Chapter 3 – Full and Partial Wh-Movement in Kashmiri

1. Introduction

Kashmiri exhibits both full and partial wh-movement as question formation strategies in sentences with multiple clauses.

(1) tse k´m' chu-y ba:sa:n ki   mohn-as   dits kita:b

   you who aux   think   that Mohan-dat gave book

   'Who do you think gave Mohan the book?' (PK 9/21/04)

(2) tse k'a: chu-y ba:sa:n ki mohn-as   k´m' dits kita:b

   you expl aux   think   that Mohan-dat who gave book

   'Who do you think gave Mohan the book?' (Wali and Koul: 18)

The question word in the subordinate clause receives a matrix scope interpretation in both (1) and (2). In (1) this interpretation is achieved by movement of the question word *k´m'* 'who' into the matrix clause. In (2) this is achieved via the presence of a minimal question word *k'a* ('what') in the scope position in the matrix clause, while the contentful question word *k´m'* remains in the subordinate clause.

Previous approaches to these constructions generally fall into two classes. So-called 'direct dependency' analyses (McDaniel 1989; Rizzi 1992; Mahajan 1990; *inter alia*) contend that a direct syntactic connection is formed between the meaningless question word and the contentful question word, mediated by chains and conditions on chain formation. The second class of approaches, called 'indirect

dependency' accounts (Kiss 1987; Dayal 1994, 1996; *inter alia*), denies that any such syntactic connection exists. Instead they claim that the meaningless question word is coindexed with or replaced by the clause containing the contentful question word at the level of Logical Form (LF), and this is how the correct interpretation is achieved.

The account proposed here falls squarely into neither of these classes. It does build on important properties of each, maintaining that the meaningless question word is base-generated in a clause-internal (not clause-peripheral) position as in the indirect dependency approaches, but also that the role played by the meaningless question word itself is entirely a syntactic one, as in direct dependency analyses. However, the essential point of contrast with these two camps is the claim developed in this chapter that there is no connection at all between the meaningless question word and the contentful question word in a lower clause, whether syntactic or at some level of interpretation. Instead, the role of the meaningless question word in the A-bar system will be analyzed as comparable to that of nominal expletives in the A-system (following in the spirit of recent approaches by Simpson (2000) and Fanselow and Mahajan (2000)).

The issues ultimately at stake here are large – in particular the question of whether the syntax of the left periphery (the A-bar system) is governed by the same organizing principles as clause-internal syntax (the A-system). If the proposals developed here are on the right track, then the two systems emerge as being completely parallel – in a way that does not emerge so clearly from the more closely studied languages.

Section 2 of this chapter details important features of Kashmiri A-bar syntax, particularly with respect to the way in which questions are formed. This section relies on the account of the left periphery of the Kashmiri clause proposed in Chapter 2 above, and establishes a working view of the internal phrase structure of the Kashmiri clause. Section 3 provides an account of wh-movement and wh-expletive constructions in Kashmiri and compares the reach of this account with previous approaches to wh-expletive phenomena. In Section 4, I discuss two remaining questions, one internal to Kashmiri and one crosslinguistic in nature. Section 5 concludes the chapter.

2. Kashmiri Question Formation and the Structure of the Clause

<u>2.1 The Kashmiri Question</u>

Recall that Kashmiri is unusual among the Indic languages in exhibiting the verb-second (V2) property, more familiar from Germanic and the older Romance languages.

The unmarked word order of a Kashmiri tensed root clause is:

(3) subject-finite verb-indirect object-direct object

The finite verb must be the second constituent in the clause, but any of the arguments (or other constituents) may appear first. The order of the postverbal elements is also fairly free, though the subject must immediately follow the second-position verb if the sentence is not subject-initial.

In constituent questions, the question word must appear before the verb in addition to some other constituent. Only if the question word is the subject, may it naturally appear alone in sentence-initial position.

(4) a. rajan kemis he:v   nev   kita:b?

    Raj whom showed new book

    'To whom did Raj show his new book?' (Wali and Koul: 12)

    b. kem' he:v   shi:las nev kita:b ra:th

    who showed Sheila new book yesterday

    'Who showed a new book to Sheila yesterday?' (Wali and Koul: 12)

Kashmiri has two strategies for forming constituent questions with more than one wh-phrase. In the first, all wh-phrases are moved to the preverbal position. In the second, only one wh-phrase is moved, and the remaining wh-phrases are found *in-situ* within the clause.

(5) k´m' k´mis dits kita:b?

    who whom gave book

    'Who gave the book to whom?' (Wali and Koul: 26)

(6) k´m' dits k´mis kita:b

    who gave whom book

    'Who gave the book to whom?' (Wali and Koul: 27)

Subordinate clauses are identical to matrix clauses in their word order, except that they are optionally preceded by the particle *ki*. This particle is not counted in

determining verb-second position, and will be considered here to be inserted as the marker of the CP phase boundary, as discussed in Chapter 2. A typical indirect question is in (7).

(7) mi:ra:yi cha pata: ki   k´mis dits mohnan   kita:b

     Mira   aux know that who   gave Mohan book

    'Mira knows who gave Mohan the book.' . (Wali 2002)

Multiple wh-phrases can appear in indirect questions as well, just as they can in matrix clauses.

(8) Me chu nI pata: ki   kus k´mis o:s   me:lIni gatsha:n

    I   aux-not know that who whom bring meet   going

    'I don't know who was going to meet whom.' (Wali and Koul: 27)

The focus of this chapter shall be constructions that permit matrix scope interpretations of question words originating in subordinate clauses. Bridge verbs permit just such a construction, in which an invariant wh-expletive *k'a*, appears in the pre-verbal position in the matrix clause. We will call this the wh-expletive or partial movement construction throughout. The specific behavior of non-bridge verbs with respect to these constructions will be explored further below.

(12) tse k'a: chu-y ba:sa:n ki mohn-as kem' dits kita:b

    you what aux think that Mohan who gave book

    'Who do you think gave Mohan the book?'

Direct questions formed by full wh-extraction from the clausal complements of these

non-factive verbs are also possible, as in (13).

(13) a. tse k'a:zi chuy ba:sa:n ki   ra:jan a:si ditsmits; mohnas kita:b _

you why aux think   that Raj   aux gave   Mohan book

'Why do you think that Raj gave the book to Mohan?'

(Wali and Koul: 19)

b. mi:ra: k'a: chi yatsha:n ki   su gotsh anun

Mira what aux want   that he should bring

'What does Mira want that he should bring?' (Wali 2002)

2.2 Assumptions about the Structure of the Kashmiri Clause

The facts of Kashmiri could be construed to support an approach in which the
unmarked word order in Kashmiri [subject-verb-object] is derived by movement of
the verb to T and the subject to the specifier of TP. Bhatt (1999) reports that the
preverbal position is generally the focus position, and that elements in this position
always bear focal stress, with the important exception of subjects.[1] This would
indicate that subjects may not necessarily be in the specifier of some head containing
focus features, but can instead be in the specifier of a head unmarked with respect to
focus. Putting these observations together, we are led to assume that in subject-initial
declarative clauses, the finite verb raises only as far as T. Unfocused subjects then

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[1] Bhatt also mentions that temporal adverbs do not appear stressed in this position. Why this is so is
beyond the scope of this discussion.

appear in Spec, TP. In the case of structures with focus and topic constituents, a C bearing these features attracts the finite verbs to raise further.

This split view of verb-second is similar to that offered in Zwart (1997) (and earlier in Travis 1991). According to Zwart, in Dutch (as in other Germanic languages) subject-initial main clauses do not involve movement to CP, as has often been assumed. Zwart also offers evidence against generalized V-to-C movement in Dutch, demonstrating that there is no clear motivation for assuming that the verb has always raised to C. From these considerations, Zwart concludes that the subject and verb in subject-initial main clauses in Dutch are not located in CP, but instead in AgrS, the highest head of the inflectional layer. He asserts that the only way a subject can move into the specifier of CP is if it is attracted by some feature of CP (i.e. a wh-feature) beyond that which involves the normal interaction with T. Only initial constituents that are wh-words or non-subjects are analyzed by Zwart as raising to a CP or higher phrase. It seems that this approach can also be applied to the verb-second facts of Kashmiri, as we have seen above.

The proposal I have developed extensively in Chapter 2 and the suggestions I have made here for verb-second in Kashmiri differ significantly from the account offered in Bhatt (1999). Bhatt claims that verb-second crosslinguistically is the result of movement of the verb and some sentential constituent to a functional projection MoodP (MP). MP is a component of an articulated CP – a phrase that he asserts is universal across languages whether or not they possess explicit morphological mood markers (Kashmiri does not). Bhatt directly addresses Zwart's (1997) claims

concerning Dutch V2, arguing against the approach primarily on theory-internal grounds. It seems that most or all of his concerns disappear when the proposal is updated along the lines of the Minimalist Program as it is presented in Chomsky (2000). The empirical argument he makes against Zwart's proposal involves subordinate clauses and complementizers in Swedish, and I will not address these issues here. The only mention of Kashmiri in Bhatt's discussion of Zwart's proposal is that under the view that only in subject-initial sentences is the verb not in CP, it would be difficult to explain that sentence-initial temporal adverbs in Kashmiri do not receive sentential (i.e. focal) stress. If there are other reasons why such adverbs may not receive sentential focus intonation, we can move forward in explaining why subjects behave differently from all other sentence-initial constituents – because (as in many languages) they may remain in Spec, TP. These issues do not bear on my central goals in this chapter, and so I will proceed on the assumption that something like Zwart's approach is correct for Kashmiri.

This chapter and this dissertation are primarily concerned with the left periphery of Kashmiri, and in particular the CP layer. However it is useful at this point to establish what our basic assumptions will be about the internal structure of the Kashmiri clause.

Bhatt (1999) claims that the placement of the verb in Kashmiri indicates that lexical projections in Kashmiri are head-final, and functional projections are head-initial. Overall, Kashmiri exhibits the properties of a head-final language. For instance, adpositions appear following their complement.

(14)   … ba:gas manz

… garden in

'… in the garden' (Wali and Koul: 45)

The verb appears in clause final position in non-finite and relative clauses, and when the tensed auxiliary appears in second position the main verb is still clause final (as in (16)).

(15)   [yi   ba khyva:n chus]   su chuyi-aa tse khosh kara:n

what I   eat   aux   that aux-Q you like   do

'Do you like what I eat?' (Bhatt 1999)

(16)   ba chu-s   lark-as   kita:b diva:n

I   aux-msg boy-dat   book   give

'I give a book to the boy.' (Bhatt 1999)

On the other hand, the inflected verb appears in second position in all tensed clauses, as is exemplified in (14) and (16) and discussed extensively in Chapter 2. This means that the functional projection at the edge of the clause (CP) must have its head on the left to arrive at the grammatical verb-second word ordering (otherwise, raising to C would be string-vacuous). Following Bhatt and based on these facts, I will assume the following structure in (17) for basic Kashmiri clauses.

(17)

CP
C   TP
T   vP
Subject
v   VP
Object   V
Verb
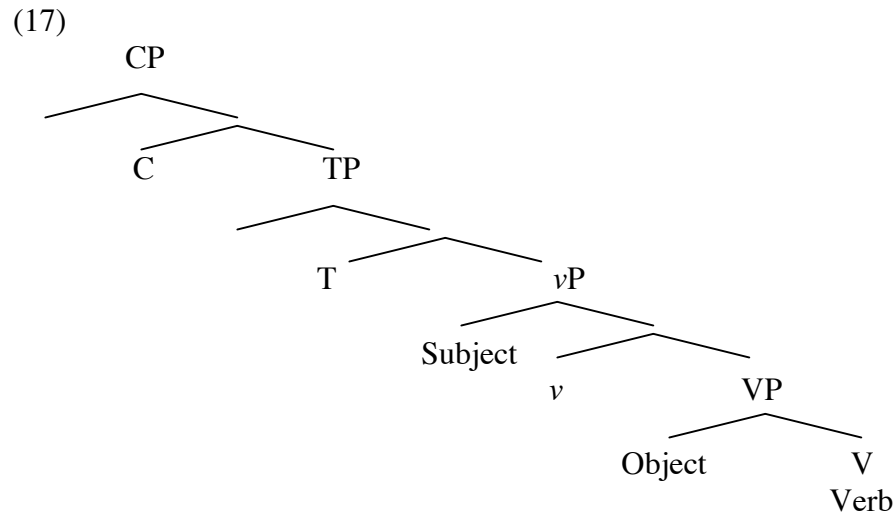
The external argument, complement to the verb, and the verb in (14) are in the

positions into which they first merge in the structure. In the course of the derivation

of a simple subject-initial declarative, the external argument would raise to Spec, TP,

and the verb to T. If any other constituent is initial, it will merge into Spec, CP and

the verb will raise to C. In addition to the above, I will assume, following Bhatt

(1999) and Bayer's (1996) claims for Bengali and Hindi-Urdu, that subordinate

clauses in Kashmiri are complements of the verb that are exceptionally taken on the

right. This will be discussed further for the case of Hindi-Urdu in Chapter 4.

3. Analyzing Full and Partial Wh-Movement in Kashmiri

With an understanding of Kashmiri phrase structure in place, based on the

account presented in Chapter 2 and above in this chapter, we can now take a closer

look at wh-movement in Kashmiri, in particular full and partial movement from

subordinate clauses. In section 3.1 I will present in detail a new approach to A-bar

movement that accounts for the facts in Kashmiri. In 3.2, I contrast this account with

previous approaches to partial movement constructions, indicating theoretical and

empirical differences. Finally, section 3.3 suggests how the interpretation of partial

movement constructions might proceed under the syntactic account proposed here.

3.1 A New Account of A-bar movement

Recall the basic data under discussion. Kashmiri exhibits both full and partial wh-

movement (wh-expletive constructions) as question formation strategies in sentences

with multiple clauses.

    (1) tse k´m' chu-y ba:sa:n ki mohn-as dits kita:b

       you who aux   think that Mohan gave book

       'Who do you think gave Mohan the book?'

    (2) tse k'a: chu-y ba:sa:n ki mohn-as k´m' dits kita:b

       you expl aux   think that Mohan who gave book

       'Who do you think gave Mohan the book?'

    The current theoretical framework provides a feature-based understanding of A-

movement. It is worthwhile to consider approaching A-bar movement in the same way.

Following the spirit of the recent work of Simpson (2000) and Fanselow and Mahajan

(2000), I argue that the analysis of these two systems can be unified, using Kashmiri as

a test case for this hypothesis. I will show that both full extraction and partial wh-

movement of question words in Kashmiri can be analyzed using a system of

<div align="center">77</div>

interpretable and uninterpretable features in a manner similar to the approach to the A-system.

The distinction between full extraction from subordinate clauses and partial wh-movement in Kashmiri can be analyzed as the distinction between the operations Move and static Agree to satisfy uninterpretable features. In the feature-based approach to A-movement, a nominal enters into an agreement relation with a higher accessible head. This Agree operation is simply a mutual exchange of information between a head and a nominal bearing the relevant features – an exchange of information which takes place in a particular structural configuration as follows:

(18) H ..... α .... β

     a. H commands α, which in turn commands β

     b. α is 'closer to' H than β

'Closer to' is defined in terms of asymmetric c-command. That is, α is 'closer to' H than β iff H commands α, α commands β, and β does not command α (α commands β iff β is contained within the sister of α). (Adger 2003).

In this configuration, it will be possible for the features of the head (the Probe) and those of the nominal (the Goal) to mutually value one another. If the required relation is not established, features remain unvalued, and the derivation will not result in a well formed syntactic object. Once all of the features of an element are valued, the element is inactive, and its participation in head-nominal interactions will be limited.

Within the A-system, a nominal may Agree with a higher head, and may also raise if the probing head has the EPP property. This composite operation is called Move, and will be defined here as Agree + pied-piping + re-Merge.[2] If the EPP is not present, the uninterpretable features of the Probe and Goal may of course be valued by static Agree over a distance, as described above (Chomsky 2000). I also assume (following Chomsky 2004) that all and only uninterpretable features have unvalued instances when they enter the derivation.

The operations described above are constrained by locality considerations. Agree (and hence the composite operation built upon it, Move) can only take place within a phase. A phase is the unit in which derivations proceed. A Probe can only interact with Goals within its own phase or on the edge of the previous phase. Elements that are not within the current phase (that are contained in previously constructed phases) are not available. For the purposes of this chapter, I will focus on the CP phase only, though Chapter 4 will introduce the relevance of the *v*-phase for wh-movement (Rackowski and Richards 2005). Chapter 2 has set the stage for our understanding of the rich left periphery of the clause as a single C-head with multiple specifiers, and this understanding will become crucial here.

In this chapter I will claim that the A-bar system of Kashmiri functions identically to the A system in these respects. Heads and wh-phrases will possess interpretable and uninterpretable features. If a higher probe possesses the EPP in

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[2] The first merge is when element is merged into the 'workspace' from the numeration.

addition to other features, an accessible wh-phrase will undergo Move. Alternatively, if the wh-expletive *k'a* is in the numeration, the merging of *k'a* can satisfy the EPP on the Probe, much like an expletive in the A-system. If this occurs, the uninterpretable features on the A-bar probe will be valued by interacting with an accessible wh-phrase via static Agree over some distance.

There are three features at work controlling movement and agreement in the A-bar system: the EPP (common to the A and A-bar systems), the [Q] feature, and the [wh] feature. The [wh] feature is interpretable on wh-phrases and uninterpretable on all heads, activating probes that interact with wh-phrases. The interpretable feature on wh-phrases is its "wh-hood"; that which triggers the interpretation of the wh-phrase as a Reinhart (1998)-style choice function variable. The feature [Q] is uninterpretable on the wh-phrase but present and interpretable on the highest head in an A-bar movement sequence. This interpretable [Q] feature marks the position at which a wh-phrase will be interpreted. Like the category-defining features, it allows the hosting head to enter into selectional relations, and is interpreted as an unselective binder of (choice) function variables (Reinhart 1998). The role of these interpretable features will be further explored in section 3.3.

In a Kashmiri subordinate clause, a wh-phrase must always move to the specifier of the C-head containing the second-position verb. Wh-*in situ* is impossible except in instances of multiple wh-phrases (at least one wh-phrase must raise). This means that the C-head which contains the second position verb will necessarily possess an uninterpretable [wh] feature and the EPP in all interrogative clauses, both

matrix and subordinate. It is the uninterpretable [wh] feature that makes the C an active Probe, and it is the EPP which requires that the wh-phrase in its domain not only Agree but also Move into its specifier. Within an interrogative sentence comprised of a single clause, as in (19), the C-head will also possess the interpretable [Q] feature, as in (20).

(19)   rajan k´mis he:v   nev kita:b?

        Raj whom showed new book

        'To whom did Raj show his new book?'

(20)   C

        [Q-i]

        [wh-u]

        EPP

The presence of the interpretable [Q] feature signals the position at which the binder of the wh-phrase variable will be introduced. This feature will value the uninterpretable [Q] feature on the wh-phrase, and will both arrest the movement of the wh-phrase and allow the sentence to be a well-formed syntactic object (with no unvalued uninterpretable features). In addition, the scope of the wh-phrase is determined at the position of the interpretable [Q] feature, in the sense that this is the position from which the wh-indefinite is unselectively bound.

    The goal of this section is ultimately to describe extraction and partial wh--movement in Kashmiri subordinate clauses, so let us now consider a clause that is

embedded. In this scenario, the wh-phrase may not remain in the lower clause, but instead must raise all the way to matrix scope position, as in (1), repeated here.
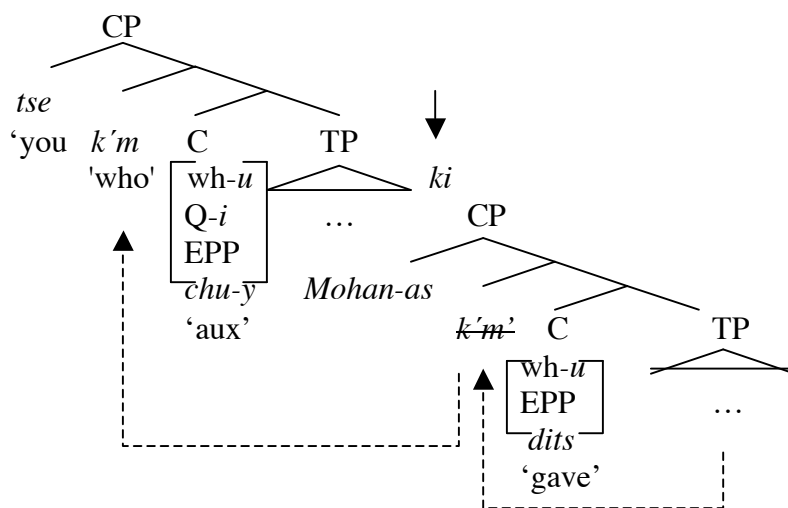
(1)   tse k´m' chu-y ba:sa:n ki   mohn-as dits kita:b

you who aux   think   that Mohan   gave book

'Who do you think gave Mohan the book?'

In a sentence like (1), the subordinate C-head will lack an interpretable [Q] feature (the embedding verb *basa:n* does not select a question). A wh-phrase that has raised to the specifier of this CP will still have uninterpretable features that require valuing because it bears a [Q] feature which is not interpretable and which has no matching feature on the embedded C head. The wh-phrase in the specifier of the subordinate CP will be in the same phase as the matrix C-head. The matrix C-head will have an uninterpretable [wh] feature, the EPP, and the interpretable [Q] feature, just as in (20). As a Probe, it will find the wh-phrase in the specifier of the subordinate CP and will enter into an Agree relation and Move with this wh-phrase and attract it to its specifier. The wh-phrase will raise to the specifier of the matrix CP, and the result will be full extraction. The particle *ki* is inserted post-syntactically, as discussed in Chapter 2 and indicated by an arrow. This process and the features involved are diagrammed in (21).

(21)

CP
tse
'you' k´m C TP ↓
'who' wh-u̅ ki
Q-i ... CP
EPP
chu-y̅ Mohan-as
'aux' k´m' C TP
wh-u̅ ...
EPP
dits
'gave'

(21) represents the extraction of the wh-phrase and its passage through the specifier of the embedded CP into the matrix CP. At this point all uninterpretable features on the wh-phrase are valued and it is rendered inactive, or frozen, in its scope position.

An obvious question arises at this point. If static Agree is one of the operations available to the derivation, why can't the uninterpretable feature of the wh-phrase be valued by the matrix C-head while it remains in the specifier of subordinate CP? In this case, if no wh-expletive happens to be in the numeration and if the EPP on the matrix C-head must be satisfied by a [wh]-bearing element, the EPP would not be satisfied, and the derivation would therefore crash.

Let us now turn to the other strategy by which wh-phrases originating in subordinate clauses take matrix scope in Kashmiri: the partial wh-movement or wh-expletive construction as in (2).
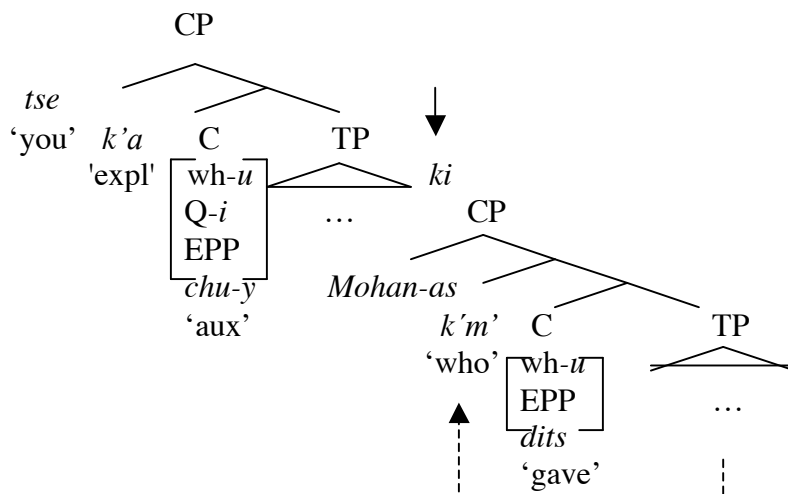
(2) tse k'a: chu-y ba:sa:n ki mohn-as k´m' dits kita:b

you expl aux think   that Mohan who gave book

'Who do you think gave Mohan the book?'

In a partial movement construction, the subordinate C-head will once again have only an uninterpreatable [wh] feature and the [EPP]. The numeration happens to contain a wh-expletive *k'a*, which can be merged to satisfy the EPP on the matrix C Probe. This expletive differs from a full wh-phrase in its feature content. As an expletive, it consists entirely of uninterpretable features, and contributes to the syntactic computation only an (uninterpretable) interrogative feature (written Q-*u* here). This understanding of the wh-expletive has two consequences: (i) the expletive may appear only in questions (ii) since it lacks a wh-feature altogether, it cannot render inactive the probe in whose specifier it is merged. As a result, the matrix C-head will still need to value its uninterpretable [wh] feature, and will therefore probe its domain. It finds the wh-phrase in the specifier of the subordinate CP, and will enter into static Agree with it. In this way, all uninterpretable features are valued. This theoretical view takes wh-expletives to be the A-bar counterparts to expletives of the A-system. That is, they do not contribute any interpretable features to the derivation, but have only uninterpretable features. This means that they can only serve to satisfy the EPP and permit the head's features to be valued statically by some other accessible element (Simpson 2000). This process is diagramed in (22).

(22)

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                          CP
                  ╱───────────╲
        tse
        'you'  k'a    C        TP        ↓
               'expl' ┌─────┐  ╱──╲    ki
                      │wh-u │      …      CP
                      │Q-i  │         ╱────────╲
                      │EPP  │      Mohan-as
                      │chu-y│                k'm'   C        TP
                      └─────┘                'who' ┌────┐   ╱──╲
                       'aux'                       │wh-u│     …
                                                   │EPP │
                                                   │dits│
                                                   └────┘
                                                    'gave'
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The analysis presented here accounts for both full wh-movement in Kashmiri as in (1) and partial wh-movement as in (2), and provides an understanding of how C-heads and wh-phrases interact in the course of forming long-distance wh-dependencies. I have proposed that the two distinct strategies for construing matrix scope for embedded wh-phrases are driven by identical mechanisms – that is, the features involved in the derivation of each strategy are precisely the same. The wh-movement and wh-expletive constructions, in this view, differ only in their numerations. If a wh-expletive happens to be present in the numeration, it will be merged into the matrix Spec, CP, allowing the features of the lower wh-phrase to be valued via static agreement over a distance. If the expletive is not present, the wh-phrase will itself raise to value the features on the matrix C-head. Either way, it will be the wh-phrase from the embedded clause that will value these features. A number

of questions concerning the properties and distribution of wh-expletives still remain to be answered, however, and these are addressed in the following sections.

3.2 Restrictions on Wh-expletives

Consider the ungrammaticality of the Kashmiri clause in (23a), or its equivalent in German, (23b).

> (23) a. *rajan k'a: he:v   k´mis nev kita:b?
>
>   Raj expl showed who new book
>
>   Intended: 'To whom did Raj show his new book?'
>
>   b. *Was glaubst du was?
>
>   expl believe you what?
>
>   Intended: 'What do you believe?'

In such cases, a wh-expletive is in the same clause as the full wh-phrase whose position of interpretation it is meant to indicate. If, as we have explained above, an expletive can be merged into Spec, CP to satisfy the EPP and the uninterpretable [wh] feature on the C-head can be valued via static Agree with a wh-phrase in its phase, there should be no problem with (23a-b). It seems that wh-expletives, unlike DP-expletives, are constrained by a kind of anti-locality. Compare the ungrammaticality of the wh-expletive constructions in (23) with the English DP-expletive *there*, in (24), which can appear in the same clause as its DP associate.

(24) There are three unicorns in the garden.

Simpson (2000), along with Horvath (1997) and Fanselow and Mahajan (2000), claims that the anti-locality property of wh-expletives can actually be reduced to a question of case. If the wh-expletive in fact needs case just like any other wh-phrase, it must actually be merged into a case position in a sentence like (23a). However, this is not possible, because the full wh-phrase has occupied the relevant position and received this case.[3] The wh-expletive's need for case will block instances like (23a), in which the case is instead being assigned to the full wh-phrase *k´mis* 'who', but permit (2) in which there is no competitor for case in the matrix clause.

(2) tse k'a: chu-y ba:sa:n ki mohn-as k´m' dits kita:b

    you expl aux think that Mohan   who gave book

    'Who do you think gave Mohan the book?'

Further empirical support for this view comes from Kashmiri and the related language Hindi-Urdu. In addition to *k'a:*, Kashmiri has a pleonastic element *yi* that can be optionally inserted into a matrix clause.

(25)   bi o:sus yi za:na:n ki   seli:m gav ra:th   rajas sit [Kashmiri]

        I aux this know   that Selim   went yesterday Raj with

        'I knew that Selim went with Raj yesterday.' (Wali and Koul: 48)

A similar construction exists in Hindi-Urdu, as shown in (26).

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[3] Note that the need for DP case would not alter the status of *k'a:* or *was* as a wh-expletive. It is still defective in the sense that it cannot value the uninterpretable features on the C-head to whose specifier it raises. This will force the uninterpretable [wh] feature on the C-head to seek another wh-phrase with

(26) Miriam yeh jantaa hai ki Haroun kis-se baat karegii. [Hindi-Urdu]

Miriam this know aux that Haroun who-with talk aux

'Miriam knows who Haroun will talk to.'

In both Hindi-Urdu and Kashmiri the expletive object (*yi* or *yeh*) cannot coexist with a wh-expletive, suggesting that they occupy the same case position in the clause.

(27) *Sita-ne yeh kyaa socaa ki ravii-ne kis-ko dekhaa? [Hindi-Urdu]

Sita this expl thought that ravi who saw

Intended: 'Who did Sita think that Ravi saw?'

Now let us turn to the position at which the wh-expletive is first introduced in the clause. Simpson (2000) claims that wh-expletives are base generated in the specifier of the agreement projection AgrO, and when other DPs are present which need to check case in this position, it will not be possible to generate the wh-expletive. This would rule out examples like (23) and (27), in which another wh-DP or the expletive object *yeh* must occupy this position. Updating this view to reflect the framework of this chapter, we need to ensure that the wh-expletive is base generated in a position at which it can have accusative case valued; that is, within the c-command domain of the accusative case licenser transitive *v*. Further, we know that the wh-expletive is not a semantic argument of any predicate (having no interpretable features) and cannot be introduced by semantic selection. For this reason, the wh-expletive must be merged into the specifier of a head that has the EPP property. The

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which to interact. In addition, case features are uninterpretable, and so that part of the understanding of wh-expletives also remains constant.

EPP is a quasi-selectional feature which causes the head to seek an additional specifier beyond those it needs to satisfy its core selectional requirements. Aspect is a functional head in the c-command domain of *v* on which it would be reasonable to posit the EPP property (Travis 1991, to appear). AspectP is the projection claimed to introduce aspect morphology, such as the perfective suffix *-mut* on the Kashmiri past verbal stem (Travis 1991, Bhatt 1999). The wh-expletive introduced into the specifier of AspP has three features: an uninterpretable D feature, an uninterpretable case feature (accusative), and the uninterpretable Q feature. Note that it has no interpretable features at all. When the transitive *v* is introduced, it will interact with the wh-expletive and the expletive's uninterpretable accusative case feature and [D] feature will be valued. By the time the C-head is introduced, the wh-expletive has only an unvalued uninterpretable [Q] feature remaining, and will interact with the C-head in the way described above.

In this view, examples like (23) and (27) are impossible because only one goal can interact with the *v* head and have its uninterpretable case feature valued. If there is more than one potential goal, such as an additional wh-phrase or a clausal expletive, the uninterpretable case feature on one or the other will go unvalued, and the derivation will fail to converge.

Observations about Hungarian provided by Horvath (1997) offer additional empirical evidence for this proposal. Hungarian is relevant because it has a partial wh-movement construction whose properties closely parallel those of Kashmiri (and Hindi-Urdu). The wh-expletive in the matrix clause actually exhibits case

morphology appropriate to its role in relation to the matrix verb, and the wh-phrase in the subordinate clause is assigned a separate case, determined by properties of the embedded clause, as expected.

(28) **Mit** mondtal hogy **kinek** vett Janos szinhazjegyet?

   expl-acc said that **who-dat** bought John theatere ticket-acc

   'Who did you say John bought a theatre ticket for?'

Horvath originally intended this data to argue against the so-called 'direct dependency', or chain-based approaches to partial wh-movement, claiming that the chain itself could not be assigned different cases at its head and tail. Note that under the analysis outlined here, (28) would not pose such a problem, because the wh-phrase and wh-expletive are not syntactically connected, and can therefore be assigned different cases as necessary.

The ramifications of the claim that wh-expletives (at least in some languages) need case go beyond explaining the ungrammaticality of the examples in (23), as Simpson points out. Chomsky (1995, 2000) asserts that the operation Merge, in which an element is simply merged into the structure, is more economical than Move, the composite operation which involves Agree, pied-piping, and re-Merge combined. A sentence like (30) below is barred because in the derivation of the clause *to be a man in the garden*, there are two choices if the numeration contains an expletive. The first is to Merge the expletive *there* (later raising it further) as in (29). The second is to Move the DP *a man* and postpone Merging the expletive, as in (30). (30) is

ungrammatical because the less economical operation was chosen at that point in the derivation.

(29) There seems [t to be a man in the garden].

(30) *There seems [[a man] to be t in the garden]].

Returning to wh-expletives, if wh-expletives are simply merged into the specifier of CP, this will always be more economical than moving a full wh-phrase. According to Simpson (2000), the ungrammaticality of (31a-b) demonstrates that wh-expletives are not simply merged into a wh-position.

(31) a. *Was glaubst du [was Hans wen gesehen hat]

          Expl believe you expl Hans whom seen has

          Intended: 'Whom do you believe Hans saw?' [German]

      b. *Was glaubst du [t Hans wen gesehen hat]

          Expl believe you Hans whom seen has

          Intended: 'Whom do you believe Hans saw?' [German]

If Merging of a wh-expletive was more economical than Moving the wh-phrase into the lower Spec, CP, we would expect (31a-b) to be possible. However, if we accept that *was* as a wh-expletive must be assigned case, it would not be possible to generate it in the subordinate clauses in (31) in which all available cases have been assigned to full wh-phrases. This is an extension of the account of (23).

Simply stipulating anti-locality as a requirement ("an expletive and any full wh-phrase cannot be clausemates") cannot be adequate, since it is possible for a full wh-phrase to appear in the same clause as the wh-expletive if the full wh-phrase is a

subject (nor would this requirement prevent ungrammatical sentences as in (31)). In this case, the matrix wh-expletive indicates the position of interpretation of the wh-phrase in the lower clause, and has nothing to do with the wh-phrase in the matrix clause. This construction is exhibited in German by (32) (originally from Fanselow and Mahajan (1996)) and in Hindi-Urdu by (33).

(32) Was glaubt wer wen sie liebt[4]

Expl believe who whom she loves

'Who believes she loves whom?' [German]

(33) kis-ne kya socaa   ki aap-ne kya paRhe?

who   expl thought that you what read

'Who thinks you read what?' [Hindi-Urdu]

As long as the wh-expletive is being assigned a DP case separate from that of the full wh-phrase in the same clause the construction is grammatical.[5]

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[4] There has been some discussion about the grammaticality of (32). While Dayal (1994) claims that this sentence is ungrammatical, both Simpson (2000) and Beck and Berman (2000) indicate that this sentence is grammatical or nearly so for most speakers.

[5] Sandy Chung has pointed out to me that we must also ask whether it is possible for a wh-expletive to co-occur with an interrogative subject or adjunct. This is ungrammatical in Kashmiri:
  (i) *k'a von kamI ki Sita chi sehatas manz.
      expl said who   ki Sita is   health in.
      Intended: 'Who said that Sita is healthy?'
  (ii) *tse   k'a   chu-y kati pata: ki   Sita chi sehatas manz.
       You expl   aux   how know that Sita is   health in.
       Intended: 'How do you know that Sita is healthy?.

This account correctly predicts that such sentences will be ungrammatical because of the properties of v. In the case of (i), v probes its domain and finds no interrogative material (besides the expletive with no interpretable features). Its [wh]-feature therefore cannot be valued. In (ii), assuming that both the wh-expletive and full wh-phrase originate in the domain of v, if the wh-expletive raises through the specifier of vP, the full wh-phrase *kese* will not be able to have its [Q-u] feature valued (it will be too far from C, and v can have no [Q] in this derivation or the wh-expletive would have been frozen in its specifier).

92

3.3 Previous Approaches to Wh-expletive Constructions: Indirect and Direct
Dependency

Indirect dependency approaches to wh-expletive constructions generally
follow the account of Hindi-Urdu first proposed by Dayal (1994, 1996). Although we
will address concerns particular to Hindi-Urdu in Chapter 4, it is essential to review
the indirect dependency account here as it is frequently cited as a way of accounting
for wh-expletive constructions in a range of languages (as recently as Rackowski and
Richards 2005, Bruening 2006). The core claim of the indirect dependency proposal
is that all apparently subordinate clauses in Hindi-Urdu are in fact adjunction
structures, and that what we have called a wh-expletive in this chapter is in fact a
scope-marker that is coindexed with the adjoined CP. The process of semantic
interpretation of the coindexed components proposed by Dayal allows the scope of
the wh-phrase in the adjoined CP to be interpreted at the position of the scope-
marker. Dayal referred to this as 'indirect dependency' to contrast it with chain-based,
'direct dependency' approaches which rely on syntactic connections between the
element *kyaa* (construed now as an expletive) and the full wh-phrase (these will be
discussed in greater detail below).

The indirect dependency approach is an attempt to address the following
puzzle: wh-*in-situ* phrases in a single Hindi-Urdu clause take scope over the entire
clause.

(34)   tum kis-ko   pasand karte ho

          You who-acc like   do   aux

          Whom do you like? [Hindi-Urdu]

According to Dayal, this indicates that the wh-phrase moves to Spec, CP at the level

of Logical Form (LF). In a two-clause question in which the wh-*in-situ* phrase is in

the lower clause, a matrix scope interpretation is not available.

(35) tum jaante ho   [ki   us-ne kyaa kiyaa]

          you   know aux that he-E what do

          You know what he did.

          ≠ What do you know that he did?   [Hindi-Urdu]

According to Dayal, this fact demonstrates that the embedded wh-phrase

cannot move to the Spec, CP of the matrix clause at LF. If this is the case, then there

must be some reason why this movement is blocked. Dayal claims that finite

subordinate clauses are adjoined to the matrix clause CP or IP. Support for this claim

is derived both from the scope facts in (35), and from constituent order in Hindi-

Urdu.

In a standard Hindi-Urdu clause, complements precede verbs in an unmarked

sentence.

(36) Hamid-ne   pani   piya

          Hamid-erg water   drank

          'Hamid drank water.' [Hindi-Urdu]

94

However, finite complement clauses appear exclusively to the right of the verb.

(37) a. Vo jaantii hai ki   anu aayii

She know aux that Anu come

'She knows that Anu came.' [Hindi-Urdu]

b. *Vo ki anu aayii jaantii hai [Hindi-Urdu]

If, as Dayal claims, all seemingly finite complement clauses in Hindi-Urdu are in fact

adjoined, these clauses could be considered strong islands. Following the definition of

barrier proposed in Cinque (1990), this would be because an adjoined clause is in a

position not directly selected by the verb and is in the non-canonical direction. It is

therefore a barrier for both binding and government. Further, if we follow Dayal's

proposal that subjacency is operative at LF, it will be impossible for any *in situ* wh-

phrase to escape the finite complement clause. For this reason, it cannot take matrix

scope under any circumstances.

It then becomes a puzzle why the scope-marking structure in (38) permits a

matrix interpretation of the wh-phrase. The phrase should never be able to escape the

lower clause at LF.

(38) Sita-ne kyaa socaa   ki   Ravii-ne   kis-ko   dekhaa?

Sita-erg expl thought that Ravi-erg who-acc saw

'Who did Sita think that Ravi saw?'   [Hindi-Urdu]

In these structures, Dayal claims that the complement position of the main verb is

occupied by a scope-marker (*kyaa*), what we have called a wh-expletive to this point.

The scope-marker and the adjoined CP are coindexed. Since Hindi-Urdu is an SOV

language, in this approach the pre-verbal position that the wh-expletive occupies appears also to be the canonical object position. 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 scope-marker *kyaa* to the specifier of the matrix CP. Since the scope-marker and the adjoined CP are related by coindexation, the net result gives the effect of a single long-distance dependency. The LF structure this process would produce for (39a) is represented in (39b).

> (39) a. sita-ne kyaa socaa   ki ravi-ne   kis-ko   dekhaa
>
>   sita-erg expl thought that Ravi-erg who-acc saw
>
>   'Who does Sita think Ravi saw?'
>
>   b. [$_{CP}$ kyaa$_1$ [[$_{IP}$ sita-ne t$_1$ socaa] [$_{CP}$ ki kis-ko$_2$ ravi-ne t$_2$ dekhaa]$_1$]

This view achieves the effect of interpreting the full wh-phrase on the left periphery of the matrix clause because that is where the entire adjoined CP will be interpreted. Dayal extends this approach to German question formation, proposing a nearly identical LF for German wh-expletive constructions.

The indirect dependency approach raises a number of questions, both theoretical and empirical. Perhaps the most unusual claim of this approach is that what is normally viewed as a complement CP is in fact adjoined to the matrix CP. If

this is the right view, we should expect that interactions which depend on command relations into the rightmost clause will work in very different ways than in languages in which that clause is a complement to V (as is presumably the case in English). For instance, it should not be possible for quantifiers in the matrix clause to bind variables in the adjoined CP, since under this view these quantifiers would not c-command the variables. However, in Hindi-Urdu wh-expletive constructions like (40) it appears that the quantifier *har aadmii* 'each man' in the matrix clause in fact can bind the pronoun *us-ne* 'he' in the second CP (Mahajan, 2000).

(40) Har aadmii-ne$_i$ kyaa socaa ki us-ne$_i$ kis-ko dekhaa.

each man-erg expl thinks that he-erg who saw

'Who did every man$_i$ think that he$_i$ saw?' [Hindi-Urdu]

Under the indirect dependency approach, the bound variable reading in (40) is unexpected. Similarly, in (41) a matrix clause complement binds a pronoun in the CP that follows the verb *bola* 'told'. This bound variable reading would be surprising if the CP is adjoined higher than the object, since the object could not c-command the pronoun inside CP.

(41) aap-ne har aadmi-se$_i$ kyaa bola ki vo$_i$ fon-par kis-se bula: sakta he

You-erg each man expl told that he phone-on who call can aux

Who did you tell each man that he could telephone? [Hindi-Urdu]

97

Along these same lines, Beck and Berman (2000) point out that if German clauses containing expletives *was* and *es* cause their complements to be adjoined, then the binding in (42) should be impossible.

(42) 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.' [German]

Again, since the embedded clause would hypothetically be adjoined to the first CP, the matrix subject should not c-command any material within it, and this binding would be ruled out.

On a more theoretical note, the origin of the coindexation of the wh-expletive (and the free variable it is translated as) with the embedded wh-clause is unclear. There appears to be no motivation beyond achieving the correct interpretation of the adjoined CP since, as Beck and Berman point out, the indexation is neither referential nor anaphoric. Further, if we are to explore the viability of the Strong Minimalist thesis for language, the Inclusiveness Condition requires that no new features be introduced in the course of a derivation (Chomsky 2000, p. 113). Indices and coindexation become unavailable in this view. Of course, this condition would also be problematic for incarnations of the direct dependency approach that rely on syntactic chains established between wh-items to arrive at the appropriate connections within the structure. We will return to the indirect dependency approach

98

below addressing its similarities and differences with the account that will be offered here.

The account proposed in this chapter follows the indirect dependency approach in assuming that the wh-expletive is base generated in a position inside the clause in which it is assigned case. This claim was supported by evidence of various kinds in section 3.2. However, it departs from the indirect dependency view in that the role of the wh-expletive is taken to be syntactic only, and the wh-expletive does not play a role in the semantic interpretation of the question (for more on this point, see section 3.4).

It may seem, then, that the account presented here has more in common with direct dependency approaches, but this is probably misleading. The representative direct dependency approach to partial wh-movement and wh-expletive constructions is McDaniel's (1989) account of German and the Indic language Romani. In this account, a syntactic wh-chain with a specific set of well-formedness conditions connects a wh-phrase and its trace with a wh-expletive. McDaniel claims that the unique properties of wh-expletive constructions can be explained if Subjacency is considered to be a condition on representations (not just movement). This type of analysis seems especially geared toward wh-expletive constructions of three clauses or more, as discussed in 4.2 below.

The direct dependency approach attempts to codify the notion that full and partial wh-movement are different manifestations of the same phenomenon. Under an account of this kind, both full movement and wh-expletive constructions result in

chains with similar (though not identical) well-formedness conditions. This is a view shared by the approach proposed here, though it is encoded in a very different way. In this case each head in a series of clauses in a matrix question must have its features valued and EPP satisfied. This can be accomplished either via movement, or via wh-expletive insertion, depending on the numeration; the end result is essentially the same. In the indirect dependency approach, on the other hand, full wh-movement constructions are a syntactic phenomenon, while wh-expletive constructions are not. That is, the crucial role played by a wh-expletive itself is a semantic one. These two question formation strategies are viewed as totally distinct. The claim, on the other hand, that both full wh-movement and wh-expletive constructions are manifestations of the workings of the same set of mechanisms is something that the direct dependency account and the account presented here share.

In the approach in 3.1, a connection is made in the syntax between the position at which the wh-phrase will be interpreted and the wh-phrase itself. It is the features of the full wh-phrase in a sentence like (2) which value the uninterpretable features of the head in the matrix position where the wh-phrase will be interpreted. Unlike the direct dependency view, however, there is no link made between the wh-expletive and the full wh-phrase. The connection that is forged makes use of neither chain nor index and is effected in the course of normal syntactic processes, requiring no additional mechanisms beyond featural satisfaction and associated movement.

This feature-based approach permits an important simplification over chain-based direct dependency approaches. McDaniel's account requires a stipulation

contained in the well-formedness condition on chains to ensure that wh-expletives

appear only above the full wh-phrases whose scope they indicate in syntactic

structure. This is stated in (43):

(43) for any scope-marker a_i, $1 < i < n$, $(a_{i+1}, \ldots, a_{n-1})$ contains a true wh-

phrase (McDaniel 1989, p. 580)

In the account presented in section 4, it follows automatically that wh-expletives will

only occur in clauses higher than the one hosting the wh-phrase whose scope they

mark. More precisely, the feature-based system requires that something with a wh-

feature appear in the domain of the lowest interrogative C-head. This is because this

head possesses an uninterpretable [wh] feature. Wh-expletives do not have a [wh]

feature at all (by definition), so if a wh-expletive is the only wh-material to appear in

the domain of the lowest interrogative head, the uninterpretable [wh] feature on that

head will remain unvalued. In this case the derivation will crash. This result is

achieved without additional stipulation.

3.4 Interpreting wh-expletive constructions

This section is intended to suggest an approach to the semantic interpretation

of wh-expletive constructions that is compatible with the syntactic analysis presented

above. The requirement imposed on such an approach is that the wh-expletive, which

has no interpretable features at all, plays no role in the matrix interpretation of

embedded wh-phrases. Only those elements of the A-bar system with interpretable

features can be relevant for interpretation, since all uninterpretable features are deleted by the conclusion of the derivation. These elements are the matrix C-head, which hosts an interpretable [Q] feature, and the wh-phrase itself, which possesses an interpretable [wh] feature.

Reinhart (1998) proposes a mechanism for binding wh-*in-situ* constituents that is meant to be compatible with the general architecture of the Minimalist Program. In that vein, it seeks to eliminate the need for movement at LF to achieve wide scope, and instead proposes that these constituents must be interpretable in-situ. I will not attempt a full development of this analysis; I only want to sketch how a reasonable semantics can be built on the syntactic foundation developed here.

Reinhart follows Karttunen (1977) in assuming that a wh-NP is simply an indefinite NP, and a question denotes the set of (true) propositions that are its answers. She claims that the question operator (at the position at which the scope of the question will be interpreted) introduces an existential quantification over a choice function variable. The wh-word, and in fact any weak determiner, acts as a (choice) function variable applying to the set denoted by the NP. This variable can be bound by an existential operator that may be arbitrarily far away. In this way, wide-scope interpretation can be assigned to in-situ wh-constituents. Note that on this view, no LF-raising of the wh-phrase is required. In fact, talk of the "scope" of the wh-phrase is somewhat misleading.

This proposal dovetails well with the syntactic approach put forward above. In this view, the interpretable [Q] feature on the matrix (or highest relevant) C-head

triggers as existential quantification over a choice function variable. The interpretable [wh] feature reflects the fact that the wh-indefinite is interpreted as a choice function variable that applies to a given set. For the wh-expletive construction in (2), repeated here as (44), the relevant portion of the interpretation is sketched in (45).

(44) tse k'a: chu-y ba:sa:n ki   mohn-as kem' dits kita:b

      you expl aux   think that Mohan   who gave book

     'Who do you think gave Mohan the book?'

(45) $\{P \mid (\exists f)\ (CH(f)\ \&\ \text{you think that}\ f(x \mid animate(x))\ \text{gave Mohan the}$

     book$\}$[6]

In this case, the [Q-i] in the matrix clause provides existential quantification over a choice function, binding the function variable provided by the [wh-i] of the wh-NP[7]. This question then denotes the set of true propositions P, each stating that for some choice function f that you think that the animate being selected by f gave Mohan the book. This binding can occur over an arbitrarily long distance, so it should not matter how deeply embedded the full wh-phrase is.

Our syntactic proposals are thus compatible with a reasonable semantics – one that was developed on entirely independent grounds. Another kind of question now arises: if the wh-expletives are irrelevant for effecting the matrix scope

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[6] Reinhart assumes that pronominal wh-phrases such as *who* are determiners with empty nouns: [who [$_N$e(i)]]

[7] The interpretable [Q] feature also seems to be what establishes the set of propositions.

interpretation of the wh-phrase, why are they present? The analysis presented above makes clear that the role of the wh-expletive is purely syntactic in operational terms. It fulfills the syntactic requirement we have labeled with the name EPP – that certain heads require additional specifiers beyond those needed for selectional purposes. The appearance of these wh-expletives is not a semantic requirement, as the system of interpretation has no need for intermediate material to effect the matrix scope reading[8]. The larger question – of why the design of natural language includes expletive elements – of course remains.

4. Remaining Issues

There are two remaining issues concerning wh-expletive constructions that remain to be discussed. The first question is a Kashmiri-internal one, and its solution does not bear significantly on the analysis presented above. The second question is crosslinguistic in nature, and has ramifications for the wider study of wh-expletives across languages and dialects.

4.1 A Kashmiri Issue: Factive Predicates

Bhatt (1999) claims, and my informants agree (PK 9/21/04, JC, VC 9/8/05), that full wh-movement is not possible from clauses that follow non-bridge verbs in

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[8] This will be supported by certain varieties of wh-expletive languages which have three clause structures lacking wh-expletives in the intermediate clause, discussed in section 4.2.

Kashmiri, but wh-expletive constructions are generally permitted (compared with the grammatical bridge verb versions of these sentences in (1)-(2)).

(46) a. *__k'a:__ cha mi:ra:yi khabar ki t mohnan por.

    what aux Mira   know that Mohan read

    Intended: 'What does Mira know that Mohan read?'

   b. __k'a:__ cha mi:ra:yi khabar ki   __k'a:__   mohnan por.

    expl aux Mira   know that what Mohan read

    'What does Mira know that Mohan read?'

Others (namely Wali and Koul 1997) have claimed that wh-expletive constructions are also impossible in factive contexts, and that (46b) is ungrammatical. It is clear that there is further empirical work to be done here, but presuming for the moment that the judgments in (46) are correct for at least some varieties of Kashmri, we can explore several ways of accounting for them.

Bhatt (1999) has proposed that subordinate clauses out of which extraction is impossible in Kashmiri are in fact adjoined to the matrix clause. The entire structure would be as in (47).

(47)

mi:ra:yi cha khabar   ki k'a: por mohnan
Mira   aux knows   that what read Mohan.
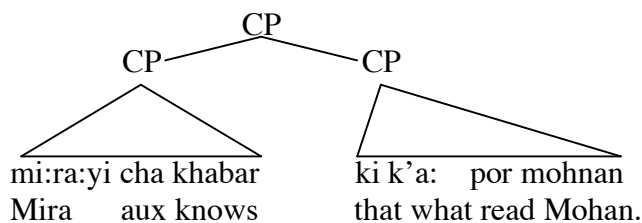
In this view, wh-movement will not be possible between the two clauses because the first CP does not contain the second. There is, however, an approach to the structure in (47) in which *k'a:* could be viewed as marking the scope of the wh-phrase in the adjoined clause. This approach, along the lines of Dayal (1996), was already addressed in section 3.2. Suffice it to say here that under such an "indirect dependency" approach one could obtain the contrast in (46).

On the other hand, binding facts in Kashmiri once again indicate that a hierarchical relationship obtains between the matrix and complement clauses of both factive and non-factive predicates (JC 6/05).

(48) a. har insa:nas$_i$ chu basa:n ki su$_i$ chu te:z.

      each man   aux thinks   he aux smart

      'Each man thinks he is smart.'

   b. har insa:nas$_i$ chu pata: ki su$_i$ chu te:z.

      each man   aux knows   he aux smart

      'Each man knows he is smart.'

In both sentences in (48), *har insa:nas* binds the pronoun in the lower clause, indicating that it commands the pronoun. This is unexpected if the structure of the factive sentence was as in (47).

An alternative solution to this puzzle could be related to the fact that factive verb complements are weak islands in other languages.

(49) a. How do you think he escaped the building?

b. *How do you regret he escaped the building? (on matrix reading)

Assuming the wh-expletive construction to be an instance of the operation Agree (simplex), Agree may be able to obtain across weak island boundaries even though Movement (complex) is impossible across those same boundaries. Clearly this notion needs further work and formalization, but in light of the facts in (48) it seems more promising than an adjunction account. Moreover, the controversial nature of the data as it is reported in the literature indicates that further empirical investigation is required.

4.2 A Crosslinguistic Issue: Multiple wh-expletives

The crosslinguistic issue that remains to be examined is centered on wh--questions consisting of more than two clauses. In German, Hindi-Urdu, and Kashmiri, an embedded wh-phrase can take scope across any number of clauses so long as this is mediated by a wh-expletive in every clause higher than the clause containing the wh-phrase.

(50)   a. **Was** glaubst du,   **was** Jan meint, mit **wem**   Ann gesprochen hat

        Expl believe you expl Jan think, with whom Ann talked has

        'Who do you believe Jan thinks Ann talked with?' [German]

       b. ***Was** glaubst du, Jan meint, mit **wem** Ann gesprochen hat?

(51)   a. Ram-ne **kyaa** socaa ki   ravii-ne **kyaa** kahaa ki **kon sa aadmii** aayaa

        Ram   expl think that Ravi   expl said   that which man   came

       'Which man did Ram think that Ravi said came?' [Hindi-Urdu]

b. *Ram-ne **kyaa** scoaa ki ravii-ne kahaa ki **kon sa aadmii** aayaa

(52)   a. Raman **k'a:** von ki   tse   **k'a:**   chu-y ba:sa:n ki   mohn-as **kem'** dits

Ram   expl said that you expl aux   think   that Mohan who gave

kita:b?

book

'Who did Ram say you think Mohan gave the book to?' [Kashmiri]

b. * Raman **k'a** von ki tse chu-y ba:sa:n ki mohn-as **kem'** dits kita:b

In (50a), (51a), and (52a) the wh-phrase has undergone partial movement to the left

periphery of the lowest clause. A wh-expletive is present in both the intermediate and

matrix clauses, and a matrix interpretation of the wh-phrase results. The

ungrammatical examples, (50b), (51b), and (52b) are identical, except that they lack a

wh-expletive in the intermediate clause. It seems that a wh-expletive must be present

in every clause above the clause hosting the wh-phrase, up to and including the clause

in which the wh-phrase is bound by the interrogative operator.

The first question is how to account for the core pattern: the obligatory

presence of an expletive in each clause above the clause containing the wh-phrase.

The partial movement of the wh-phrase in examples like (52b) is explained just as it

is in two-clause structures: in this way the EPP property of the lowest C-head is

satisfied, and the wh-phrase becomes accessible to higher probes which will value its

remaining features. If the wh-phrase remains in this low position however, the EPP on all higher probes must be satisfied by a wh-expletive. If an expletive is missing in any of these positions, the EPP will not be satisfied on the C-head in that clause. Upon insertion of an expletive, this C-head will still have features that need to be valued by Agree. It can do so by probing the lower phase edge and interacting with features found there. In what follows I will make this account more explicit.

Consider the three possible ways of forming a three-clause wh-question in Kashmiri in which the wh-phrase originating in the lowest clause takes scope over the entire sentence (Wali and Koul 1997, Bhatt 1999, JC & VC 9/8/05) .

(53) Raman **k´m** von ki tse chu-y ba:sa:n ki mohn-as dits kita:b?

  Ram who said that you aux think that Mohan gave book

  'Who did Ram say you think Mohan gave the book to?' [Kashmiri]

(54) Raman **k'a** von ki tse **k´m'** chu-y ba:sa:n ki mohn-as dits kita:b?

  Ram expl said that you who aux think that Mohan gave book

  'Who did Ram say you think Mohan gave the book to?' [Kashmiri]

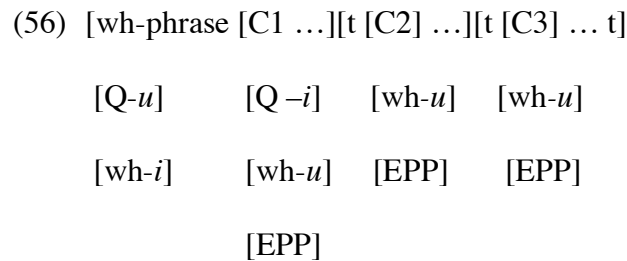(55) Raman **k'a** von ki tse **k'a:** chu-y ba:sa:n ki mohn-as **k´m'** dits kita:b?

  Ram expl said that you expl aux think that Mohan who gave book

  'Who did Ram say you think Mohan gave the book to?' [Kashmiri]

(53)-(55) illustrate the three different ways to ask the matrix question 'Who did Ram say you think Mohan gave the book to?'. In (53) we have full wh-movement from the base position in the lower clause (indirect object of *dits* 'gave'), to the canonical wh-

position in the matrix clause, preceding the second-position verb. In (54), the wh-phrase has moved up only one clause, to the preverbal position in the intermediate clause, and a wh-expletive occupies the wh-position in the matrix clause. Below I will demonstrate that this case, not surprisingly, reduces to the analysis given to two-clause wh-expletive constructions. In (55), the wh-phrase has moved only to the left periphery of its own clause. A wh-expletive occupies the wh-position in both the intermediate and matrix clauses.
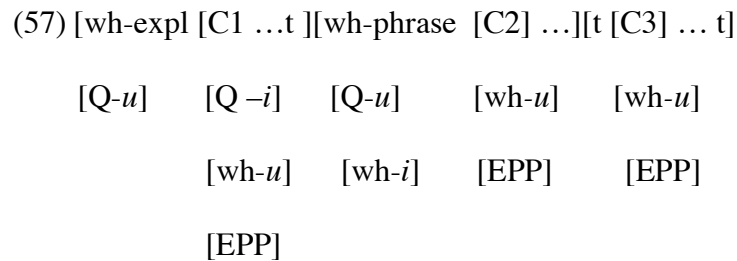
In the case of full wh-movement, as found in (53), this approach would offer the relatively straightforward account outlined in the diagram in (56).

(56) [wh-phrase [C1 …][t [C2] …][t [C3] … t]

$[Q\text{-}u]$ $[Q-i]$ $[\text{wh-}u]$ $[\text{wh-}u]$

$[\text{wh-}i]$ $[\text{wh-}u]$ $[\text{EPP}]$ $[\text{EPP}]$

              $[\text{EPP}]$

The wh-phrase that originates inside the lowest clause is an active goal. The C-head on the left periphery of this clause (C3) is an active Probe. The wh-phrase raises into its specifier, valuing its uninterpretable [wh] feature and satisfying the EPP. As it is on the edge of the lowest phase, it is visible for interactions in the next phase up. Furthermore, it still has unvalued features (since C3 is non-interrogative and cannot value its [Q] feature). Therefore, it can function as an active Goal. The process is then repeated in the phase determined by C2. The wh-phrase at this point is still an active goal because its uninterpretable [Q] feature has not been valued by C2 either. The process is repeated in the phase determined by C1, but on this step, when the wh-

phrase raises into the specifier of C1, its [Q] feature is valued. At this point, all uninterpretable features have been valued, and the derivation is licit.
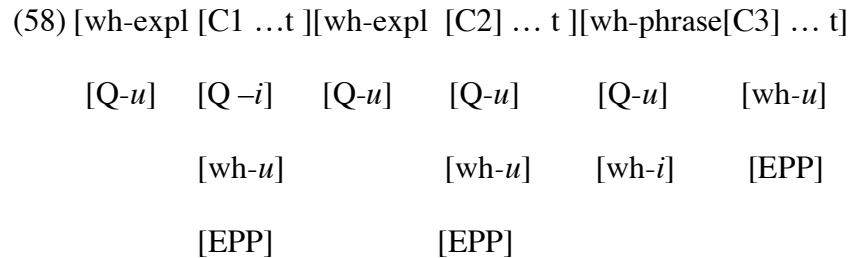
The sentence in (54) is a mixed case, in which a part functions just like the full wh-movement described above, and a part functions like a wh-expletive construction. This process is diagrammed in (57).

(57) [wh-expl [C1 …t][wh-phrase [C2] …][t [C3] … t]

$[Q\text{-}u]$ $[Q\text{ }\text{-}i]$ $[Q\text{-}u]$ $[wh\text{-}u]$ $[wh\text{-}u]$

         $[wh\text{-}u]$ $[wh\text{-}i]$ [EPP]   [EPP]

         [EPP]

In (54), the wh-phrase raises from the lowest to the intermediate clause in the same manner described above in (56). However in (57), a wh-expletive is present in the numeration and is introduced in a case position inside the matrix clause. C1 is an active Probe and finds the wh-expletive that is an active Goal. The wh-expletive moves into the specifier of C1, and its single remaining uninterpretable feature is valued. The EPP on C1 is satisfied, but is own uninterpretable [wh] feature has yet to be valued. C1 probes its domain once more and finds the full wh-phrase at the left edge of the lower phase. The wh-phrase is still an active goal, because its $[Q\text{-}u]$ is still unvalued. C1 and the wh-phrase Agree with one another, mutually valuing one another's uninterpretable features and creating a licit derivation. The second part of this derivation is identical to the way in which a two-clause wh-question is analyzed.

A third possible way to form a three-clause matrix question in Kashmiri is to permit the wh-phrase to remain in the lowest clause by employing wh-expletives in

both the intermediate and matrix clauses, as in (55). The analysis that has been described here would give (55) the structure described by the schematic in (58).

(58) [wh-expl [C1 …t][wh-expl [C2] … t][wh-phrase[C3] … t]

[Q-*u*] [Q –*i*] [Q-*u*] [Q-*u*] [Q-*u*] [wh-*u*]

[wh-*u*] [wh-*u*] [wh-*i*] [EPP]

[EPP] [EPP]

Let us walk through each step of (58) carefully. The initial step of (58) is identical to that in (56) and (57), in which the wh-phrase moves from its base position into the specifier of the lowest C-head. The EPP on C3 is satisfied, and its single uninterpretable feature is valued. The wh-phrase, on the other hand, remains active. In the intermediate clause, the C2 head probes its domain and finds the wh-expletive. The expletive moves into the specifier of C2 and satisfies the EPP while valuing its own uninterpretable [Q] feature. Though this wh-expletive is now inactive, the C2 head still has an unvalued uninterpretable [wh] feature. It probes its domain once again and interacts with the wh-phrase at the left edge of the phase below. The C2 head and the wh-phrase mutually value one another's features. The derivation continues in the matrix clause, in which the C1 head interacts with the wh-expletive originating in its own clause, and the process proceeds as above. The C1 head must then probe its domain again, as it is still active, and find the valued [wh] feature on the C2 head with which to value its own [wh] feature. At this point all uninterpretable features have been valued, and the derivation is licit.

Notice that the wh-expletives in (58) do not interact with the wh-phrase in any way. In fact it is the C-heads in each clause that interact with the wh-phrase, not the wh-expletive. The role of the expletive is solely to satisfy the EPP – it has no other purpose. This approach permits an arbitrarily long series of C-heads to value one another via static Agree over a distance. In this view, there need be no direct link between the expletives and the full wh-phrase. The wh-expletive does not possess interpretable features, so will ultimately be meaningless, and only the features of the full wh-phrase will be relevant in the interpretation of the question.

The analysis of long-distance wh-expletive dependencies presented in (58) captures an important intuition about the construction in (55). There is a sense in which both wh-movement and wh-expletive constructions are alternative strategies for forming a long-distance wh-dependency. In this approach to wh-expletive constructions, it is the features of the wh-phrase itself that cause features on the successive C-heads to be valued. In (58), it is the features of the wh-phrase that value the intermediate C-head, and those features which in turn value the features of the matrix C-head. Some information about the wh-phrase is affecting the series of heads, passed up from one clause to the next. In this way, this account shares with direct dependency approaches the notion that wh-movement and wh-expletive constructions are two methods of creating the same long-distance wh-dependency. Here, it is the features of the full wh-phrase that ultimately cause the features of the matrix C-head to be valued, whether it moves there itself, or whether a wh-expletive fills the position so that static Agree can occur.

Let us turn finally to a potentially troubling aspect of these proposals. In (58), the intermediate C-head, like the matrix C-head, has a [Q] feature. This causes the wh-expletive in its specifier to have all its uninterpretable features valued, and thus be frozen in place. We can now note that this has an additional consequence, of valuing the uninterpretable [Q] feature on the wh-phrase in the specifier of the lowest C-head. In effect, this makes the lower two clauses of the structure in (58) analogous to any two-clause wh-expletive construction. The analysis in (58) ensures not only that the wh-expletive is frozen in place in the specifier of the intermediate C-head, but also that the wh-phrase in the lowest clause is frozen in the lowest C specifier. There is crosslinguistic evidence that intermediate heads in a wh-movement sequence may possess interrogative features of some kind. In particular, Henry (1995) observes that in Belfast English subject-auxiliary inversion takes place not only in the highest C head in a wh-movement sequence, but in intermediate heads as well. She takes this as an indication that at least in this context these intermediate heads have some interrogative status just like matrix C-heads (see also Rizzi 1996). In the present account, this notion is reflected in the [Q] feature which appears on some intermediate C-heads in Kashmiri.

A central element in these proposals (evident in (58)) is the availability of three different flavors of C-heads – each with a slightly different set of interpretable and uninterpretable features. A legitimate concern arises at this point: what if it is not these exact combinations of features that appear on these heads in the numeration and in this just this order? For instance, what if an intermediate C-head in a three clause

wh-expletive construction was not of the type containing a [Q-*u*]? (Of course, the presence of a [Q-*i*] at the top of an interrogative clause is going to be mandated by the selectional requirements of the governing predicate). One way of answering this question is to work through this and other scenarios for both wh-movement and wh-expletive strategies (as is done in the Appendix). However the larger answer to this family of questions is that derivations and numerations with flaws such as these fail to converge. Some uninterpretable feature in each case will remain unvalued and will result in a crash. The system of features proposed here is such that heads which must trigger a certain semantic interpretation (for matrix questions, the matrix C-head) possess certain interpretable features. Uninterpretable features on those heads serve to enact movement of and agreement with various goals. Certain sets of features appearing on heads in a certain order limit the patterns that can appear. Other patterns will result in non-convergent derivations. As opposed to a list of maxims, principles, and conditions, in this framework the properties of the grammar are expressed via features and the systematic operations that result in their valuation. Though we will not explore this issue here, it should be noted that it is part of an important set of broader questions about the way in which the Minimalist Program accounts for ungrammaticality.

Through (56)-(58), the feature-based approach to wh-expletive constructions in 3.1 has been extended to account for such constructions in sentences of three clauses (in fact to sentences of arbitrarily many clauses). Essential to this account are two operations that can function alone or in concert. The first is interclausal wh-

movement, in which a wh-phrase moves from one clause to the next through a series of C-heads. These C-heads cannot value the uninterpretable feature on the wh-phrase, so the wh-phrase must continue until reaching the matrix clause. The second operation is wh-expletive clause internal movement, in which the C-head has the capacity to deactivate the wh-expletive by valuing its single uninterpretable feature. The wh-expletive only values the EPP on this type of C-head, and then remains fixed in its specifier. The C-head then acts as a probe and values its uninterpretable features via static Agree within its domain. An example like (53), with long wh-movement, makes use only of the first operation described here. (54) and (to a lesser extent) (55), make use of both of these operations in combination. Given the different flavors of functional heads that can appear, and the different types of wh-elements in languages like Kashmiri (meaningless wh-expletives and meaningful wh-phrases), it is predictable that there will be several ways to form a matrix question in a three-clause sentence.

At this point, however, an unresolved issue arises concerning (52b). An alternative derivation of (52b) is conceivable in which the EPP of the intermediate clause is satisfied. If the wh-expletive that appears in the matrix clause originated in the intermediate clause and subsequently moved higher, then we would need to find an alternative explanation for the ungrammaticality of (52b). Such a derivation would be one in which the wh-expletive in the intermediate clause raised into the specifier of the intermediate C-head, then raised further into the specifier of the matrix C-head. In

this case the EPP would be satisfied in both positions, and (52b) should not be ungrammatical.

This would be analogous to the behavior of DP-expletives. Consider the English DP-expletive *there* in (59).

(59)   There seems to be a problem.

The standard account of (59) is that *there* originates in specifier of the TP [*to be a problem*]*,* and then raises into the specifier of the higher TP. However, there are several reasons to believe that wh-expletives, unlike DP-expletives, cannot move from one clause to another. I will address these reasons below, and will ultimately conclude that the ungrammaticality of the (b) sentences above can be explained as a failure to satisfy the intermediate EPP.

Part of the evidence for rejecting wh-expletive movement comes from Hungarian. Recall above that the explanation for the so-called crosslinguistic anti-locality effect of wh-expletives was that wh-expletives originate in a case position inside their clause. Therefore sentences in which the wh-expletive appears in the same case-domain as a full wh-phrase will be correctly predicted to be impossible because of "case-competition" between the expletive and the wh-phrase. In Hungarian, the base-generated position of the wh-expletive is quite clear, since it bears a morphological indication of the case is assigned.

Consider the three-clause question in (60). The verb in the intermediate clause, *szamitasz*, assigns allative case to the wh-expletive in its clause, resulting in

117

the form *mire*. The matrix verb *hitt* assigns accusative case to its wh-expletive, resulting in the form *mit*.

(60) **Mit**   hitt   Janos, hogy **mire**   szamitasz, hogy mit fognak

       expl-acc thought-indef Janos that   expl-al count-2sg that what will

       mondani a   gyerekek? [Hungarian]

       say-inf   the kids-nom

       'What did John think that you expect that the kids will say?'

       (Simpson 2000)

Adding complexity to this question, Horvath (2000) and Simpson (2000) report that sentences of the type in (50b)-(52b), in which the intermediate clause lacks a wh-expletive, are possible in Hungarian, as well as in some varieties of German and possibly dialects of Kashmiri (these varieties will be discussed in detail below). If these sentences were formed via movement of the intermediate wh-expletive into the highest clause, we would expect that the sole wh-expletive in the sentence would be the allative form *mire*. This prediction is not borne out.

(61) **Mit/ *mire**   hitt   Janos, hogy szamitasz, hogy mit fognak

        expl-acc/expl-al thought-indef Janos that   count-2sg that what will

       mondani a gyerekek? [Hungarian]

       say-inf the kids-nom

'What did John think that you expect that the kids will say?'

(Simpson, 2000)

Instead, it is the accusative form of the expletive *mit* that is grammatical, as is apparent in (61). If the expletive that ultimately appears only in the matrix clause originated in the intermediate clause, it would first have had to receive allative case from *szamitasz*, then accusative case from *hitt*. It seems clear that this wh-expletive was base-generated in a case position in the matrix clause. Simpson takes this to indicate that wh-expletives cannot move from one clause to another.

We can also find support for this position in a variety of Kashmiri (let us call it Kashmiri B) which permits sentences like (52b). Let us compare the sentence with a wh-expletive in each clause, with the sentence that lacks a wh-expletive in the intermediate clause (repeated here as (63), and marked grammatical).

(62) Raman **k'a:** von ki tse **k'a:** chu-y ba:sa:n ki mohn-as **k´m'** dits kita:b?

Ram expl said that you expl aux think that Mohan who gave book

'Who did Ram say you think Mohan gave the book to?' [Kashmiri]

(63) Raman **k'a:** von ki tse chu-y ba:sa:n ki mohn-as **k´m'** dits kita:b?

Ram expl said that you aux think that Mohan who gave book

'Who did Ram say you think Mohan gave the book to?' [Kashmiri B]

[JC, VC (9/8/05), but PK (9/21/04) disagrees with this judgment]

In all dialects of Kashmiri, the pronoun preceding the wh-expletive in (62), *tse* 'you', is interpreted as a topic. Any argument to the left of a wh-phrase in a Kashmiri clause

is a topic and would not, for instance, be able to host the focus-marker *–ti* (Bhatt 1999). In the sentence in (63), on the other hand, *tse* is interpreted as focused material. It can grammatically host the focus-marker, and cannot be interpreted as a topic [JC, VC 9/8/05]. This distinction would be unexpected if the wh-expletive in the matrix clause in (62) had originated in the intermediate clause and then raised. If this were the derivation of (63), the wh-expletive would have valued the interrogative focus features on C (and no other focus features may simultaneously be present according to the Kashmiri lexicon). This means that no other focus elements could appear (Bhatt 1999). *Tse* would have to be located in the topic position above the first specifier position of C. Movement of the wh-expletive to the matrix clause should not change the informational role of *tse*. For this reason (63) serves as further evidence that wh-expletives do not move out of the clause in which they originated.

Under the feature-based analysis presented for wh-expletives in two-clause questions, it is expected that wh-expletives cannot move out of their clause. This is because the wh-expletive has a single uninterpretable [Q] feature. The feature is valued when the wh-expletive moves into the specifier of the C-head in the clause in which it originates because in intermediate clauses in which expletives are generated there is an uninterpretable [Q] feature on the C-head. Since the intermediate C-head in these constructions values all uninterpretable features on the wh-expletive, then the immobility of wh-expletives is accounted for. The wh-expletive becomes inactive and is 'frozen' in place, unable to participate in any further interactions with higher Probes. In this way, the system of features developed above to account for wh-

expletive constructions predicts that wh-expletives cannot move from clause to clause.

Although this question is by no means resolved, I will for now conclude that wh-expletives may not undergo further raising after they raise to the specifier of a [Q]-bearing head and are thereby rendered inactive. Given this, we can assume that in the ungrammatical (b) sentences in (50)-(52) the intermediate wh-expletive is simply missing, and that each will fail due to the unsatisfied EPP in the first embedded clause.

As is mentioned above, in Hungarian and some varieties of German and Kashmiri, structures like the (b) sentences above are grammatical. In these sentences there is apparently no expletive in the intermediate position. Simpson attributes this pattern to phonological deletion of the intermediate expletive, and not expletive movement. However, (63) suggests that this explanation is not plausible. There is only one set of focus features possible on a C head in the lexicon of Kashmiri, and in the intermediate clause in (63) the pronoun *tse* 'you' has interacted with these features. This means that it is impossible for there to be another element, for instance a wh-expletive, in this position at all, regardless of whether or not it is pronounced. Although this question is not yet resolved, importantly the core pattern, in which the wh-expletive obligatorily appears in all intermediate positions in a multiclausal matrix question, does follow from the account presented here.

Throughout this discussion, we have built an account of A-bar movement that is guided by the same general principles which underlie A-movement. The question

121

then becomes why expletive movement is possible in the A-system, but not in the A-bar system. Consider once again (59), repeated here as (64).

(64)   There seems to be a problem.

What is different about the DP-expletive *there* that permits it to move, while wh-expletives may not? My tentative answer to this question here is: nothing. In fact, the DP-expletive and the wh-expletive are roughly equivalent in terms of feature content, each possessing only uninterpretable features. The difference lies instead in the types of heads which exist in the A and A-bar systems. In the A-system, the non-finite T head is often referred to as 'defective'. It has no ability to assign case to a DP or even to fully Agree with its phi-features. In the A-bar system, there is no analogous 'defective' head. Although there are different types of C-heads, all of them have uninterpretable [wh] features which are valued by some [wh] feature in their domain. So under this account there is no A-bar equivalent of the 'defective' T head. We can simultaneously make an empirical observation that there is also no visible equivalent of non-finiteness in the A-bar system – that is, there is no morphological realization of 'defectiveness' like the English word *to*. For this reason I will assume here that the fact that wh-expletives cannot move from one clause to another does not represent a major split between the A and A-bar systems, nor does it represent a strong distinction between the two types of expletives. It is also relevant to note here that some researchers have concluded that A-expletives also do not undergo movement (Bošković 2002), and that the reason for believing in A-expletive raising may only be as strong as believing that the raising T head bears the EPP. Although more research

is certainly needed on this point, I will maintain that this supposed distinction does not represent a major difference between A and A-bar expletives themselves.

5. Conclusion

Current theoretical frameworks provide us with a new way to approach wh-movement and wh-expletive constructions. The account presented here claims that A-bar movement, like A-movement, is driven by a system of interpretable and uninterpretable features. This permits a new view of wh-expletive constructions in languages like Kashmiri: wh-expletives serve to satisfy needs of certain heads in the A-bar system, allowing those heads to interact at some distance with contentful wh-material.

While this account covers significant empirical ground, it makes no use of devices particular to the construction under analysis here. Instead the mechanisms proposed apply to all of A-bar movement, and in fact reveal the symmetry of design between the A and A-bar systems.

Appendix:

From the diagrams in (56)-(58) we see that there are three possible interrogative feature bundles that can appear on a C-head in a three-clause matrix question in Kashmiri. The presence of the feature bundle that contains [Q-*i*] is determined by the selecting predicate (or in matrix position). However, other predicates (such as the equivalents of *think* or *say*) could in principle select a C-head with either of the two remaining bundles. These two bundles differ in that one contains [Q-*u*] and one does not. The following schematics depict the three C-heads in a three-clause matrix wh-question in which the full wh-phrase originates in the lowest clause. They illustrate that if the incorrect feature bundle is chosen on one of these two lower heads, the derivation will nearly always fail to converge.

The two patterns already established above in (56)-(58) are shown in in (i)-(ii)[9].

(i)   C1   C2   C3   (see (56)-(57))

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[9] Clearly this list of features is not exhaustive; only the relevant features are displayed for the sake of illustration.

wh-*u*   wh-*u*   wh-*u*

Q-*i*   EPP   EPP

EPP

(ii) C1   C2   C3   (see (58))

wh-*u*   wh-*u*   wh-*u*

Q-*i*   Q-*u*   EPP

EPP   EPP

The feature bundles on the C-heads in (i) permit full wh-movement to the specifier of C1, or partial wh-movement to the specifier of C2 with a wh-expletive in the specifier of C1, but do not permit partial wh-movement only to the specifier of C3, because the [Q] feature on the full wh-phrase could not be valued (there is no other [Q] feature on an accessible Probe). The features in (ii) permit only partial wh-movement, to either the specifier of C2 or C3, with wh-expletives in the specifiers of higher C-heads.

The patterns in (iii) and (iv) are not discussed in 4.2. In (iii) the C3 head possesses Q-*u* instead of the C2 head.

(iii) C1   C2   C3

wh-*u*   wh-*u*   wh-*u*

Q-*i*   EPP   Q-*u*

EPP   EPP

This combination of heads will not permit any derivation to converge. The wh-phrase will be frozen in the specifier of C3 because all of its features will have been valued. However, a wh-expletive (having only the [Q-u] feature) that originates in the clause beneath the C2 head (with no [Q] feature) will not be attracted by that head because they have no matching features. As predicted, no derivation will converge given this selection. It is also possible that both the C2 and C3 heads could have a [Q-u] feature, as in (iv).

(iv) C1   C2   C3

    wh-u wh-u wh-u

    Q-i Q-u Q-u

    EPP   EPP   EPP

In this case, the wh-phrase originating in the lowest clause will be frozen in the specifier of C3 because all of its features will have been valued. So wh-movement to either the specifier of C1 or C2 will not be possible. However, the construction with a wh-expletive in the specifier of C1 and C2 is possible, as no features will remain unvalued. This is the only unexpected converging derivation.

It is worth considering whether this system of heads would permit constructions in which there are only wh-expletives in every clause (no full wh-phrases). This would not be possible because the [wh-u] feature on C3 head in (i)-(ii) would not be valued, since the expletive has no [wh] feature. This derivation would fail to converge. So too would a derivation in which full wh-phrases instead of wh-expletives occupied the specifiers of C1, C2, and C3, though the intended

126

interpretation was the same as a canonical wh-expletive construction. Assuming the

heads were either like those in (i) or (ii) the [Q-*u*] on the wh-phrase in the specifier of

C3 would not be valued, because either the C2 head will not have its own [Q] feature

(as in (i)), or the C2 Probe will be inactive before probing the wh-phrase in the

specifier of C3, because it will have been valued through interaction with the wh-

phrase in its own clause. In either case, this type of derivation also will fail to

converge. The important thing to conclude from the exercise in this appendix is that

in this view the feature bundles that appear on the relevant heads permit all and only

the family of grammatical constructions, while making no use of stipulations or

devices particular to the construction under analysis here.