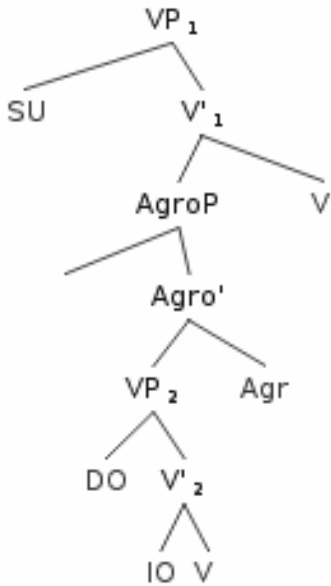
“A book was sent to Sita.”

b.



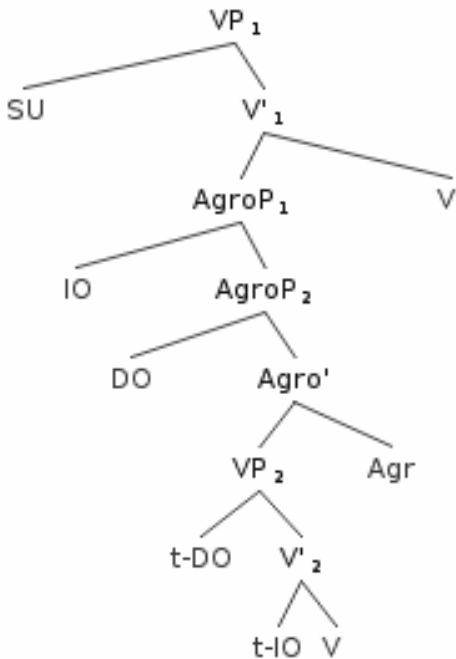
The proposal presented above differs importantly from Kidwai (2000), which places theme higher than the dative in Hindi/Urdu. One of the important assumptions in Kidwai (2000) is that the configurations from which *to*-dative and the DOC are derived are identical, and the theme argument is always generated higher than the goal. However contra Larson (1988), it is the *to*-dative, and not the DOC, which is derived by a rule of passive.

(69)



In DOC, the theme raises to [Spec, AgrO] to check structural Accusative Case and the goal adjoins to Agro to check structural Dative Case.

(70)



In *to*-dative constructions, passivization affects only the AgrO head, absorbing the Case feature of the goal. As a consequence, only the DO can raise to [Spec, AgrOP] and the IO remains in-situ. Preposition insertion takes place at PF as a last resort to save the derivation.

According to Kidwai, Hindi/Urdu only exhibits DOC construction. It lacks *to*-dative because it lacks the IO Case absorption mechanism due to the unavailability of preposition insertion at PF. Hindi/Urdu lacks IO passivization for the same reason. DO passivization on the other hand proceeds without problem, as sentential passive absorbs the Case feature of the DO on the AgrO head, triggering raising.

Though Kidwai (2000) makes a good attempt at capturing both DOC and *to*-dative constructions cross-linguistically while maintaining Larson's thematic hierarchy, it has certain disadvantages. First, it assumes that the *to*-dative and DOC constructions are derived from an identical base structure. However as we have seen above, the work of Oerhle (1976), Marantz (1993) Harley (1995), Pesetsky 1995 among many others have shown that DOC and *to*-datives differ distinctively from each other. Second, it suggests that Hindi/Urdu has only DOC, but we have seen in this section that Hindi/Urdu has both DOC and *to*-dative constructions and that these constructions have distinct properties. Third, it proposes that the direct object is base generated higher than the indirect object in ditransitive structures in Hindi/Urdu. Evidence from inchoatives however shows that the IO is higher than the DO and is the one that gets promoted in Hindi/Urdu.

4.4 Chapter Summary

This chapter looked at NP movement in ditransitive passives, and showed that the cross-linguistic patterns observed in these constructions can be best explained through a theory of locality. We have seen that locality-based accounts can account for all the four patterns of ditransitive passives in a coherent manner. First, the ungrammaticality of Theme-passivization which represents the asymmetric passive pattern in languages like American English, Chichewa, Swahili, is accounted for as a locality violation. In other words, the higher Goal argument in DOC constructions, being the closer element to the target, blocks the movement of the lower Theme argument over it. The schematic representation is given below.

- (71) a. [Goal-Nom ... [t_{Goal} ... Theme]] (Goal-passivization)
b. * [Theme-Nom... [Goal ... t_{Theme}]] (Theme-passivization)

The grammaticality of (71b) in symmetric passive languages like British English, Swedish, and Norwegian, despite its apparent locality violation, can be accounted for by positing an intermediate movement of the lower internal argument to the outer specifier position of the head where the higher internal argument is hosted, i.e. by utilizing "escape hatch" strategy, which allows A-movement to proceed successive cyclically in symmetric passives, in the manner schematized in (72) (cf., Ura (1996), McGinnis (1998, 2001, 2004), Anagnostopoulou (2003)).

- (72) [Theme Z [KP t_{Theme} [KP Goal K [t_{Theme}]]]]

To recapitulate, in locality-based approaches, the availability of locality circumvention strategy of escape hatch type illustrated in (72) is assumed to be responsible for the passivization asymmetry between asymmetric passive languages and symmetric passive languages. For the moment, that only symmetric passive languages may utilize this escape hatch strategy remains a stipulation.

The third group of languages presented by Greek, Dutch etc can be analyzed as utilizing another locality circumvention strategy (Anagnostopoulou, 2003). The cliticization of a higher argument to the T head allows the movement of the lower argument to Spec, TP as schematized in (73). To be more specific, when movement of the intervening higher argument targets the same T head as movement of the lower argument does, it is removed from the search domain of T head and no longer blocks the passivizing movement of the lower internal argument past it.



The fourth type of languages, exemplified by Hindi/Urdu and Albanian, allow theme passivization even though theme is lower than the goal. The analysis proposed in this section uses applicative structures to account for these cases, particularly Hindi/Urdu. Hindi/Urdu exhibits two different ditransitive structures with two different types of ditransitive verbs, namely “show” type verbs and “send” type verbs. The “show” type verbs involve a high applicative structure, whereas the “send” type verbs involve a low applicative structure. The theme in this language moves via the

extra specifier position of the applicatives (both low and high applicatives) to the specifier of the v for Case/Agreement reasons. This movement places the theme and the goal equidistant from the T. Having the relevant feature, the DO raises further (74).

- (74) a. [TP [DO] [T' [T] [vP [IO] [vP [t-DO] [v'[v] [VP [V] [LAppIP [t-DO][LAppIP [t-IO] [LAppI' [LAppI] [t-DO]]]]]]]]]]]]]]] (*send* type verbs)
- b. * [TP [DO] [T' [T] [vP [IO] [vP [t-DO] [v'[v] [HAppIP [t-DO][HAppIP [t-IO] [HAppI' [HAppI] [VP [V][t-DO]]]]]]]]]]]]]]] (*show* type verbs)

Chapter 5

A Short Note on Head movement

Head Movement (movement of an X^0 category) has been an important notion in transformational grammar. It not only accounts for various empirical phenomena (e.g. Subject-Aux Inversion, V2, etc) but also a lot of interface studies, for instance the syntax-morphology relationship in noun-incorporation (Baker, 1988). The discussion in the previous chapters also made special reference to head movement, whether it was the case of *Wh*-operator movement or the case of Case-checking within the PP in English, or the movement of the verbal head in ditransitive and passive constructions to resolve the theta requirements.

A property of *Wh*-movement that has been (somewhat) standardly assumed in the literature is that *Wh*-movement operates on phrases. Donati (2006) asks an interesting question in this regard, as to why we find phrasal movement when head-movement should be the preferred one as it involves moving less material?⁵⁵

⁵⁵ The idea that moving “less” is more economical than moving “more” was first advocated in Chomsky (1995, chapter 4) in his discussion of feature-movement. He suggested that attraction of the smallest possible unit is a more economical operation than attraction of any larger unit. This idea was later adopted in many studies including Sichel (2002) and Boskovic and Lasnik (2007).

Donati suggested an economy condition on Merge Copy, for which what is to be copied is the minimal amount of material necessary for convergence (1).⁵⁶

(1) Copy just enough material for convergence.

She further pointed out that a basic difference between heads and phrases is that a head projects and a phrase is a projection. As a result, whenever a head moves, all the features (including the categorial feature) associated with it project. As a consequence, head movement changes the feature composition of the target. On the other hand, when a phrase moves, this does not happen, and the target remains unchanged.

In such a scenario, the interface conditions (like LF convergence) determine the category that needs to move. For instance, in standard *Wh*-constructions (in languages like English) in order to preserve the categorial status of the CP, the LF convergence condition picks a phrase (instead of a head) to be *Wh*-moved to the C. In these cases, moving the *Wh*-head does not yield a convergent derivation, even though this is the minimal option: moving the *Wh*-head means projecting all the features associated with it, including its categorial feature (D). This would turn the interrogative clause into a complex DP, which will not be interpretable as an interrogative clause at the interface. As a result, a more costly phrasal movement is selected. On the other hand, in cases such as comparatives and free relatives where there is no need to preserve the

⁵⁶ It is however not clear whether there is any underlying principle or constraint that imposes this condition.

status of CP, head movement of the *Wh*-element would be preferred presumably because the *Wh*-element is not moving to C.

This idea relates to the nature of *Wh*-movement in *Wh*-scope-marking constructions in languages like Hindi/Urdu. While talking about *Wh*-scope marking constructions (2), one of the claims made in this thesis proposed that these constructions involve movement of the *Wh*-operator (*kyaa*). The *Wh*-operator which is associated with the *Wh*-phrase (*kis-ko*) in the embedded clause and marks the scope of the phrase in the higher clause appears (strictly) adjacent to the v-head in Hindi/Urdu.

(2) a. raam-ne kyaa socaa ki siitaa-ne kis-ko dekhaa

Ram-Erg what thought Comp Sita-Erg who-Acc saw

“Who did Ram think that Sita saw.”

b. *raam-ne [kyaa ciiz] socaa ki siitaa-ne kis-ko dekhaa

Ram-Erg what thing thought Comp Sita-Erg who-Acc saw

The issue at hand was whether *kyaa* is a head or a phrase, and it seems to be a head for basically two reasons; first it forms some sort of a tight complex with the verbal head (nothing can intervene between the verb and *kyaa*), which indicates that they constitute a single word; and second only a bare *kyaa* can appear with the verb in examples like (2a), a multi-word phrase cannot (2b). Head movement in these cases however doesn't involve any morphological fusion between the *Wh*-head and the v-

head. As a consequence, excorporation (successive cyclic head movement) is allowed in these cases.

Another place where this thesis made reference to head movement involved structural Case in English dative PPs (3). What is interesting about this case is that though the NP embedded inside the PP can c-command into the embedded clause (Condition C of the binding theory is violated if *him* takes *John* as its reference.), it can't block the raising of the embedded subject *they* across it.

(3) They_k seem [PP to him_{i/*j}] [IP t_k to like John_j]

To resolve this contradictory c-command requirement, the proposal was that in cases like (3), *him* head moves and adjoins to P. What the N-head carries with it is a bundle of features, (interpretable) phi-features, (uninterpretable) Case feature and the categorial feature (+N, -V). The P however carries only two sets of features, the (interpretable) Case-feature and the categorial feature (-N, -V). Even through this head adjunction doesn't result in any morphological fusion between the two heads; it involves some kind of a "collision" between them. In this collision, the Case-feature is checked (the uninterpretable feature of the noun gets checked against the interpretable feature of the verb), the phi-feature is shared and the categorial feature (being contradictory) is neutralized. The newly formed complex head therefore has

the following features, interpretable phi features, Case feature and neutralized categorical feature.⁵⁷

All these features of the head-head complex (P-N) percolate to the PP. As a result, the PP can bind into the embedded clause, it c-commands and has the relevant features, and can create Principle C effects. It however doesn't block the raising of the embedded subject across it, as it doesn't have the relevant categorical features (+N, -V) to do so. This account based on head movement not only captures the empirical facts correctly but also wins over the alternative covert movement analysis (Kitahara, 1997) which has been criticized for relying on the existence of a covert component (Boeckx, 1999).

The third place where head movement came into play in this thesis was the structure of ditransitive verbs like "show". Verbs like "show" in Hindi/Urdu carry an overt causative marker (-aa), and are of the form "caused to V" (4).

(4) a. raam-ne siitaa-ko kitaab dikh-aa-yii

Ram-Erg Sita-Dat book see-Caus-pst

"Ram showed Sita a book."

b. raam-ne siitaa-ko kitaab dekh-ii

Ram-Erg Sita-Dat book see-pst

"Ram saw Sita a book."

⁵⁷ Donati (2006) suggested that head movement changes the feature composition of the target but phrasal movement doesn't.

In chapter 4, I proposed that sentences like (4a) were derived via head movement of the lexical V head to the Applicative head and then to the little v head. This adjunction changes the argument structure of the verb and licenses a dative argument which otherwise was not part of the argument structure of the verb “see” (4b).

The head-adjunction between the V and Appl results in morphological fusion. The degree of this morphological fusion varies among languages. For instance, In Hindi/Urdu, the fusion is only partial; the causative morpheme attaches as an affix but modifies the vowel in the verbal root ([e] changes to [i]), see (5a). In English, on the other hand, the two heads fuse complete to form a single lexical unit (5b).

(5) a. dekh+aa == dikh-aa

see+Caus show

b. see + Caus= show

Given the recent concerns in the minimalist literature where even feature movement is not favored (Merge can only operate on lexical items and not features; Chomsky 2000 and Matushansky 2006), head movement does seem to be a genuine alternative in some cases.

This chapter reflects on the acceptability of the above proposals with respect to the changing theoretical status of head movement in the current minimalist framework. In this exploration, this chapter investigates the domain of noun incorporation and its relation with head movement. It revisits the arguments raised

with respect to the “syntacticity” of noun-incorporation, and highlights some of the problems in those accounts. The chapter eventually argues two things, (a) head movement is still the best analysis for certain empirical phenomena like noun-incorporation; (b) head movement is syntactic and fits well with the general goals of the minimalist program.

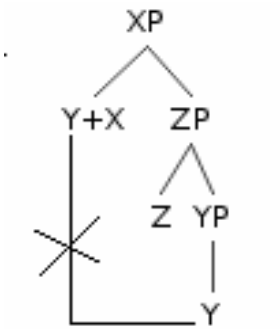
5.1 The changing status of head movement

In the Government and Binding theory, head movement was taken as an instance of Move- α , where α is X° . Like other cases of Move- α , head movement is subject to the standard well-formedness conditions applying to movement operations and their outputs generally. These conditions were of three main types; (a) Locality (the Head movement constraint): Head movement of X to Y cannot skip an intervening head Z, (b) Structure preservation: only a head can move to a head position, and (c) Cyclicity: a transformation applies to domain α before applying to domain β , where β contains α .

The original locality condition on head movement is the Head Movement Constraint (HMC), originally proposed by Travis (1984).

- (6) a. Head movement Constraint: *Head movement of Y to X cannot “skip” an intervening head Z.*

b.



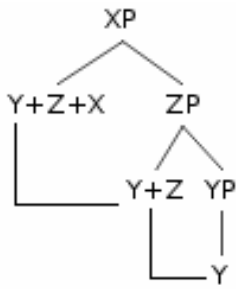
HMC bans movement of Y° directly to a head X° which asymmetrically c-commands Z° , which c-commands Y° . Rizzi (1990) pointed out that the HMC can be derived from Relativized Minimality (7).

(7) X α -governs Y iff there is no Z such that

- (i) Z is a typical potential α -governor for Y ,
- (ii) Z c-commands Y and does not c-command X .
- (iii) α -governors: heads, A Spec, A' Spec.

Intervention can be defined in terms of asymmetric c-command: Z intervenes between X and Y iff Z asymmetrically c-commands Y and does not asymmetrically c-command X . Relativized minimality blocks the formation of a relation between two heads across an intervening head; this is what HMC rules out as well. However, since head movement can be iterated, Y° can move to X° if Y° first moves to Z° and Z° containing Y° then moves to X° (8).

(8)



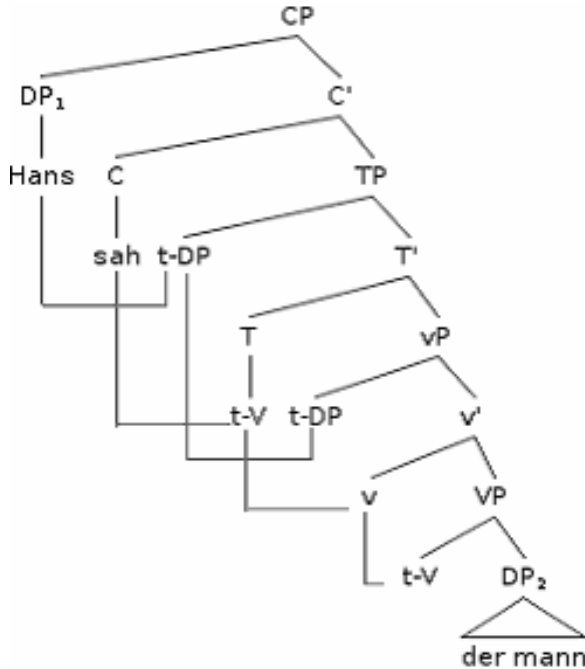
There exist a number of examples of such iterated head movement. A canonical example is the verb movement in verb-second clauses in the Germanic languages, like Danish. Assuming that the functional structure of the clause comprises CP and TP, the structure of a simple V2 clause like (9a) in Danish, for example, would be (9b).

(9) a. Hans sah den Mann.

Hans saw the man

“Hans saw the man”

b.



The HMC also has the effect of forcing head movement to be successive cyclic. It was assumed that formation of the complex head could not be undone by a later step of movement. Hence further movement of Z to a higher head X in would form the complex head $[_X [_Z Y Z] X]$. Iterated head movement, therefore, always formed a successively more complex head.

Neither HMC nor RM imposes structure preservation on head movement. Therefore, it might seem that head movement is less constrained than XP-movement, at least along the lines of the distinction between A- and A'-positions that XP-movement shows. The distinction reciprocates the feature content of the XPs. Assuming that heads also bear features, an obvious question to ask is whether head movement is sensitive to the feature content of intervening heads. This restrictiveness does seem to exist. For instance, Baker and Hale (1990) propose that a lexical head can move to a lexical head and a functional head to the next functional head. This

predicts that a lexical head like V can never move to a functional head like T. So, how do we get V to T movement? The solution comes from the intermediate small v head. Consider structure (9b), where the lexical head V moves to the functional head T, via the little v . This movement is allowed because the V first moves to the little v head, which is both lexical (being a verbal thing) and functional, and then the complex moves to T.

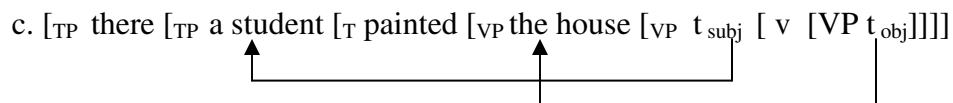
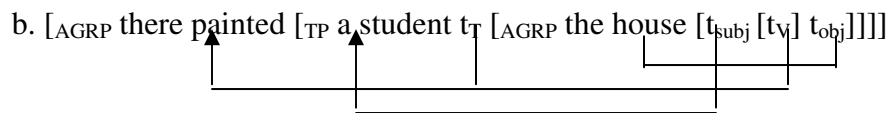
In short, head movement carried almost all the properties of Move α and as a consequence, its status as a syntactic operation was well established in the GB literature. This conception of head movement in GB was largely retained in the early versions of the minimalist program. Chomsky (1995) introduces checking theory and makes it clear that head movement, like other forms of movement, obeys the core constraints on movement. Movement was seen as inflectional feature checking operation and head movement, like other movements, was also motivated by feature checking. For instance, to account for the difference between English and French verb-movement, Chomsky (1993, 1995b) proposes that the parameter distinguishing English and French concerns the value of an abstract morphological feature that licenses verbs, and is associated with T. This feature is called T's V-feature. In Chomsky's system, such features are generated both on V and on T, and must be cancelled out by a checking operation prior to LF since they have no semantic content and will thus violate the Principle of Full Interpretation unless eliminated. The feature varies parametrically as either strong or weak. If it is strong, it is visible to the PF component, and hence must be eliminated prior to the mapping to that level of representation, Spell-Out. Since feature checking takes place in a highly local domain

(essentially Specifier-head or head-to-head adjunction, the latter being relevant in this case), V must move to T in order for feature checking to take place. Thus where the V-feature is strong, V raises overtly to T. Where the feature is weak, the Procrastinate principle, which delays movement to the covert, post-Spell-Out part of the grammar wherever possible, prevents this movement from taking place overtly.

In Chomsky (1995: 4.10), the status of head movement began to change with the introduction of multiple specifiers. Chomsky suggested an analysis of “multiple subject constructions” in Icelandic (see its gloss in 10), in terms of multiple specifiers of T.

(10) a. There painted a student the house.

“A student painted the house.”



Chomsky pointed out that if V head moves to T as in (8a), followed by the movement of the subject to TP (8b), this gives the wrong word order (Expletive Subject V). The correct order in Icelandic is Expletive V Subject. Chomsky further argued that if we assume that the word order in Icelandic is a direct consequence of its verb-second property, the V-second property may belong to the phonological component. In such scenario, the V-second order is formed by phonological operations such as linearization. In short, Chomsky (1995) began to incline towards the idea that

some phenomenon (like the verb second order) earlier associated with head movement are derived by some other operation.

In Chomsky (1998, 1999), movement was restricted to only EPP and was divorced from all other feature checking. Inflectional features (Case and ϕ -features) were checked in situ, via the operation *Agree*. Movement took place exclusively to check the EPP feature. The EPP feature restricted things to move to specifiers only. This theoretical change presented further problems for head movement, as there was no motivation (no feature-checking requirement) or mechanism (heads can't move to phrases) for it. Chomsky (2000) further formalized the problem with head movement and gave the following arguments against keeping head movement in syntax.

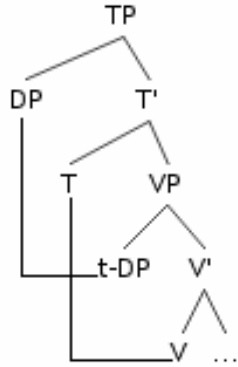
(a) Head movement never affects interpretation: Chomsky (2000) pointed out that the semantic effects of head movement, as opposed to XP-movement, are minimal or non-existent. While French or Icelandic verbs occupy a different structural position in finite clauses from their English counterparts, analyzing this in terms of different extents of head movement leads to the expectation that they may differ at LF too and perhaps show contrast scope or reconstruction effects -- in the two classes of languages.⁵⁸

(b) Head movement needs a different feature-triggering mechanism: The second issue relates to the nature of the trigger for head movement. Assuming that both head movement and phrasal movement are triggered by features, the system must have sufficiently rich featural information to be able to correctly trigger these two different

⁵⁸ This wasn't a problem in the Chomsky (1993) system though.

kinds of movement. In other words, the system must have two sets of triggers: a trigger for phrasal-movement and a trigger for head movement. Consider the case of French, which has consistent phrasal as well as head movement to T

(11)

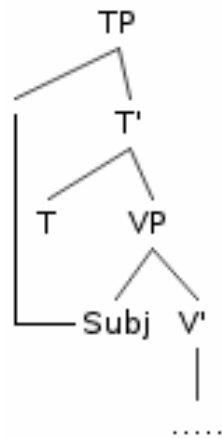


To trigger both phrasal-movement and head movement, the T in French must contain two different triggers; an EPP feature to trigger phrasal-movement and, a separate movement-triggering feature for head movement. For this to work, the system needs to distinguish the two triggers. Chomsky suggests that such complication can be avoided if head movement is in a domain separate from XP-movement, and probably outside of the core computational system of narrow syntax.

(c) Head movement violates the extension condition: The extension condition (Chomsky 1993, 1995) requires that all movement operations extend the root of the structure that they apply to. It implies that structures must be built strictly cyclically. Consider the case of A-movement of the subject to Spec, TP. In this case, move- α applies at the point in the derivation after T is combined with its complement vP. In

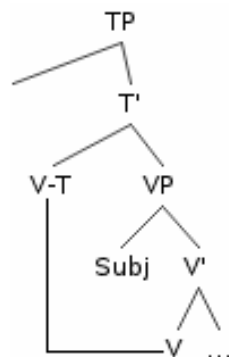
virtue of T's EPP feature, the DP is raised, forming SpecTP. The movement of the subject to T therefore extends the root of the tree by forming Spec, TP.

(12)



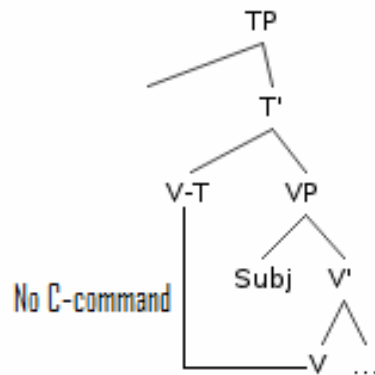
On the other hand, head movement derives structures by adjoining one head to another. Such an operation does not involve extension of the root. As illustrated in (13), head movement unlike phrasal movement, does not target the topmost node of the existing structure and does not extend the tree at the root (however the tree does grow “fatter”).

(13)



(d) Head movement violates ECP: When head movement adjoins one head to another, in the derived structure the moved head is unable to c-command its trace/copy. If so, then head movement features a major anomaly in relation to other types of movement in that the moved category does not c-command its trace.

(14)



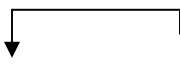
(e) Head movement violates structure preservation: Head movement changes the projection status of the moving head (from minimal to maximal).

The above stated arguments lead to the idea that head movement should be pushed out of syntax. Now the question is if head movement doesn't happen in syntax, where does it happen?

Chomsky (2000) hinted that it's PF. Since head movement doesn't affect interpretation, it should be confined to the PF part of the grammar. Boeckx & Stjepanovic (2001) provide further arguments through their analysis of pseudo-gapping and object-shift. They suggest that head movement is best viewed as not

occurring in the overt syntax, but rather in the PF component. On the basis of Lasnik's (1999a,b) analysis, they point out that in pseudogapping it is necessary that object shift applies but V-raising does not (15), whereas in standard cases without ellipsis both object shift and V-raising must apply (16). Given this, Boeckx and Stjepanović conclude: i) object shift applies in overt syntax, ii) ellipsis and head movement are PF operations.

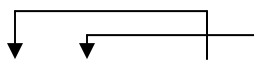
(15) a. Debbie ate the chocolate, and Kazuko did [the cookies] [VP eat t].



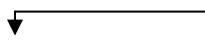
b. *Debbie got chocolate, and Kazuko got [VP t chocolate] too



(16) a. Debbie ate the chocolate, and Kazuko drank milk [VP t t]



b. *Debbie ate the chocolate, and Kazuko milk [VP drank t].



This PF-movement alternative appears unproblematic in relation to all the arguments Chomsky (2000) makes. For instance, PF-movement doesn't have to obey the Extension Condition or the c-command condition, if we assume that these conditions only restrict operations in overt syntax. Since head movement is PF-movement and phrasal movement is syntactic, we can expect the trigger for PF-movement (morphological or phonological) to be quite separate from syntactic XP-movement. The PF-movement need not be subject to constraints (like the ECP) which are exclusive to syntactic operations, and, of course, would not have LF effects.

However there are issues with this view too. For instance, Matushansky (2006), Zwart (2001), and Suranyi (2005) among others pointed out that relegating head movement to PF amounts to introducing an *ad hoc* level of representation, say “syntactic PF”. This adds redundancy to the computational system as the same operation (displacement) would be duplicated in both the syntactic and phonological component.

Furthermore, if head movement was a purely phonological process, it should not have any syntactic or semantic consequences. With respect to syntactic consequences, Suranyi (2005) argues against PF treatments of head movement based on the fact that it participates in a number of syntactic correlations, which would be unusual for PF movement. She refers to Holmberg’s Generalization and Vikner’s Generalization, which correlates the availability of Transitive Expletive Constructions with both V to T movement and V2, to show that certain syntactic relations are sensitive to head movement.

With regards to the argument that head movement, more specifically verb-movement, never affects interpretation, Matushansky (2006) provides a plausible reason. She suggests that this happens because verbs are predicates, and predicates must obligatory reconstruct or get interpreted in their final position. As a consequence, their movement is not reflected at LF and we don’t see semantic effects of verb-movement.⁵⁹ For instance, only head movement of a quantificational head can give rise to LF effects:

⁵⁹ Lechner (2005), Roberts (2000b), and Zwart (2001) further suggest that some cases of head movement have LF effects. Roberts (2000) provides the following paradigm and argues that if head

- (17) a. Yolanda can't leave.
b. Yolanda shouldn't leave.
c. Passengers may not speak to the driver.
d. You may not think so at first, but it is a very smart rule.

Most importantly there is no theoretical principle that puts head movement out of syntax and in PF. Moreover the PF head movement approach cannot account for all the phenomena that were accounted for by syntactic head movement. Chomsky (2000) himself acknowledges that the cases of incorporation in the sense of Baker (1988), may not fall within the phonological component.

movement of the auxiliary plus negation took place at PF, it should not have an influence on the interpretation nor should it be able to formally license the NPI *anybody* in subject position in (1). Given that the NPIs must be c-commanded by their licensers at LF, and that movement of the auxiliary in examples like (1) affects LF by altering c-command relations involving the moved item, shows that head movement can't be a PF-operation.

- (1) a. *Anybody didn't speak to him.
b. Didn't anybody speak to him?

Though the logical of the arguments is quite convincing, the paradigm in (1) doesn't support it. The above set of examples includes an NPI which doesn't really require a negation for licensing. Consider the following (2)

- (2) Did anybody speak to him?

The next section discusses the theoretical status of head movement with special reference to noun incorporation, particularly in Hindi/Urdu. It revisits the alternative accounts proposed against the syntactic account of noun-incorporation, and highlights some of the problems in those accounts. In this exploration, I argue that head movement is syntactic and fits well with the general goals of the minimalist program. Moreover head movement is still the best analysis for certain empirical phenomena like noun-incorporation.

5.2 Noun Incorporation

Since 1980s, noun incorporation has been an important grammatical phenomenon, integrating morpho-phonology and semantics, and crossing the lexical-syntactic divide. Consider the following example in (18) from the Chilean language Mapudungun. In (18a), a verb combines with a full NP/DP object in the syntax to create a transitive clause. On the other hand, in (18b), the noun root interpreted as the object argument of the verb is combined with the verb root into a kind of compound verb that constitutes a single morphological object (a verb) for purposes of inflection.

(18) a. Ñi chao kintu-le-y ta chi pu waka. (Salas, 1992)

my father seek-Prog-Indf.3Sg the Cl cow

“My father is looking for the cows.”

b. Ñi chao kintu-waka-le-y.

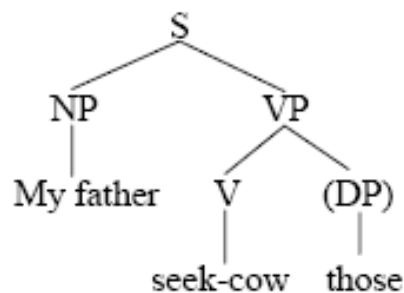
my father seek-cow-Prog-Indf.3Sg

“My father is looking for the cows.”

The general controversy about the nature of noun incorporation was whether it is derived in syntax or by a morphological process like compounding. In other words whether it is syntactic or morphological, though with syntactic consequences (Lexicalist view).

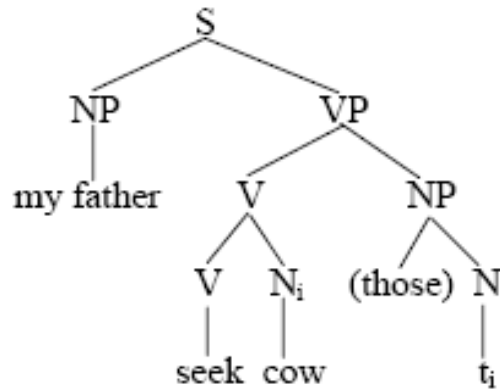
Prominent proponents of the lexicalist view (Mithun (1984), Di Sciullo and Williams (1987), and Rosen (1989), among others) held that incorporation is simply a type of compounding in which a noun root and a verb root combine to form a new verb stem in the lexicon. The noun root is not a separate entity from the verb root at any syntactic level of representation, and it is treated as the direct object of the clause. The only syntactic part is whether the complex verb stem can count as a transitive verb or as an intransitive verb in a given language. Thus, the syntactic structure of (18b) for this view is something like (19).

(19)



In contrast to the lexicalist view, Baker (1988, 1996) and Sadock (1986) argued for a particular kind of syntactic approach, in which a movement process applies in syntax. They analyzed noun incorporation as an instance of head movement; an N- node from its base position moves and adjoins to the V- node in syntax. In this view, the syntactic structure of (17b) is something like (20).

(20)



Baker's (1988) incorporation theory argues that incorporation is an instance of the syntactic rule Move-Alpha, in which an X^0 level category moves, or incorporates, into another head-level category elsewhere in the structure (21). As a syntactic operation, Incorporation is bound by independently motivated restrictions on movement present in the grammar.

(21) a. Yao-wir-a'a ye- nuhwe²-s ne ka-**nuhs**-a² (Mohawk: Baker 1988)

Pre-baby-Suf 3Sf/3N-like-Asp the Pre-house-Suf

"The baby likes the house."

b. Yao-wir-a'a ye- **nuhs**-nuhwe²-s[?] t

Pre-baby-Suf 3SgF/3N-house-like-Asp

"The baby likes the house."

The head movement analysis proposed for noun incorporation can be extended to pretty much any other process that derives morphologically complex


words from more basic elements (roots, stems, or affixes). Consider the following cases of applicative constructions, P-to-V movement (22), causatives, V-to-V movement (23), and passives, V-to-PASS movement (24).

(22) a. Ndi-na-tumiz-a chipanda cha mowa kwa mfumu. (Chichewa: Baker 1988)

1SgSubj-Past-send-Asp calabash of beer to chief

“I sent a calabash of beer to the chief.”

b. Ndi-na-tumiz-ir-a [PP tir **mfumu**] chipanda cha mowa t.
 1SgSubj-Past-send-to-Asp chief calabash of beer




“I sent a calabash of beer to the chief.”

(23) a. Mtsikana ana-chit-its-a kuti mtsuko u-gw-e. (Chichewa: Baker 1988)

girl Agr-do-make-Asp that waterpot Agr-fall-Asp

“The girl made the waterpot fall.”

b. Mtsikana anau-**gw**-ets-a [VP tgw- mtsuko t].
 Girl Agr-fall-make-Asp waterpot

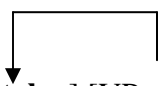


Girl Agr-fall-make-Asp waterpot

“The girl made the waterpot fall.”

(24) a. Someone stole my car. (English: Baker 1988)⁶⁰

b. [IP [NP My car] [I' [I was **stolen**] [VP t]]]



The first main aspect of Baker's theory is the Government Transparency Corollary (GTC).⁶¹

(25) A Y° which has an X° incorporated into it governs everything which X° governed in its original structural position.

GTC lets incorporation extend government domains. From GTC, Baker derives the fact that the complex head retains or inherits certain properties of the incorporated head in derived structures. For instance, in applicative constructions (19b), the object of the incorporated preposition *mfumu* has all the canonical properties of a direct object. Baker suggests this applied object may be pro-dropped and passivized. It can also trigger object agreement in Chichewa. For Baker, these properties result from the fact that, after V incorporates into P, the object of the preposition is also governed by V. The properties that the object of the preposition

⁶⁰ Baker (1988) suggests that passive morphology is the result of incorporation. According to Baker, the passive morpheme is a kind of nominal auxiliary which gets the subject argument role of a transitive verb, and creates an effect of reduced valency of the verb by one argument. The passive morpheme is at Infl position and incorporates the verb.

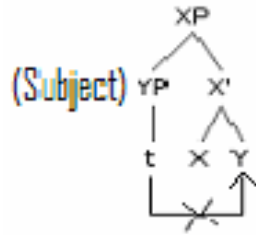
⁶¹ Although Baker (1988) calls it a corollary, it doesn't directly follow from any principle in the Government and Binding theory.

gets result from this government by V. In this way, Baker's theory of incorporation explicitly provides a fully configurational theory of grammatical function changing operations.

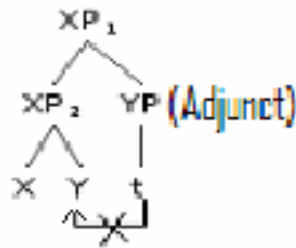
The second important aspect of Baker's theory is that he takes the trace of head movement to be bound by the Empty Category Principle (ECP). The ECP states that all traces must be properly governed. Proper government is achieved through head-government or antecedent government. Proper government amounts to minimality, and is defined in terms of the non-existence of an intervener between the proper governor and the trace. Head-government requires that the trace of head is governed by the closest head with V-features; an intervening potential head-governor blocks head-government. Antecedent government, on the other hand, requires an antecedent which minimally c-commands the trace. For Baker, ECP constraints head movement in two ways: (i) it makes head movement out of subjects and adjuncts impossible; (ii) it rules out lowering of heads.

Let's consider these consequences one by one. The ECP predicts that incorporation from a subject or an adjunct position should be impossible, since such movement would leave an ungoverned trace. The trace of head movement in subject or adjunct can neither be head-governed (no potential governor) nor antecedent governed (lack of c-command). Thus the heads of subjects (26a) and adjuncts (26b) cannot be moved to other heads without the ensuing trace violating the ECP.

(26) a.



b.



Baker provides the following empirical evidence (27) to show that head movement out of a subject or adjunct is not allowed and therefore they cannot be involved in cases of noun incorporation, causative formation, or applicative formation.

(27) a. Yao-wir-aʔa ye- nuhweʔ-s ne ka-**nuhs**-aʔ (Mohawk:Baker 1988)

Pre-baby-Suf 3SgF/3N-like-Asp the Pre-house-Suf

“The baby likes the house.”

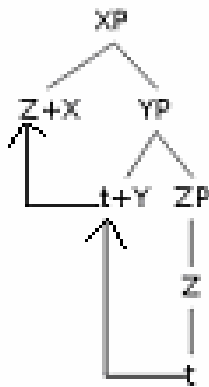
b. Yao-wir-aʔa ye- **nuhs**-nuhweʔ-sʔ t [object incorporation]

Pre-baby-Suf 3SgF/3N-house-like-Asp

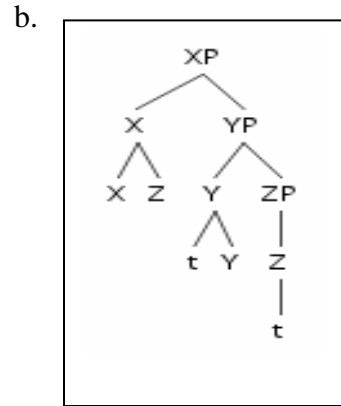
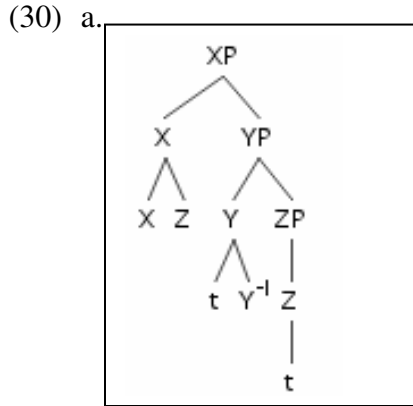
“The baby likes the house.”

(29) below, where the head Z moves to X via Y, i.e. excorporation. In Baker's theory excorporation is excluded by morphology, in that move- α cannot in general move part of a word.

(29)



In other words, excorporation is impossible in the cases involving morphological fusion that Baker is concerned with. Roberts (1991) however pointed out that excorporation is possible in other cases, such as clitic climbing and verb second phenomenon in Germanic language. Roberts used the recognition of two types of head movement, substitution and adjunction suggested in Rizzi and Roberts (1989) to account for this distinction. He claimed that excorporation is prohibited in cases involving head- substitution, while it is allowed in cases involving head-adjunction. Consider (30) below.



In (30a), the head Z substitutes into a slot selected by Y^{-1} , then moves on to X, while in (30b), Z adjoins to Y before moving to X. Roberts suggests that Y^{-1} in (30a), as a head, serves as a closer governor for the trace of Z, preventing it from being antecedent governed, and causes ECP violation. (30b) is different from (30a) in that the two occurrences of Y in (30b) are segments of a single head Y (Chomsky 1986b). Roberts further argue that one segment of the single head Y cannot block antecedent-government of the trace of Z.⁶² As a consequence, Z is able to move on to X, stranding the host Y. The trace of Z is antecedent governed by Z itself, satisfying the ECP.⁶³

⁶² This is based on the following notion of c-command given in Chomsky (1986b)

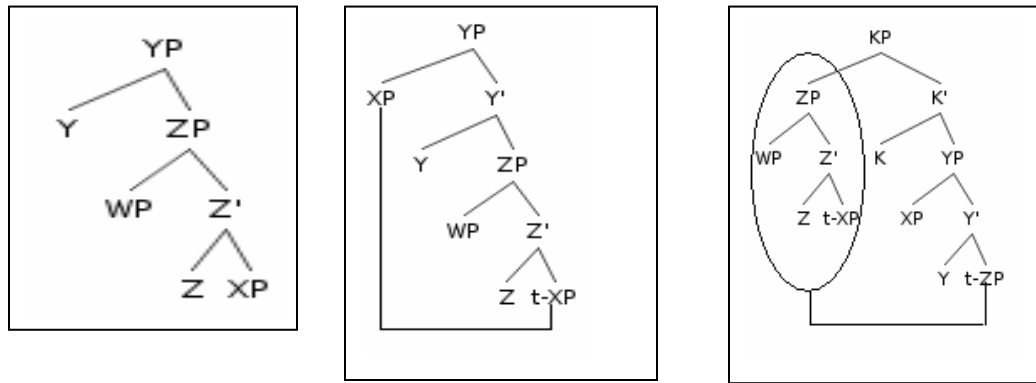
“X c-commands Y iff X and Y are categories and X excludes Y and every category that dominates X dominates Y. X excludes Y is no segment of X dominates Y.”

⁶³ I believe this is what happens in successive cyclic head movement of *kya* in Wh-scope marking constructions in Hindi/Urdu. Wh-scope marking constructions don’t involve any morphologic fusion of the heads, therefore head movement in this case would be head adjunction which allows the head to incorporate without violating ECP.

To summarize, Baker's theory derives many essential properties of noun incorporation (and other grammatical changing operations like passives) through head movement. These properties are achieved through the nature of head movement itself and its interaction with some standard constraints on movement like the ECP. For Baker, head movement is an instance of Move-Alpha and abides to all the constraints on movement like all other types of movement.

However given the current trends in the literature where the syntacticity of head movement is questioned, various alternative syntactic analyses were proposed. One such proposal is to reanalyze noun incorporation as "remnant NP movement" along the lines of Koopman and Szabolcsi's (2000) analysis of verb cluster formation in Hungarian and Dutch. The basic idea of this approach is that many traditional cases of head movement can be reanalyzed as instances of phrasal movement of a very small phrase—one that may happen to contain only a single head, perhaps as a result of other movements that extract everything else out of the phrase. Remnant phrasal movement essentially consists of two steps. The first step is the movement of a phrase, XP out of a larger phrase, ZP. The movement of XP leaves behind a remnant phrase (ZP). The second step involves the movement of the remnant ZP to a position above the XP. The remnant ZP is a constituent consisting of WP and Z. Koopman and Szabolcsi (2000) use this approach to deal with verbal cluster formation in Hungarian and Dutch.

(31)



On this view, the Mapudungun sentence in (32a) would have the structure

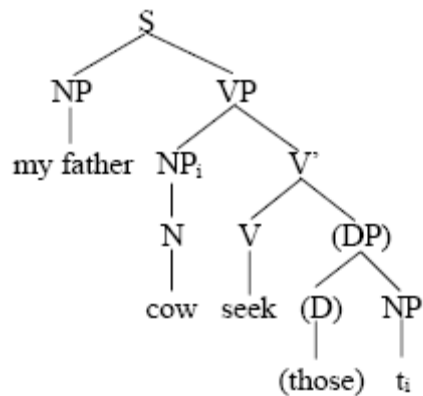
(32b).

(32) a. Ñi chao kintu-waka-le-y.

my father seek-cow-Prog-Indf.3S

“My father is looking for the cows.”

b.



Suranyi (2005) and Citko (2008) argue against this approach and point out that while a remnant analysis of some displacements may well be appropriate, analyzing all cases of head movement as remnant XP-movement comes at the price of

complicating derivations and structural representations to a significant extent. For instance, the “purging” movements vacating the remnant XP often have no identifiable featural triggers or landing sites. This approach needs to involve unnecessary proliferation of functional projections which are there only to provide landing sites for various moved elements.

This analysis also doesn’t solve the ECP problem that was raised against the head movement analysis (section 2). Consider step 2 in structure (28), where the trace of XP (inside the moved ZP) can’t be governed and would therefore cause ECP violation.

Baker (2009) further points out that the phrasal-movement account can’t explain the facts of noun incorporation correctly. For instance, in the case of incorporated noun roots in Mapudungun, the phrasal movement account cannot account for the contrast seen in the following cases (33).

(33) a. Pedro ngilla-fi-y küme pulku.

Pedro buy-Indf.3S good wine

“Pedro bought good wine.”

b. Pedro ngilla-(*küme)-pulku-pe-y.

Pedro buy-good-wine-Pst-Indf.3sS

“Pedro bought (*good) wine.”

Baker points out that in remnant phrasal movement approach, one would have to stipulate either that only a very small NP can move—one that does not contain any

modifiers—or that the modifiers have to extrapose out of NP before the NP moves. Though such derivations are possible, they cannot be the only possibility available. Indeed, it would be unfair to conclude that one has eliminated head movement in favor of phrasal movement without explaining the fact the moved phrase can contain only a single head. In general some movement processes (e.g., passive) must take modifiers and complements along with head nouns, and others (Noun incorporation in Mapudungun) must not. This makes it seem that the difference between head movement and phrasal movement is real.

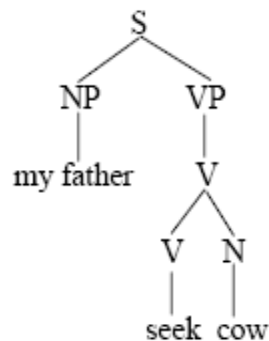
Apart from these syntactic accounts of noun-incorporation, a variety of intermediate positions have been articulated as analyses of noun-incorporation in particular languages. Most of these analyses generate noun incorporation structures in the syntax, but they do not make use of the device of head movement to do so. Included under this description are the base-generation-plus-semantic-incorporation analysis of van Geenhoven (1998, 2002) and the pseudo-incorporation analysis of Massam (2001).

Massam (2001) proposes an analysis of “pseudo-noun incorporation” in Niuean, and argues that what has been called noun incorporation in that language is simply the result of forming a verb phrase through ordinary syntactic Merge. More specifically, pseudo-noun incorporation is what one gets when the direct object that is the first thing to merge with V does not scramble or undergo object shift to a position outside of the minimal VP. As a result, the object remains adjacent to the verb in a very tight syntactic phrase with it, moving with it to Spec, TP when predicate fronting happens to give predicate-initial order in Niuean. Since the object noun remains

adjacent to the verb and in a tight constituent with it, they can be mistaken for constituting a single word (perhaps helped by the application of phrasal phonology).

The second alternative approach is adopted by van Geenhoven (1998, 2002) in her analysis of Greenlandic Eskimo—the “semantic incorporation”, where incorporation is not an overt morphological phenomenon, but is only apparent by its semantic interpretation. She assumes that the noun root and the verb root are combined in the syntax to form a larger verb, as shown in (34).

(34)



Whereas Massam merges a verb with an NP to make a VP, van Geenhoven merges a verb with a noun to make a verb. The structure in (34) is minimally different from the head movement structure in Baker (1988) in that there is no movement, and hence no trace in the object position in VP. It differs from the lexicalist view, in that the N node is present in the syntactic representation in (34), so the N node can feed directly into the compositional semantics.

This then outlines the various theories of noun incorporation and similar phenomena. The question now is what kind of different empirical expectations these

theories create, which can be used to decide between them. I explore the case of noun incorporation in Hindi/Urdu in the following section to look for an answer.

5.3 Noun incorporation in Hindi/Urdu

Mohanan (1995) was the first to suggest that Hindi/Urdu has incorporation. She investigates certain noun-verb sequences in Hindi/Urdu, and points to their dual nature. In Hindi/Urdu, sometimes a noun-verb sequence behaves as a pair of independent phrasally-concatenated verb and its argument, however it can also be interpreted as a single unit, a complex verb. In other words, the noun-verb sequence in its external appearance looks similar to a regular syntactic phrase consisting of a verbal predicate and a nominal argument, however this also allows for an incorporated reading which indicates some kind of incorporation of the noun (N) into the verb (V). Consider the following sentences from Hindi/Urdu and their two readings:

(35) anil kitaabeN bece-gaa. (Mohanan,1995)

Anil books sell-Fut

i. "Anil will sell books." Unincorporated reading

ii. "Anil will do book selling." Incorporated reading

(36) anil-ne kitaabeN becii.

Anil-Erg books sell-Perf

i. "Anil sold books." Unincorporated reading

ii. "Anil did book selling." Incorporated reading

5.3.1 Properties of Noun-Incorporation in Hindi/Urdu

The Incorporated reading is subject to syntactic, semantic and pragmatic constraints which do not exist on the unincorporated reading. First of all, the incorporated reading is restricted in the class of nouns that may be the arguments of the verbal predicate, for example: the incorporated noun must obligatorily have a generic interpretation. Second, there is an adjacency requirement, in the sense that the verb and the noun need to be structurally adjacent to each other. For instance, an incorporated noun cannot be the subject of a passive (37). In chapter 4, we saw that Hindi/Urdu has “anti-impersonal passives” (Ura, 1995), which involve only object promotion but not subject demotion. Both the NPs are in Spec of Infl; the logical subject is in inner spec whereas the promoted object occupies the outer spec position. Since in structures like (37b), the verb and the object are no longer structurally adjacent (even though they are linearly), incorporation is not possible.

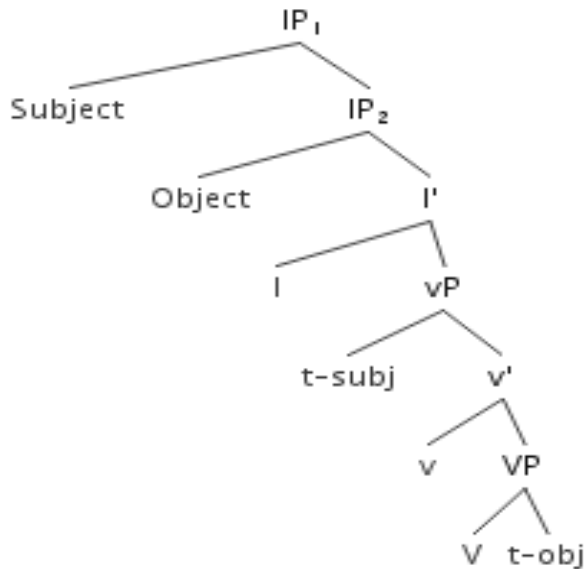
(37) a. anil-dwara kitaabe becii jaaegii (Mohanana, 1995)

Anil by books sell go-Fut

“The books will be sold by Anil.”

“*Book-selling will be done by Anil.”

b.



Furthermore an incorporated noun must be bare, a fact which also reflects its complete incorporation within the verb. This condition is so strict that even a case-marker is not allowed, i.e., if a noun is inflected for case, it is not incorporated. See examples (38) below.

(38) anil kitaabo-ko becce-gaa.

(compare with (35))

Anil books-Acc sell-Fut

“Anil will sell the books.”

“*Anil will do book-selling.”

Likewise a modifier is not allowed with the noun. The following example (39) shows that an incorporated noun cannot take an adjectival modifier; i.e., an adjective-noun cannot result in an incorporated reading.

(39) Anil puraanii kitaabe bece-gaa

(Mohanana, 1995)

Anil old books sell-Fut

“Anil will sell old books.”

“*Anil will do the selling of old books.”

Similarly, other elements like the intervening subject (40a), the locative adjunct (40b) and the negative (40c) also prevent the incorporated reading.

(40) a. kitaabe anil becce-gaa

(Mohanana, 1995)

books Anil sell-Fut

“Anil will sell books.”

“*Anil will do book selling.”

b. anil kitaabe bazaar-me becegaa

Anil books market-in sell-Fut

“Anil will sell books in the markets.”

“*Anil will do book-selling in the market.”

c. anil kitaabe nahii becegaa

Anil books not sell-Fut

“Anil will not sell books.”

“*Anil will not do book-selling.”

Thirdly, the behavior of the noun and the verb in the incorporated reading is fully correlated: neither can be conjoined or gapped (dropped) alone.

(41) a. anil haathii aur ghode bectaa hai (Mohanani, 1995)

Anil elephants and horses sell be-Pres

“Anil sells elephants and horses.”

“*Anil does elephant-and horse selling.”

b. anil ghode khariidtaa aur bectaa hai

Anil horses buy and see be-Pres

“Anil buys and sells horses.”

“*Anil does horse-buying and selling.”

All the above discussed cases however were of inanimate objects (like *kitaabe* “books”). Let’s consider the case of animate objects now. There is one clear difference between animate object and inanimate objects and that is that instead of being ambiguous between an incorporated and non-incorporated reading, animate objects (both human and non-human) only provide incorporated reading, compare (42) with case of inanimate objects in (35).

(42) a. ilaa bacce khojtii rehtii hai (Mohanani, 1995)

Ila children search Prog be-Pres

“Ila is performing the act of searching for children.”

“*Ila is searching for children.”

b. ilaa titaliyaan khojtii rehtii hai

Ila butterflies search Prog be-Pres

“Ila is performing the act of searching for butterflies.”

“*Ila is searching for butterflies.”

All the other requirements that were there for the inanimate object still hold for the animate objects. For instance, when case-marked the incorporated reading is not available (43a). It also does not allow anything to interfere between itself and the verb, thus no adjectival modification (43b), conjoining (43c) or gapping (43d) is permitted.⁶⁴

(43) a. ilaa bacco-ko khojtii rehtii hai

Ila children-Acc search Prog be-Pres

“Ila is searching for children.”

“*Ila is performing the act of searching children.”

b. *ilaa chote bacce khojtii rehtii hai

Ila small children search Prog be-Pres

c. *ilaa ladke aur ladkiyaa khojtii rehtii hai

Ila boys and girls search Prog be-Pres

⁶⁴ These sentences are acceptable when the animate object is case-marked. Those cases are irrelevant here as case-marked animate objects don't allow incorporated reading. It is only non case-marked animate objects that allow incorporated readings.

d. *ilaa bacce khotii aur khojtii rehti hai

Ila children lose and search Prog be-Pres

Dayal (1999) drew on some semantic evidence to explore the incorporation structure of the Hindi/Urdu noun-verb sequence. The first important fact refers to Case-marking on direct objects in Hindi/Urdu. She claimed that the optionality of accusative case marking on direct objects in Hindi/Urdu has both syntactic as well as semantic grounds. For instance, accusative case morphology on inanimate direct objects affects definiteness. As a result (44a) is indefinite and (44b) is definite.

(44) a. Ilaa-ne haar uthaayaa (Dayal, 1999)

Ila-Erg necklace lifted

“Ila lifted a necklace.”

b. Ilaa-ne haar-ko uthaayaa

Ila-Erg necklace-Acc lifted

“Ila lifted the necklace.”

The situation is pretty much the same with animate objects, Case-marking reflects definiteness and specificity.⁶⁵ Case marking is obligatory if the object has a determiner (45) but optional if there is no determiner (46).

⁶⁵ Similar to Turkish and Persian, where the morphological accusative case marks an object NP as specific (Enc, 1991; Karimi, 2003)

(45) a. Ilaa-ne ek bacche-ko uthaayaa (Dayal, 1999)

Ila-Erg one child-Acc lifted

“Ila lifted a child.”

b. *Ilaa-ne ek baccha uthaayaa

Ila-Erg one child lifted

“Ila lifted a child.”

(46) A. Ilaa-ne bacche-ko uthaayaa

Ila-Erg child-Acc lifted

“Ila lifted a child.”

b. Ilaa-ne baccha uthaayaa

Ila-Erg child lifted

“Ila lifted a child.”

The incorporated nominals also seem to be different from other weak indefinites. Take for example the following minimal pair of Hindi/Urdu sentences. The first exemplifies the interpretation of an incorporated bare NP, and the second exemplifies the interpretation of a normal indefinite. The interpretation of an incorporated NP is a narrow scope, non-specific existential, as opposed to the wide-scope, specific existential reading associated with regular indefinites.⁶⁶

⁶⁶ The term *specific* here refers to mean referring to a unique individual — not necessarily known to the speaker, but known by the speaker to exist — who fits the description.

(47) a. anu kitaab nahii paRhe-gii (Dayal, 1999)

Anu book not read-Fut

”Anu won’t book-read.”

” *There’s a book Anu won’t read.”

b. anu ek/koiI kitaab nahiiN paRhegii

Anu one/some book not read-Fut

“Anu won’t read any book.”

“There’s a book Anu won’t read.”

Another important semantic property of noun incorporation is number neutrality. (Dayal, 2011) Like English bare plurals, Hindi/Urdu bare plurals can be used with kind level as well as object level predicates.

(48) a. *kutte* yehaaN aam haiN (Dayal, 2011)

dogs here common be-Pres-Pl

“Dogs are common here.”

b. *kutte* bahut bhauNkte haiN

dogs lot bark be-Pres-Pl

“The dogs/Dogs bark a lot.”

Traditionally it’s assumed that Hindi/Urdu bare nominals can be used as definites or indefinites, since Hindi/Urdu does not have definite or indefinite articles (Verma, 1966 and Gambhir, 1981). The definite use of bare plurals can be

demonstrated by examining (48b), which can be read as a generic statement about the properties of the species or a habitual statement about particular entities salient in the discourse. The ability of bare nominals to function as definites is illustrated by (49a), where the linguistic context brings out its anaphoric use. The indefinite use is illustrated by (49b):

- (49) a. kuch bacce andar aaye. *bacce* bahut khush the
some children inside came children very happy be-Pst-Pl
“Some children came in. The children were very happy.”
- b. kamre meN *cuuhe* haiN
room in mice be-Pres-Pl
“There are mice in the room.”

However, Dayal (2004) shows that bare nominals cannot be taken to be true indefinites, as they only allow weak indefinite readings. In (50a) the bare plural takes scope under negation and in (50b) under the intensional verb. Hindi/Urdu bare plurals are ambiguous between definites and kind denoting terms. The weak indefinite interpretation of Hindi bare plurals is derived from its kind reading.

- (50) a. kamre meN *cuuhe* nahiiN haiN
room in mice not be-Pres-Pl
“There aren’t mice in the room.”

b. mujhe lagtaa hai ki kamre meN *cuuhe* ghuum rahe haiN
to-me seems be-Pres that room in mice moving around are
“It seems to me that there are mice moving around in the room.”

Hindi/Urdu bare singulars behave a little differently. Although they can have weak indefinite readings (51), they cannot be considered as true indefinites (52).

(51) (lagtaa hai) kamre meN *cuuhaa* hai
seems be-Pres room in mouse be-Pres
“It seems there’s a mouse in the room.”

Examples like (52a) show that bare singulars cannot have a narrow scope indefinite reading. The bare plural in a similar context (52b) has a plausible narrow scope indefinite reading.

(52) a. #caroN taraf *baccaa* khel rahaa thaa
four ways child play Prog be-Pst
“The same child was playing everywhere.”
b. caroN taraf *bacce* khel rahe the
four ways children play Prog be-Pst
“Children (different ones) were playing in different places.”

Dayal (2011) further claims that the existential force of Hindi incorporated nominals must come from a different source than the existential force of weak indefinites. Consider the following example (53), where the bare nominal *cuuhaa* ‘mouse’ is singular:

(53) a. puure din kamre meN cuuhaa ghustaa rahaa

whole day room in mouse entering Prog

‘The whole day the mouse/a mouse (the same one) kept entering the room.’

b. anu puure din cuuhaa pakaRtii rahii

Anu whole day mouse catching Prog

‘Anu kept catching mice (different ones) the whole day.’

In example (53a), the bare singulars refer to a single entity rather than different entities picked from a set. In example (53b), on the other hand, the bare singular draws on a plurality of individuals, rather than on a single individual. Another difference between (53a) and (53b), which is crucial to the present discussion, is that (53b) involves noun-incorporation and (53a) doesn’t. Dayal (2011) argues that cases like (53b) show that neutralization of number is a feature of incorporated nominals, not of Hindi/Urdu bare singulars in general.

Another semantic property of Hindi/Urdu noun incorporation comes from the scope facts. Dayal discussed example (54a) and pointed out that in such cases the animate object has no determiner, no Case-marking and only one possible interpretation, where the negation takes scope over the existential. This is quite

different from cases like (54b), where the object is an indefinite Case-marked object, The indefinite form is interpreted with the existential taking scope over negation.

(54) a. *anu bacca nahiiN sambhaale-gii* (Dayal, 1999)

Anu child not look-after- Fut

“Anu will not look after children.”

b. *anu ek bacce-ko/ bacce-ko nahiiN sambhaale-gii*

Anu one child-ACC child-ACC not look-after Fut

“Anu will not look after a particular child/the child.”

Hindi/Urdu incorporated NPs also take narrow scope under other operators as well as negation, including adverbials and quantifiers. According with their non-specific interpretations, they also do not support discourse anaphora.

(55) a. *anu puure din machhlii pakaRtii rahii* (Dayal, 1999)

Anu whole day fish catching Prog

“Anu kept fish-catching the whole day.”

b. *anu kitaab paRh rahii hai. *vo bahut acchii hai*

Anu book read Prog be-Pres it very good be-Pres

“Anu is book-reading. It is very good.”

There are also certain limitations on what kinds of nouns can incorporate. First, inanimate NPs incorporate better than animate NPs. Mithun (1984) and others,

have also noted that incorporated inanimates tend to be more common than incorporated animates. Second, idiosyncratic cultural practices seem to make certain nouns more incorporable. For example, the incorporated *laRkii dekhnaa* “Girl-seeing” only refers to the practice of looking for a prospective bride, and the parallel *aurat dekhnaa* “Woman-seeing” is unacceptable. Similarly, the noun *baccaa* “child” can combine with the verb *khilaanaa* “look-after” but not with *maarna* “beat”. Consider the following examples from Dayal (2011).

- (56) a. *laRkii-dekhnaa*, *laRkii DhuunDhnaa*, *baccaa-khilaanaa*, *baccaa-samhaalnaa*
 girl-seeing girl-finding child-causing-to play child-looking-after
- b. **baccaa-maarna*, **laRkii-sulaanaa* **aurat-dekhnaa*, **laRkii-khilaanaa*
 child-beating girl-putting-to-sleep woman-seeing girl-causing-to play

Let’s summarize the properties of noun-incorporation we have discussed so far; (i) the incorporated noun must obligatorily have a generic interpretation. The incorporated nominal is a generic indefinite. (ii) There is an adjacency requirement, in the sense that the verb and the noun need to be adjacent to each other; absolutely nothing can intervene between the two. (iii) The incorporated noun can neither be modified nor coordinated. (iv) The incorporated noun is an indefinite, rather than a definite or some quantified type of noun phrase. (v) The indefinite is a non-specific, rather than specific. (vi) The indefinite is interpreted as a narrow-scope indefinite only, showing no scoping interactions with other logical operators in the same

sentence that is typical of syntactically-expressed indefinites. (vii) Finally, the incorporated nominal is number-neutral.

5.3.2 Previous Analyses of Hindi/Urdu noun-incorporation

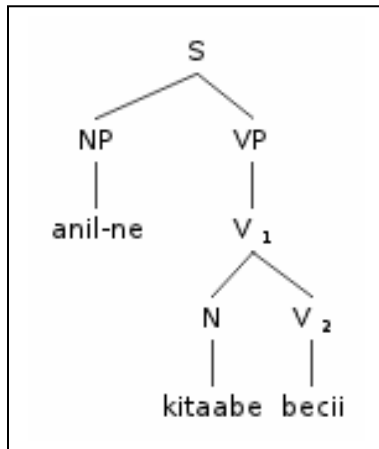
Mohanan (1995) analyzes Hindi/Urdu noun incorporation in line with the “lexicalist view” (Mithun (1984), Di Scullo and Williams (1987), and Rosen (1989), among others) where incorporation is a compounding of a noun root and a verb root to form a new verb stem in the lexicon. In her view, examples like (57) will have structure like (58a) for the incorporated reading and (58b) for the non incorporated reading.

(57) anil kitaabe bece-gaa.

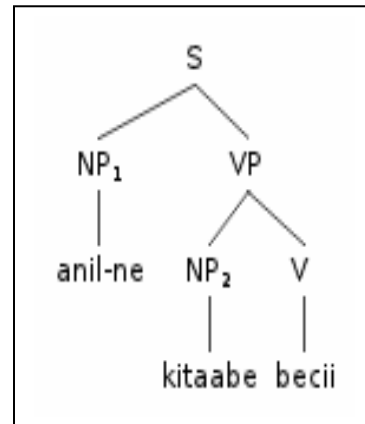
Anil books sell-Fut

- i. “Anil will sell books.” Unincorporated reading
- ii. “Anil will do book selling.” Incorporated reading

(58) a.



b.



The restrictions on the incorporated reading vis-à-vis case morphology, adjectival modification, passivization exists because they are all syntactic phenomena and therefore cannot modify/affect a lexical unit (noun-verb compound). In other words, the syntactic peculiarities of the incorporation construction are a consequence of the lexical incorporation between the noun and the verb.

There are two problems with this approach. The first problem is pointed out by Mohanan herself. The puzzle comes from agreement facts in Hindi/Urdu incorporation constructions. In Hindi/Urdu, the verb always agrees with its nominative subject (59a). However when the subject is non-nominative, it becomes unavailable for agreement. As a consequence, the verb shows agreement with its object (59b). The facts remain the same even when the object is incorporated into the verb (60).

(59) a. raam kitaabeN paRegaa
 Ram- 3P.Sg.M books-3P.Pl.F read-Fut-3P.Sg.M
 “Ram will read books.”

b. raam-ne kitaabe paRii
 Ram- 3P.Sg.M-Erg. books-3P.Pl.F read- 3P.Pl.F
 “Ram read books.”

(60) a. anil kitaabeN bece-gaa.
 Anil-3P.Sg.M-Erg books- 3P.Pl.F sell-Fut-3P.Sg.M-Erg
 i. “Anil will sell books.” Unincorporated reading
 ii. “Anil will do book selling.” Incorporated reading

| | | |
|------------------------------|------------------------|---------------|
| b. anil-ne. | kitaabeN | becii. |
| Anil-3P.Sg.M-Erg | books-3P.Pl.F | sell- 3P.Pl.F |
| i. “Anil sold books.” | Unincorporated reading | |
| ii. “Anil did book selling.” | Incorporated reading | |

There are three important things to note about the agreement patterns in the incorporated cases. First, verb-agreement, a syntactic process, can access the incorporated structure. Verb-agreement in Hindi/Urdu is based on the grammatical case of the phrasal subject and object in the sentence. Second, agreement can take place between the subject and the verb in incorporated structures (60a). Third, the agreement internal to the incorporated structure is possible but this agreement between the verb and the object is dependent on the non-availability of agreement with the subject (60b). The non-availability of subject in turn is dependent on the Case-marking on the subject. Assuming that the case on the arguments can only be licensed after phrasal concatenation (and not in the lexicon), we can conclude that the pieces of the noun-incorporation construction behave as independent syntactic atoms, and are accessible to syntactic processes. The incorporated structure should be analyzed syntactically as an independent predicate’s argument (and not as a lexical incorporation).

The second problem for Mohanan’s lexicalist approach comes from binding facts.⁶⁷ Carnie (1994) noticed that binding out of a syntactic unit is licit (61a), whereas binding out of a syntactic compound is degraded and binding out of a lexical compound is completely unacceptable (61c). Even though binding out of a syntactic

⁶⁷ Thanks to Prof. Juan Uriagereka for pointing this out to me.

compound is not completely fine, there is still a genuine contrast between (61b) and (61c).⁶⁸

- (61) a. John is a doctor of animals_i but he is allergic to them_i.
b ? John is [an animal_i doctor] but he is allergic to them_i.
b. *My favourite tool is the fly_i-swatter but they_i are all extinct.

If these binding facts are a diagnostic for “word” status, then the fact that binding is available in incorporated cases as well, suggests that incorporated structures are syntactic units and not lexical. Consider example (62) below, where the incorporated object *fish* can bind the pronoun.

- (62) anu machhlii bechtii hai, par unhe kaaTtii nahiN
Anu fish selling be-Pres, but them cut not
“Anu sells fish, but doesn’t cut them”.
“Anu does fish-selling, but doesn’t cut them.”

The second view on Hindi/Urdu incorporation comes from Dayal (1999) who suggested it to be semantic incorporation, involving a process of *theme suppression*. The idea is that when a Hindi/Urdu bare NP denotes a kind expression incompatible with an individual-taking argument position, the incompatibility is resolved by the suppression of the argument position and the incorporation of the NP with the

⁶⁸ Thanks to Prof. Norbert Hornstein for noticing this.

predicate. The interpretation of an incorporated NP is a narrow scope, non-specific existential reading, as in (63).

(63) a. anu kitaab nahii paRhe-gii (Dayal, 1999)

Anu book not read-Fut

”Anu won’t book-read.”

” *There’s a book Anu won’t read.”

Since incorporation, in this approach, is semantically driven, there cannot be any syntactic requirement for adjacency between the noun and the verb. So, how do we explain the adjacency facts we observed about Hindi/Urdu cases earlier? Regarding the blocking effects created by the case-markers, Dayal suggests that the adjacency between the noun and the verb in Hindi/Urdu incorporated NPs follows from the non-availability of the existential reading. In other words, the accusative case-marking on the NP in (64) blocks incorporation because it disallows an existential / indefinite nonspecific reading.⁶⁹

(64) anu [kitaab-ko] paRh rahii hai. (Dayal, 1999)

Anu [book-ACC] read Prog be-Pres

“Anu is reading the/a certain book.”

“*Anu is book-reading.”

⁶⁹ This bareness requirement can also be account by a Baker style head movement analysis. We will return to this discussion in the next section.

She however doesn't account for the absence of modification and coordination of the incorporated noun. Dayal (2011) takes up this issue and claims that Hindi/Urdu noun incorporation allows both modification and coordination (contra Mohanan, 1995). She discusses the following examples (65) and (66) and refers to Wescoat's (2002) survey of noun-incorporation to show that Hindi/Urdu incorporated nominals allow both modification and coordination.

(65) a. anu sirf *puraanii kitaab* becce-gii

Anu only old book sell-Fut

“Anu will only sell old books.”

b. anu apne beTe ke-liye *bahut sundar /paRhii-likhii laRkii* DhuunDh rahii hai

Anu self's son Gen for very beautiful educated girl search Prog be-Pres

“Anu is looking for a very beautiful/educated girl for her son.”

(66) a. anu apne beTe ke-liye *sundar aur paRhii-likhii laRkii* DhuunDh rahii hai

Anu self's son Gen for beautiful and educated girl search Prog be-Pres

“Anu is looking for a beautiful and educated girl for her son.”

b. anu *kutta aur billi* paaltii hai

Anu dog and cat breeds be-Pres

“Anu breeds cats and dogs.”

Dayal then asserts two points that set Hindi/Urdu incorporation apart from the more canonical forms of incorporation. One, the Hindi/Urdu incorporated nominal is

a phrasal rather than a lexical category. Two, the incorporated nominal does not have to occur next to the verb. The two arguments establish that Hindi/Urdu is really a pseudo-incorporating language involving an NP, and not an N⁰. Since, there is no syntactic or lexical incorporation involved between the NP and the V-head, there is no adjacency requirement.

What is crucial here is the judgment on the above sentences (65) and (66) reported in Dayal (2011), which sharply contrasts with Mohanan (1995) who doesn't allow modification and co-ordination of the incorporated noun. My judgments (and some other native speakers I have checked with) align with Mohanan and contrast with Dayal. There seems to be a dialectal variation here. Wescoat (2002) reports a similar dialect split through a detailed study on noun-incorporation in Hindi/Urdu, and suggests two dialects, one which has incorporation (say Dialect A) and one which doesn't (say dialect B). Dialect A doesn't allow modification or coordination whereas Dialect B does. Interestingly, Dayal acknowledges the dialect split for allowing co-ordination but rejects it for noun-modification, since it doesn't come out very clearly in Wescoat's study.

Another problem with Dayal's account comes from the fact that incorporated structures have truth conditional consequences.⁷⁰ A semantic account of noun-incorporation predicts that the two readings will have same truth conditions. This prediction however doesn't seem to be correct for Hindi/Urdu Incorporation structures. Consider the truth conditions accompanying the two readings of (67a). (67b) and the non incorporated reading of (67a) cannot be true at the same time, whereas (67b) and incorporated reading of (67a) can be true simultaneously.

⁷⁰ Thanks to Prof. Juan Uriagereka for pointing this out.

(67) a. mohan chuTTiyoN-meN vək̄yũm kliinar bectaa thaa. (Mohan, 1995)

Mohan holidays-in vacuum cleaner sell be-Pst

”Mohan was selling vacuum cleaners during the holidays.”

“Mohan was doing vacuum cleaner-selling during the holidays.”

b. us-ne do mahine-meN ek bhii vək̄yũm kliinar nahii beci.

he-Erg two month-in one even vacuum cleaner not sell-Pst

“He didn't sell even one vacuum cleaner in two months.”

5.3.3 Head movement account for Hindi/Urdu noun-incorporation

I would start with highlighting the dialect split we observed in the previous section.

Here I would like to use the *vaalaa* test (Mohan, 1995) to clarify this dialect split vis-à-vis modification of the incorporated noun. The suffix *-vaalaa* in Hindi/Urdu is an agentive marker and can attach to the noun-verb incorporated structure (68).⁷¹

The N-V sequence in (68) takes a single primary stress.

⁷¹ The suffix *vaalaa* in Hindi/Urdu also has three other functions, it can act as an occupation marker and concatenates with nouns and functions (a). It marks the subject of the relative clause (b). It can also be an aspect marker indicating immediate future (c). These functions are however not relevant in the present discussion.

(a) ghodaa ghode-vaalaa

horse horse seller/keeper

(b) boston-se kaanfrens-ke liye aane valaa admii.....

Boston-from conference-for coming man

“The man who is coming from Boston for the conference....”

(68) a. kitaabe-becne vaalaa

books-sell Agent-Marker

“Book seller”

b. laRkii DhuunDhne vaalii

girl search Agent-Marker

“Girl searcher/finder”

However, when there is a modifier attached to the incorporated noun, as in (69), *vaalaa* cannot attach to the incorporated structure.

(69) a. *Puraanii kitaabe becne vaalaa

Old books sell Agent-Marker

“Old-Books seller.”

b. *Sundar ladkii DhuunDhne vaalii

beautiful girl search Agent-marker

“Beautiful-girl searcher/finder.”

The above stated *vaalaa* test shows a clear dialect split in Hindi/Urdu w.r.t to allowing modification for the incorporated noun. Dialect A doesn't allow modification and co-ordination and has incorporation. Dialect B on the other hand,

(c) raam kaanfrens-ke liye kaliforniya jaane vaalaa hai

Ram conference-for California go is

“Ram is about to go to California for a conference.”

allows modification and co-ordination and doesn't have incorporation. Therefore, Dayal (2011)'s claim that Hindi/Urdu is really a pseudo-incorporating language involving an NP, and not an N^0 , accounts only for Dialect B, and not Dialect A. The proposal below attempts to provide an explanation of the facts about Dialect A while addressing the problems in adopting a lexicalist view (Mohanan, 1995).

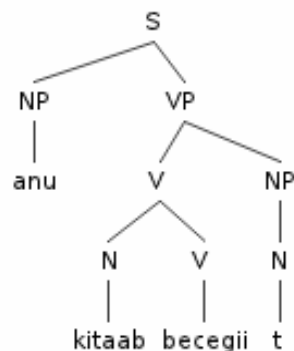
The analysis I am proposing for noun-incorporation in Dialect A of Hindi/Urdu is a syntactic one, involving head movement of N to V (Baker, 1988). The idea is that the head noun of the bare NP undergoes syntactic head movement to adjoin to the verb in Hindi/Urdu, just as in Mohawk (Baker, 1988). The newly formed complex head inherits certain properties of the incorporated head in derived structure (GTC; Baker, 1988). In other words, head movement acts as a vehicle for the complex predicate construction in Hindi/Urdu. Consider the following sentence (70a) from Hindi/Urdu and its structure (70b) as a complex predicate.

(70) a. *anu kitaab becce-gii*

Anu book sell-Fut

“Anu will do book-selling.”

b.



The important question at this point is, what is the motivation for this head movement? One possibility lies in the nature/type of the noun involved in incorporated structures. In the previous section, we saw that the noun involved in Hindi/Urdu incorporation is not case-marked, nor can it have any modifiers (Mohan, 1995). It also has a special interpretation: it is not fully referential, but rather is a weak indefinite; it is also unspecified as to number (Dayal, 1999 and 2011). In other words, it is an NP and not a DP that is involved in incorporation in Hindi/Urdu. One might therefore assume that object NPs are not able to undergo the same sorts of movement that full DPs can (Massam, 2001), and thus undergo head movement instead of phrasal movement. This is however not true since the object nominal can otherwise undergo phrasal movement in cases like passivization (71b) and scrambling (71c) in Hindi/Urdu.

(71) a. anil kitaabeN becce-gaa

Anil books sell-Fut

“Anil will sell books.”

“Anil will do book-selling.”

b. anil-dwara kitaabeN beccii jaae-gii

Anil by books sell go-Fut

“The books will be sold by Anil.”

“*Book-selling will be done by Anil.”

- c. kitaabeN anil becce-gaa
 books Anil sell-Fut
 “Anill will sell books.”
 “*Anil will do book-selling.”

Given (71), we can assume that both phrasal as well as head movement options are available with the object nominal. One reason for picking head movement over phrasal movement for incorporation could be minimality; head movement should be preferred on minimality grounds as it involves moving less material than phrasal movement Donati (2006). Notice that phrasal movement in cases like passivization and scrambling (71) is motivated by features like EPP and FOCUS. On the other hand, head movement in incorporation does not involve these features. Baker (2003) suggested that the reason for head movement in incorporated structures is LF interpretation; the noun and the verb need to be interpreted as forming a complex head. Consider the following semantics for sentences like (71a).

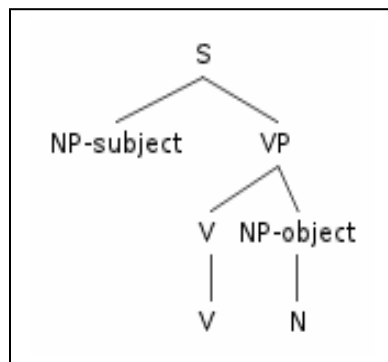
$$(72) \text{ [book sell]} = \lambda x \text{ [book}(x)\text{]} \lambda P \lambda y \lambda e \text{ [P-sell (e) \& agent}(e)=y\text{]} = \lambda y \lambda e \text{ [book-sell (e)\& agent}(e)=y\text{]}$$

Assuming the “single output” theory of syntax (Bobaljik 2002, etc.), if one wants to have a complex predicate of this sort at LF, the resulting structure will also have implications at PF vis-à-vis linearization or the pronunciation of the element in a well defined order at PF. Given the copy theory of movement, we know that a moved

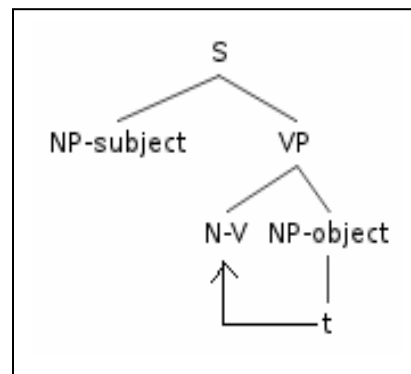
element X has more than one syntactic position and it is usually the copy whose features have been checked that is retained (Nunes, 2004). Baker (2010) notes that since head movement in incorporation does not happen for reasons of any morphological feature checking, but to create a complex predicate, there is no principled way for the PF to choose one copy over the other, hence a problem for head movement.

The head movement in Hindi/Urdu incorporation however has a way out of this problem. In the previous chapters, I have assumed that Hindi/Urdu is an SVO language and the object starts at the right of the verb (73a). The surface SOV order is derived by the movement of the object to the left of the verb. The movement of the object to the left of the verb is to satisfy Case and/or agreement requirements. What I am suggesting here is that when the N head moves to the V head for incorporation, it also checks the Case and agreement features in that configuration (73b). And since it is the moved copy which has its features checked, it is the one that gets pronounced.

(73) a.



b.



The difference between object-movement in incorporation and the usual object shift cases is head movement versus phrasal movement. This distinction, I suggest, which finds its roots in the N-D distinction. I hinted towards a similar connection between head movement and N head in the discussion on dative arguments in English raising constructions in Chapter 3 (section 3.3.1).

Longobardi (1994) proposed that a nominal can appear as an argument only if it occurs with a D element which is associated with a referential feature [R], endowing a nominal with referentiality, a property required for the noun to function as an argument. Without a D, nominals must move and attach to another category. Ds on the other hand don't have any such requirement and can occur as an independent projection.

Furthermore the structure perseverance requirement on head movement will rule out the possibility of an NP moving to the V head; only an N head can move to a V head.

The head movement analysis explains certain properties of Hindi/Urdu incorporation in terms of familiar constraints on head movement. Firstly, it is always the direct object that is the target of incorporation in Hindi/Urdu. Assuming that incorporation involves head movement, the ECP requirement on head government will rule out the possibility of incorporation from a non-complement category. This also explains why incorporation is not allowed with a passivized (71b) or scrambled object (71c).

The second requirement is the strict surface adjacency requirement in Hindi/Urdu incorporation. The strict locality condition on head movement imposed

by HMC makes the movement very local that nothing can come between the two heads.

The third property of Hindi/Urdu noun incorporation is agreement. As we have discussed earlier, in Hindi/Urdu, the incorporated nominal as well as the subject nominal (which is external to the incorporated structure) can show agreement with the verb. Assuming that some sort of syntactic visibility is needed for purposes of agreement, this acts as evidence that Hindi/Urdu incorporation does operate at the syntactic level.

An important thing to note here is that the role of semantics in Hindi/Urdu noun-incorporation cannot be denied. For instance, in Hindi/Urdu it is much easier to incorporate inanimate themes than animate ones, and that there is contrast between the plural and the singular incorporated nouns. These aspects of the incorporated noun can again be related to the N vs. D distinction. Animate objects in Hindi/Urdu obligatorily carry the accusative Case-marker (-ko), whereas inanimate objects carry the Case-marker only when they are definite or specific. Assuming that properties like number, definiteness and specificity are features of the D head and not the N head, it can be concluded that since the inanimate nouns usually occur as bare Ns, they are the ones that get incorporated,

To summarize, the proposal sketched in this section argues in favor of a syntactic account for incorporation, particularly incorporation in Hindi/Urdu dialect A, in terms of head movement. The alternative proposals (Mohanan, 1995 and Dayal 1998, 2011) suggested for Hindi/Incorporation fare better on some of the data than others. They all leave serious unanswered questions at multiple points. The syntactic

head movement accounts wins over these accounts and seems like the best theoretical explanation for noun-incorporation in Hindi/Urdu.

5.4 Chapter Summary

The noun-incorporation construction raises many issues in empirical and theoretical grammar. At the heart of many of these issues is the question whether noun-incorporation is a word formation rule or whether it interacts with syntax, manipulating sentential predicates. The study of noun-incorporation thus raises questions as to whether there is a distinct word-formation component. Empirically, languages exhibit myriad forms of noun incorporation, both morpho-syntactically and semantically. In early work, morphology and syntax were the main areas of attention, in particular the role of polysynthesis and compounding in noun incorporation, but in recent years, the meanings of both the parts and the whole of incorporation complexes have taken center stage.

In this chapter, I have reviewed the phenomenon of noun incorporation in Hindi/Urdu, and argued that noun incorporation in this language should be analyzed as syntactic head movement rather than as lexical compounding (Mohanan, 1995) or pseudo incorporation (Dayal, 1999, 2003, 2011). It must be emphasized, however, that the proposal made in this chapter doesn't account for all the languages and even all the dialects of Hindi/Urdu. And there do seem to be real empirical differences in the behavior of noun-incorporation over the range of languages and dialects. For example, modifiers can "incorporate" along with nouns in one dialect of Hindi/Urdu (as reported in Dayal, 2011) but not in the other dialect (as reported in Mohanan,

1995), supporting a pseudo-incorporation analysis for the former but not the latter. A corollary of this investigation, then, is that noun incorporation constructions in different languages/dialects seem to be different enough syntactically and semantically to warrant distinct analyses.

Chapter 6

Conclusion

While discussing intervention effects observed in a variety of constructions, this thesis proposed three things, (a) intervention effects are minimality effects (b) intervention effects occur as a consequence of movement, even when things don't appear to move, and (c) head movement is a plausible alternative for LF movement and Agree.

Chapter 2 discussed intervention effects in constructions such as *Wh*-scope marking and Multiple questions in languages like German and Hindi/Urdu. It suggested that intervention effects in these cases involve overt movement and occur when an intervening focus element blocks the movement of the *Wh*-element across it. For *Wh*-scope marking constructions, I suggested that the *Wh*-scope marker is actually the head of the *Wh*-phrase. It base-generates as a single complex DP with the *Wh*-phrases and in the course of the derivation, it moves to a matrix clause leaving the *Wh*-phrase stranded inside the embedded clause. Languages differ with respect to the position of the *Wh*-scope marker in the matrix clause. For instance, German places its *Wh*-scope marker in the CP whereas Hindi/Urdu places it in the *v*P. With respect to multiple questions, I suggested that languages like German and Hindi/Urdu involve overt movement of all *Wh* phrases. However unlike languages like Bulgarian which move all the *Wh*-phrases into an articulated C domain, German and Hindi/Urdu move

their *Wh*s to different projections. German and Hindi/Urdu also differ as German moves at least one of its *Wh*s to the C domain, whereas Hindi/Urdu doesn't.

This chapter captured these differences between German and Hindi/Urdu in terms of the featural properties of the phase-defining heads (C, ν). The difference between German and Hindi/Urdu is that it is the C head in German which carries the EPP feature and thus allows both *Wh* fronting effects in multiple questions and *Wh*-scope marking, with the scope-marker appearing in the C-domain. Hindi/Urdu on the other hand doesn't have an EPP feature on its C head and thus doesn't allow any phrase to appear there. The EPP feature of the ν head in Hindi/Urdu results in its *Wh* "in-situ" appearance as well as its *Wh*-scope marking form, with the scope marker appearing at the ν domain.

Another difference this chapter considered is the difference between Chinese and Hindi/Urdu *Wh*-constructions. Though both Hindi/Urdu and Chinese appear *Wh* in-situ, this chapter argued that the nature of *Wh*-constructions differ strikingly in these two languages. It suggested that there are two types of *Wh* in-situ's, one which undergoes movement and one which doesn't. Hindi/Urdu represents the former case. It involves *Wh*-movement, and shows all the evidence (such as island effects) for this movement. Chinese, on other hand, shows a dichotomy in its *Wh*-constructions. Chinese *Wh*-adverbials undergo movement and show evidence of movement just like Hindi/Urdu whereas *Wh*-arguments don't. This chapter suggested that this difference stems from two things, (a) whether the *Wh*-elements are operators; and (b) whether the licenser has a focus/EPP feature to license the moved element. In short, the movement possibility of in-situ *Wh*-elements is determined by a combination of

factors. The licenser of *Wh*-in-situ “dictates” the movement possibility, but the properties of the *Wh*-phrases also play a role. Hindi/Urdu *Wh*-phrases and Chinese *Wh*-adverbials are both operators, whereas Chinese *Wh*-arguments are not. Hindi/Urdu *Wh*-elements are pulled by the EPP feature of the *vP* whereas Chinese *Wh*-adverbial are licensed by focus.

Chapters 3 and 4 looked at intervention effects in two different instances of NP movement, raising and ditransitive passives, and showed that the cross-linguistic patterns observed in these two constructions can be best explained through a theory of minimality. The apparent violations of minimality, where a lower argument is moved across an intervener, are explained in terms of some language specific movement, like head/clitic movement or movement to outer Spec of *vP* for Case/Agreement reasons. These language specific strategies make the intervener unavailable for blocking and as a consequence we see no violation of minimality.

It is important to note that although both raising and ditransitive passives involve NP-movement and essentially follow the notion of minimality, they differ in their syntax and semantics. The most crucial difference is the difference in the argument structure of the predicates involved (raising verb vs. ditransitive verb). Varying argument structures result in two different structures as well as different semantic roles for the arguments, experiencer vs benefactive/possessor. Because of this it becomes quite difficult to account for both the constructions through a single algorithm.

However there have been attempts in the literature that try to relate the two constructions syntactically and semantically. For instance, McGinnis (2001) extends

her account of the symmetric/asymmetric DOC distinction to the cross-linguistically variable possibility of raising the subject of an embedded (non-finite) clause to SpecTP across an experiencer. She claims that there are two types of experiencers (high/low), which account for the (im)possibility of subject raising over experiencer in languages. For instance, the English case, where the raising of the embedded subject across a dative is allowed, is reducible to the case of symmetric passivization (i.e., high applicative structure) in DOC. On the other hand, the Icelandic case, where the raising is not allowed across a dative, is identical to the case of asymmetric passivization i.e., low applicative structure in DOC.

Although McGinnis may be right in claiming that there is a structural distinction between English and Icelandic raising cases, it is important to note that unlike instances of passivization in DOC, there doesn't seem to be any semantic difference between the two. The syntax of raising constructions involving an experiencer in these two languages vary in more subtle ways than McGinnis predicts. Successful raising of the embedded subject across an experiencer depends on the nature of the experiencer, a fact that McGinnis cannot predict (Jeong, 2007).

The last but not the least important issue this thesis reflects on is head movement. Chapter 5 discussed some technical and empirical problems with the recent minimalist treatments of head movement, where head movement is not considered a viable option. It investigated the domain of noun-incorporation, and argued in favor of a syntactic head movement analysis. It provided evidence from a dialect in Hindi/Urdu and showed that the alternative accounts (lexical and semantic) cannot account for all the facts on noun-incorporation in this dialect. It then

contended that head movement cannot be abandoned as it is needed to capture important facts about noun incorporation that other alternative theories leave unexplained. It must be emphasized, however, that the head movement analysis alone cannot account for all the facts in all the languages. Even in Hindi/Urdu, it only accounts for a specific dialect. There seem to be real empirical differences in the behavior of noun incorporation across languages. In other words, noun incorporation constructions in different languages and dialects differ substantially from each other both syntactically and semantically and therefore warrant distinct analyses.

The proposals made in this thesis raise some obvious learnability problems. The first problem relates to the “hidden” or “invisible” *Wh*-movement account. The issue is that if the *Wh* appears in-situ, how does the child know that it actually moves? Although this thesis doesn’t address this issue directly, it provides some clues to answer this puzzle. The first comes from *Wh*-scope marking. The availability of *Wh*-scope marking in Hindi/Urdu can provide the child the evidence that *Wh*-elements move in this language. The second clue comes from sluicing. As we saw in Chapter 2, sluicing is allowed in Hindi/Urdu and also with Chinese *Wh*-adverbials. Sluicing in case of Chinese *Wh*-arguments is not available when a focus particle is attached to the Chinese *Wh*-argument. Assuming that sluicing obligatorily involves movement, these facts can probably lead the child to form a connection between focus and moved *Wh*-elements.

The second potential learnability problem is the word order issue. This thesis proposed that Hindi/Urdu is basically non head-final though it predominantly appears to be a head-final language. As we have discussed earlier, Hindi/Urdu like German

shows a dichotomy in its word order: SOV order with nominal complements and infinitival complements and SVO with finite clausal complements. This dichotomy in the word order is often related to the issue of derived and base-generated word orders. The simplistic assumption would be to take the predominant order as the basic order. Contrary to this assumption, this thesis proposed that the SVO order is the base generated order and the SOV word is derived by the movement of the object to the left.⁷² But how does the child figure out the basic word order? I believe an indicator of this word order movement comes from the agreement facts. The head-final word order visible in Hindi/Urdu is associated with the overt expression of case and verb-object agreement. In other words, the nominal and infinitival complements that appear to the left of the verb are Case-marked and show agreement with the verb. On the other hand, the finite complements that appear to the right of the verb don't show any agreement or Case-marking. This thesis suggested that the nominal complements and infinitival complements in Hindi/Urdu have a case feature to value which finite complement clauses don't bear. As a consequence the nominal complements and the infinitival complements move to the left and finite clauses don't.

However, all these are mere speculations and a more fine-grained future research is needed to get any definite answers.

⁷² This idea is derived from Kayne (1994) who proposed that the Linear correspondence Axiom (LCA) invariably imposes the SVO word-order on languages. The SOV word-order comes from a combination of movements, which are forced by properties of some functional categories.

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