

Moving Just the Feature

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1. Introduction

This paper re-examines a type of *wh*-movement called partial *wh*-movement. Partial *wh*-movement refers to a type of *wh*-movement found in languages like German and Romani, as discussed in van Riemsdijk (1982) and McDaniel (1989) among others. There are two defining characteristics of partial *wh*-movement: (i) a *wh*-word is moved “half-way,” landing at a Spec of CP which is not associated with the scope of the *wh*-word; (ii) a scope marker appears at the CP where the *wh*-word is interpreted as taking scope. Numerous analyses have been proposed to handle partial *wh*-movement in various languages such as German, Hindi and Iraqi Arabic. These analyses can be broadly characterized as belonging to either a “direct”-dependency approach (e.g., McDaniel (1989)) or an “indirect”-dependency approach (Dayal (1994), Horvath (1997)). The goal of this paper is two-fold: (a) to offer an alternative analysis to German type of partial *wh*-movement, and (b) to argue that seemingly comparable constructions do not necessarily warrant an identical analysis. I first explore an analysis of partial *wh*-movement under the Minimalist Program, which can be classified under a “direct”-dependency approach. I propose that partial *wh*-movement involves overt movement of part of a *wh*-word (hence partial), namely, the *wh*-feature of a *wh*-word.

I show that the feature movement account can provide some natural answers to questions raised by the phenomenon of partial *wh*-movement (section 3). Furthermore, I compare the German type of partial *wh*-movement with the Hindi type, arguing that the latter does not involve overt feature movement (section 4). This in turn concurs with Horvath’s conclusion that the German type of partial *wh*-movement should not be considered on a par with the Hindi type of partial

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wh-movement (see also Beck & Berman (this volume) and von Stechow (this volume)). I briefly discuss the consequence of an overt feature movement analysis in section 5.

2. Basic Data

In German, as discussed in van Riemsdijk (1982) and McDaniel (1989), a *wh*-word which is supposed to move to a [+wh] CP to form a *wh*-question can in fact move to an intermediate CP, which is [-wh]. The scope of the *wh*-word is then marked by a scope marker *was* (glossed as WH). It should be noted that this scope marker is homophonous with the *wh*-word *was* ('what'). (1-b) is an example of partial *wh*-movement in German (cf. McDaniel (1989, 569)).

- (1) a. [PP Mit wem]_i glaubt [IP Hans [CP t_i daß [IP Jakob jetzt t_i
with whom thinks H. that J. now
spricht]]] ?
talks
'With whom does Hans think that Jakob is now talking?'
- b. Was_i glaubt [IP Hans [CP [PP mit wem]_i [IP Jakob jetzt t_i
WH thinks H. with whom J. now
spricht]]] ?
talks
'With whom does Hans think that Jakob is now talking?'

As we can see in (1), the *wh*-phrase *mit wem* ('with whom') can move from the embedded clause to the matrix or it can stay in the intermediate Spec of CP with the scope marker *was* in the matrix, marking its scope. Note that the embedded Spec of CP does not normally host a [+wh] element since verbs such as *glauben* ('to believe/think') do not take an embedded question.¹

If there is more than one embedding involved, the picture is a bit more complicated. For some speakers, the scope marker *was* appears in every intermediate Spec of CP between the matrix Spec of CP and the *wh*-phrase (as shown in (2-cd); cf. McDaniel (1989, 575f.)). In other words, a clear locality effect is observed. For some other speakers, there can be an intervening CP without *was*, as noted in Müller (1997, 253), as shown in (3).

- (2) a. [PP Mit wem]_i glaubst [IP du [CP t'_i daß [IP Hans meint [CP t'_i
with whom believe you that H. thinks
daß [IP Jakob t_i gesprochen hat]]]] ?
that J. talked has
'With whom do you believe that Hans thinks that Jakob talked?'

¹As McDaniel (1989) argues, the sentence in (1-b) does not consist of two questions: 'What does Hans think?' and 'With whom is Jakob talking?' The embedded clause does not reflect a verb second order and thus cannot be interpreted as a matrix question.

- b. Was_i glaubst [IP du [CP [PP mit wem]_i [IP Hans meint [CP t'_i daß
 WH believe you with whom H. thinks that
 [IP Jakob t_i gesprochen hat]]]] ?
 J. talked has
- c. Was_i glaubst [IP du [CP was_i [IP Hans meint [CP [PP mit wem]_i;
 WH believe you wh H. thinks with whom
 [IP Jakob t_i gesprochen hat]]]] ?
 J. talked has
- d. *Was_i glaubst [IP du [CP daß [IP Hans meint [CP [PP mit wem]_i;
 WH believe you that H. thinks with whom
 [IP Jakob t_i gesprochen hat]]]] ?
 J. talked has
- (3) Was_i meinst du [CP₁ daß sie gesagt hat [CP₂ wann_i sie t_i kommen
 WH think you that she said has when she come
 würde]] ?
 would

In (2-b), the *wh*-phrase has moved to the highest embedded Spec of CP. There is no other Spec of CP between the scope marker and the *wh*-phrase. In (2-c), the *wh*-phrase is in the lowest embedded Spec of CP and there is one Spec of CP between the matrix scope marker and the *wh*-phrase. This Spec of CP is also filled with the scope marker *was*. As we can see in (2-d), if this Spec of CP is not filled with *was*, the sentence becomes ungrammatical. However, (3) contrasts with (2-d), showing perhaps a dialectal difference, which I will get back to later.

Several questions arise given this set of data:

- (4) a. What is a scope marker? Is it base-generated in Spec of CP or is it moved there?
 b. Why does the *wh*-phrase move to an intermediate CP?
 c. Why can a [-wh] Spec of CP host a *wh*-phrase?
 d. What is the locality restriction associated with the scope marker?

I will explore an account of the partial *wh*-movement phenomenon in sections 3.1–3.5, providing answers to these questions. McDaniel’s account will be discussed in 3.6.

3. Feature Movement as “Partial” Movement

3.1. The Scope Marker

Consider first the nature of the scope marker. First, it differs from a “true” *wh*-phrase in a couple of ways: (a) it does not license *wh*-in situ (in comparison with “true” *wh*-phrases in multiple questions), as shown by the contrast between (5) and (6); and (b) it has to appear in every immediate Spec of CP that is not occupied by a *wh*-phrase (as we have seen in (2-c), (2-d)), leaving aside the dialectal difference for the moment.

- (5) Wann_i glaubst [IP du [CP t_i daß [IP Hans t_i an welcher Universität
when think you that H. at which university
studiert hat]]]
studied has
'When do you think that Hans has studied at which university?'
(McDaniel (1989, 569, (43-b)))
- (6) *Was_i glaubst [IP du [CP was_i [IP Hans meint [CP was_i [IP Jakob [mit
WH believe you WH H. thinks WH J. with
wem]_i gesprochen hat]]
whom talked has ?
'With whom do you believe that Hans thinks that Jakob has talked?'

In (5), the second *wh*-word stays in situ, as in ordinary multiple questions. In other words, a typical *wh*-word can “license” *wh*-in situ. In (6), with the scope marker *was*, the “real” *wh*-phrase cannot stay in situ despite the fact that the scope marker appears in every embedding. The scope marker thus cannot “license” *wh*-in situ; the “half-way” movement is thus closely connected with the presence of the scope marker.

Assuming that the C⁰ of a *wh*-question has a [+wh] feature to be checked (Chomsky (1995a)), the null hypothesis is that the scope marker is the element that checks the [+wh] feature of C⁰, since questions involving partial *wh*-movements are legitimate. However, this does not answer the question of why multiple scope markers are allowed (or needed), if only one of them checks a [+wh] feature (while others in fact appear in [-wh] C⁰s) (as in (2-c)). This in turn relates to the question of why the “true” *wh*-phrase needs to undergo movement if the scope marker can indeed check the [+wh] feature in C⁰, bearing in mind that the *wh*-phrase does not move all the way to a [+wh] CP.

The connection between the scope marker and the *wh*-phrase is thus the center of every analysis of partial *wh*-movement. In a direct-dependency analysis, the scope marker and the “true” *wh*-phrase are considered to be in an expletive-associate chain relationship, where the *wh*-phrase itself is the associate (see McDaniel (1989), among others). In an indirect-dependency analysis however, the *wh*-phrase is not directly associated with the scope marker. Instead, the CP containing the *wh*-phrase is associated with the scope marker (and thus the *wh*-phrase is only indirectly associated with it) (see Dayal (1994; this volume), Fanselow & Mahajan (this volume), Mahajan (this volume) and Horvath (1997; this volume)).

3.2. The Proposal

I propose that the scope marker and the *wh*-phrase are indeed directly associated. The scope marker is in fact part of the *wh*-phrase. To be more precise, the scope marker is the *wh*-feature of the *wh*-phrase. Partial *wh*-movement then involves “half-way” movement of the *wh*-phrase and overt (all-the-way) movement of the

wh-feature (see also Hiemstra (1986)).² In other words, partial *wh*-movement involves movement of part of the *wh*-word (i.e., the *wh*-feature part). Before I discuss the proposal in detail, I will state the following assumptions associated with feature and category movement under the Minimalist Program.

3.2.1. Assumptions

Following Chomsky (1995a; class lecture fall 1995), I assume that overt *wh*-movement involves a two-step movement: feature movement and category movement.³ Feature movement falls under Attract F (i.e., as a result of feature attraction/checking) while category movement (the so-called generalized pied piping) is for PF convergence. Further, Chomsky proposes that after a category undergoes movement, an automatic repair strategy takes place to ensure that the feature(s) will not be scattered. Consider the configuration in (7).

$$(7) \quad [_{CP} \textit{wh}\text{-phrase} [_{C'} [_{C} \textit{wh}\text{-feature} C_{[+wh]}] \textit{IP}]]$$

Note here that I leave aside the question of whether movement of the category is adjunction or substitution (see Fukui & Saito (1998)). As shown in (7), the *wh*-feature (strictly speaking, the set of formal features including the *wh*-feature) moves to C^0 to check the [+wh] feature of C^0 . The *wh*-phrase then moves to CP, “triggering” the repair strategy to take place. One can think of the repair strategy as a mechanism which puts the feature bundle back into the category. Chomsky (class lecture fall 1995) assumes that the repair strategy takes place automatically and any subsequent operation looks at the output of the repair. The repair strategy will be discussed further below.

3.2.2. A Sample Derivation

Let us now turn to an account of partial *wh*-movement as overt feature movement. Consider first a simple example (cf. McDaniel (1989, (17))):

- (8) Was_i glaubt [IP Hans [CP wen_i [IP Jakob t_i anruft]]] ?
 WH thinks H. whom J. is calling
 ‘Whom does Hans think that Jakob is calling?’

I propose that (8) has the following derivation:

$$(9) \quad [_{CP} [FF] \textit{glaubt} [_{IP} \textit{Hans} [_{CP} \textit{wen} [_{C^0} t_{[FF]}] [_{IP} \textit{Jakob} t_{\textit{wen}} \textit{anruft}]]]]]$$

In (9), the feature bundle containing the *wh*-feature undergoes successive cyclic movement to check the [+wh] feature of C^0 . It thus first moves to the embedded C^0 and the *wh*-word *wen* moves to the embedded CP (allowing the repair strategy to take place). Then the feature bundle further undergoes movement (to the

²I thank Rint Sybesma for bringing Hiemstra (1986) to my attention. My analysis was developed before I was aware of Hiemstra’s paper, which proposed a “feature movement analysis” of partial *wh*-movement in a Government and Binding framework.

³For a detailed examination of two-step movements in overt movements, see Agbayani (1998).

In short, the *wh*-feature is attracted by the strong C^0 [+wh] feature to undergo movement. It first moves to the lower C^0 . The category movement then follows due to the fact that repair cannot take place if it does not. The feature bundle undergoes subsequent movement to the matrix C^0 , checking the C^0 feature and it is then spelled out at PF as *was*.

3.2.3. *The Repair Strategy and Multiple Embedding*

The required configuration of the repair strategy entails that if the repair strategy applies automatically and immediately after every category movement, the partial *wh*-movement questions can never be formed. Take the representation in (11) as an example. If the *wh*-word *wen* and its feature bundle undergo repair, and then the feature bundle undergoes further movement to the matrix CP, the *wh*-word left behind and the feature copy will not be in the correct configuration to allow repair to take place. On the other hand, if the repair strategy does not take place immediately, and the feature bundle undergoes further movement, the left-behind *wh*-word and the feature copy will be in the correct configuration for the repair strategy to take place.

If the repair strategy does not take place immediately after the correct configuration is made, when does it take place? To answer this question, we need to consider sentences involving multiple embedding. As we have seen above, in cases with multiple embedding two things happen: (a) multiple occurrence of the scope marker *was* is possible or obligatory (depending on speakers), and (b) the “true” *wh*-phrase can have different landing sites.

Consider first multiple occurrence of the scope marker *was*. Given the analysis proposed here, the feature bundle undergoes successive-cyclic movement.⁴ We see this in (11): the feature bundle first moves to the embedded CP, then the matrix CP. This is the same in cases with multiple embedding. The only difference is that in such cases, the feature bundle leaves behind a copy in every embedding.

$$(12) \quad [CP_1 \text{ [FF]} \dots [CP_2 \text{ [FF]} \dots [CP_3 \text{ } wh\text{-phrase [FF]} \dots [IP \dots \\ \text{copy}_2 \qquad \qquad \qquad \text{copy}_1$$

Under the current analysis of the scope marker, the multiple occurrences of the scope marker are in fact spell-out copies of the feature bundle. In other words, besides the feature bundle in the matrix CP, every “independent” feature bundle will be spelled out. Thus, for speakers who have multiple *was* in questions involving multiple embedding, the absence of *was* in intermediate embedding entails that there is a violation of successive-cyclic movement (which may relate to the Minimal Link Condition). As for speakers who accept sentences such as (3), I suggest that in their dialect, the intermediate feature bundles (i.e., copies of

⁴For discussions regarding the successive-cyclic nature of movement within the Minimalist Program, see Agbayani (1997) and Takeda (1997). One potential problem associated with the successive-cyclic movement of the feature bundle here is that it seems to “skip” the X^0 s between the C^0 s. It is perhaps the case that the movement of features is sensitive to the category of the attractor. The other possibility is that only the ones in C^0 will be spelled out.

to the matrix CP but rather stays in CP₂. In (14-b), the category stays in CP₃. Given these two derivations (together with the derivation of full movement), the question is whether this is indeed allowed given economy (cf. Chomsky (1991)). I suggest that indeed all these options are allowed. In Chomsky (1995a), category movement is considered to form a separate chain (CH_{CAT}) from feature movement (CH_{FF}). In both derivations above (cf. (14)), one single CH_{CAT} is formed. Hence, in terms of economy all of these derivations are the same. The crucial factor rests upon the fact that the feature can be scattered in this language (to be discussed in the next section). Looking at the derivations this way, the repair strategy can apply either in the computation (a very late application) or at PF. In other words, partial *wh*-movement can be considered to be inherently available given successive-cyclic movement. The only difference between languages is whether or not they allow the *wh*-feature to be scattered.⁷

3.3. The Nature of Wh-Words

The biggest puzzle associated with partial *wh*-movement is perhaps the impossibility of partial *wh*-movement in many languages, such as English. If the analysis proposed here is on the right track, one crucial difference must lie within the *wh*-words. Another difference may relate to the availability of a default *wh*-word (to spell-out feature bundles containing [+wh]). That is, German *wh*-words are such that they allow the *wh*-feature to be separated from the rest of the *wh*-word, which is later spelled out as a default *wh*-word.⁸

The question that arises then is whether German *wh*-words have any special characteristics. It turns out that German *wh*-words are similar to Japanese *wh*-words in that the *wh*-words can serve as the morphological base for indefinites. Consider the Japanese and German paradigms below.

(15)	<i>Japanese</i>			
	<i>wh</i> -phrases		∃-quantifiers	
	dare	‘who’	dare-ka	‘someone’
	nani	‘what’	nani-ka	‘something’
	doko	‘where’	doko-ka	‘somewhere’
	itsu	‘when’	itsu-ka	‘sometime’
	naze	‘why’	naze-ka	‘for some reason’
	dono N’	‘which N’	dono N’-ka	‘some N’

⁷This analysis makes category movement more global than Chomsky’s (1995a) treatment.

⁸It has been reported that English speaking children have sentences comparable to German partial *wh*-movement sentences (see Thornton (1990)). I have also heard a Dutch child (age 6) producing questions comparable to (1-b). See section 5 for further discussion of language variation.

(16)	<i>German</i>			
	<i>wh</i> -phrases		\exists -quantifiers	
	wer	‘who’	irgendwer	‘someone’
	was	‘what’	irgendwas	‘something’
	wann	‘when’	irgenwann	‘sometime’
	wo	‘where’	irgendwo	‘somewhere’
	welche	‘which’	irgendwelche	‘some kind of’

The paradigm in (15) illustrates the well-known fact in Japanese that the *wh*-words in combination with the suffix *-ka* can derive a set of indefinites (see Kuroda (1969), Nishigauchi (1990), among others). We see from (16) that German is similar to Japanese in that when the *wh*-words are attached with *irgend*, a set of indefinites is derived.

In the spirit of Cheng (1991) and Watanabe (1991), among others, I suggest that paradigms of the kind in (15) and (16) suggest that the *wh*-words consist of a core as well as a *wh*-part. The *wh*-part can be dissociated from the core, as in cases where another quantificational force is present (such as *-ka* and *irgend*-). More importantly, the *wh*-part is essentially the *wh*-feature, which is not phonologically realized when it is combined with the core. Schematically, we may represent Japanese *dare* (‘who’) and German *wer* (‘who’) as in (17).

(17)	a. [dare- \emptyset]	b. [\emptyset -wer]
	core- <i>wh</i>	<i>wh</i> -core

I propose that it is this apparent “separation” of the core and the *wh*-feature which allows the *wh*-feature to be scattered when undergoing Move.

3.4. Island Effects

It has often been pointed out that partial *wh*-movement differs from full *wh*-movement with respect to island effects (see von Stechow & Sternefeld (1988), McDaniel (1989), Höhle (1990), Rizzi (1992), Gamon (1994), and Müller (1997)). Every analysis of partial *wh*-movement attempts to provide an account of the differences between the two types of *wh*-movement. In the analysis proposed here, the scope marker has a “direct” link to the “real” *wh*-phrase in that the scope marker is in fact part of the *wh*-phrase. In this section, I briefly consider the asymmetry concerning island effects within the current feature movement account. The basic generalization concerning the asymmetry in question here is that partial *wh*-movement is more island-sensitive than overt extraction involving arguments. I repeat below the facts from Müller & Sternefeld (1996, (21)) and Müller (1997, (18)–(20)):

- (18) *Negative islands:*
- | | |
|------|--|
| a. | *Was glaubst du nicht [CP wen _i (daß) Hans t _i getroffen hat] ? |
| | WH think you not whom that H. met has |
| b.?? | Wen _i glaubst du nicht [CP t _i daß Hans t _i getroffen hat] ? |
| | whom think you not that H. met has |

(19) *CNPC islands:*

- a. *Was hast du [NP ein Gerücht t_j] gehört [CP_j wen_i Ede t_i mag] ?
 WH have you a rumour heard whom E. likes
- b. ??Wen_i hast du [NP ein Gerücht t_j] gehört [CP_j t'_i daß Ede t_i
 whom have you a rumour heard that E.
 mag] ?
 likes

(20) *Subject islands:*

- a. *Was ist es schade [CP [PP mit wem]_i Hans t_i gesprochen hat] ?
 WH is it too bad with whom H. spoken has
- b. ??[PP Mit wem]_i ist es schade [CP t'_i daß Hans t_i gesprochen hat] ?
 with whom is it too bad that H. spoken has

(21) *Factive islands:*

- a. *Was weißt du [CP wen_i (daß) sie wirklich t_i liebt] ?
 WH know you who that she really loves
- b. ??Wen_i weißt du [CP t'_i daß sie wirklich t_i liebt] ?
 who know you that she really loves

As we can see from the examples above, partial *wh*-movement leads to ungrammaticality while overt full movement yields milder ungrammaticality.

Given the analysis here, the difference between partial *wh*-movement and full *wh*-movement has to center around feature movement alone versus feature movement plus category movement. From these sentences, it appears that feature movement is comparable to adjunct movement in that both are more sensitive to islands than arguments.⁹ In Agbayani (1998), it is argued that feature movement and category movement obey different locality constraints. I would like to further suggest that in cases where category movement occurs together with feature movement, it is the category movement that matters (given the repair strategy).¹⁰

3.5. Multiple Questions

There is one remaining issue which concerns multiple questions as well as the spell-out of the feature bundle. Consider (22) and (23). (22) is the partial-strategy variant of (23). We see that the first *wh*-phrase can undergo either “full” *wh*-movement or “partial” *wh*-movement and the second *wh*-phrase is in situ (examples from McDaniel (1989)).

⁹One may also follow Honcoop (1997; 1998), who gives a semantic account. In such an account, the *wh*-feature and the *wh*-phrase are subject to inaccessibility. See also Honcoop (1998) for the semantics of partial *wh*-movement under the current feature movement account.

¹⁰It should be noted that given this analysis of island effects in partial *wh*-movement, locality constraints cannot be strictly derivational. In cases where full movement takes place, both feature movement and category movement are involved. However, in such cases, the violations incurred by feature movement are “canceled” by category movement. In a non-derivational view, after the repair strategy takes place, there is in fact no “trace” of the feature movement.

- (22) Was_i glaubst [IP du [CP wann_i [IP Hans t_i an welcher Universität
WH think you when H. at which university
studiert hat]]] ?
studied has
'When do you think Hans studied at which university?'
- (23) Wann_i glaubst [IP du [CP t_i daß [IP Hans t_i an welcher Universität
when think you that H. at which university
studiert hat]]] ?
studied has
'When do you think Hans studied at which university?'

The grammaticality of (22) is expected: the scope marker *was* can check the [+wh] feature in the matrix C⁰, thus allowing the second *wh*-phrase *an welcher Universität* ('at which university') to stay in situ. This is comparable to (23), which has the first *wh*-phrase (feature + category) moving to the matrix, also allowing the second *wh*-phrase to stay in situ.

Consider now another logical possibility: the second *wh*-word undergoes partial *wh*-movement, as in (24) (from Müller & Sternefeld (1996)).¹¹

- (24) *Wer_i hat t_i behauptet [CP wen_j (daß) sie t_j getroffen hat] ?
who has claimed whom that she met has

To derive (24), the matrix *wh*-word *wer* ('who') undergoes both feature and category movement (to check the matrix C⁰ [+wh] feature). The *wh*-word in the embedded clause, *wen* ('whom'), undergoes feature movement and category movement to the embedded CP. The feature bundle of *wen* further undergoes movement to the matrix. This is represented in (25):

- (25) [CP₁ wer_i [FF_j] ... t_{wer} ... [CP₂ wen_j [FF_j] ... t_{wen} ...]]
copy

Leaving aside the question of whether the feature bundle [FF_j] also needs to be spelled out, a derivation such as (25) is ruled out because the movement of the feature of *wen* is not motivated. Since the [+wh] feature of matrix C⁰ is checked by the feature of *wer*, the feature of *wen* need not and therefore cannot undergo

¹¹McDaniel (1989) reports the following sentences to be well-formed, noting that some speakers consider them ungrammatical. These are the complete opposite of (24).

- (i) a. Wer_i glaubt [IP t_i [CP [mit wem]_j [IP ich meinte [CP t_j daß [IP Jakob t_j
who believes with whom I thought that J.
gesprochen hat]]]]] ?
talked has
b. Wer_i glaubt [IP t_i [CP was [IP ich meinte [CP [mit wem]_j [IP Jakob t_j gesprochen
hat]]]]] ?

In both cases, partial *wh*-movement takes place and in both cases, there is no spelling-out of the *wh*-feature bundle in the matrix. If these are indeed grammatical sentences for some speakers, there must be some independent trigger for the movement of the *wh*-feature under this analysis (i.e., something other than the C⁰ [+wh] feature attraction, see Cheng's (1991) account of multiple *wh*-movement languages).

movement.¹² Further, if the feature bundle must be spelled out in the matrix (as noted above), a sentence such as (24) is also not allowed, since the feature of *wen* is left without being spelled out.

3.6. McDaniel (1989)

McDaniel (1989) argues that the scope marker *was* in German is a *wh*-expletive base-generated in the Spec of CP. To account for the relationship between the scope marker and the *wh*-phrase, she proposes to define *wh*-chains and a revision of the *Wh*-Criterion (cf. Rizzi (1991)) as in (26) and (27), respectively.

(26) *Wh-Chains:*

A chain $C = \langle a_1, a_2, \dots, a_n \rangle$ is a *wh*-chain iff:

- a. $\forall a_i, 1 \leq i < n, a_i$ locally A-bar binds a_{i+1} ,
- b. $\forall a_i, 1 \leq i < n, a_i$ is a *wh*-element,
- c. a_n is a variable in IP-internal position, and
- d. for any scope marker $a_i, 1 \leq i < n, \langle a_{i+1}, \dots, a_{n-1} \rangle$ contains a true *wh*-phrase.

(27) *Wh-Criterion:*

If a language has syntactic *wh*-movement, then, for every Cspec x of a [+*wh*] CP, there must be a *wh*-chain such that its head is in x ; and for every *wh*-phrase y in A-bar position, there must be a *wh*-chain which contains y and whose head is in the Cspec from which y takes scope.

The definition of *wh*-chains essentially ensures that if there is a scope marker in the sentence, there must be a “true” *wh*-phrase associated with it (which is in turn associated with a variable). The scope marker is thus a legitimate member of the chain containing a *wh*-phrase. The revised *Wh*-Criterion ensures that if a *wh*-phrase shows up in a [-*wh*] Spec of CP, there must be a scope marker in a [+*wh*] Spec of CP from which the *wh*-phrase takes scope.

McDaniel proposes that the ungrammaticality in (2-d) (i.e., in cases where the scope marker and the *wh*-phrase have an intervening CP without a scope marker) is an instance of a Subjacency violation, with Subjacency as a condition on representations (see also van Riemsdijk (1982)). It should be noted that typically Subjacency violations are mild violations. In the examples that we have seen concerning island violations, partial *wh*-movement generates strong violations rather than mild violations. It is thus unclear how a Subjacency account can explain the strong violations. Furthermore, as we have seen, partial *wh*-movement is sensitive to both strong and weak islands. Again, it is unclear how McDaniel can account for this using a Subjacency account.

Aside from the problems with extraction data, McDaniel’s definition of *wh*-chains as well as the *Wh*-Criterion are proposed solely to deal with the phenomenon associated with the presence of a scope marker. Consider the definition in (26-d) for example. This is necessary to ensure that the scope marker is in a

¹²I leave aside the question of whether there is LF feature movement of in situ *wh*-words.

higher/c-commanding position than the “true” *wh*-phrase. And with respect to the revised *Wh*-Criterion, it is there to explain the fact that we have a “true” *wh*-phrase sitting in a [-*wh*] Spec of CP. Both of these naturally follow from the proposal put forth here. With a feature movement analysis, it naturally follows that the scope marker (i.e., the spelled out feature bundle) will end up in a position higher and c-commanding the “true” *wh*-phrase. In addition, since the feature bundle that is extracted crucially involves the *wh*-feature, the *wh*-phrase that is left behind no longer has the *wh*-feature and therefore will not cause any problem for a [-*wh*] CP.¹³ In other words, no additional definitions or assumptions are needed under this account.

4. Seemingly “Partial” Movement Languages

From the German data on partial *wh*-movement, we can summarize the surface properties of partial *wh*-movement as follows:

- (28) (i) *Wh*-words are not fronted to the clause from which they take scope. Instead, they are fronted to an intermediate position.
 (ii) An overt scope marker is in the position in which the *wh*-word is supposed to land.
 (iii) A locality restriction ensures that a scope marker appears in every intermediate CP between the highest clause and the *wh*-word.

(i) and/or (ii) have been used as heuristics in grouping languages as a partial *wh*-movement language: McDaniel (1986) among others considers Iraqi Arabic and Palauan to be possible partial *wh*-movement languages based on (i), and Mahajan (1990; this volume) and subsequently Dayal (1994; this volume) consider Hindi to be on a par with German based on (ii) (see also Sabel (this volume) for other seemingly partial movement languages).

In fact, the direct vs. indirect dependency approaches can be distinguished based on which language the analysis is based on. I agree with Beck & Berman (this volume), Horvath (1997), and von Stechow (this volume) that German should not be treated on a par with Hindi and Hungarian just because it displays the characteristics noted in (28). In fact, German differs from Hindi/Hungarian in crucial respects (see also Dayal (this volume) and Horvath (1997)). Below, I will briefly examine Hindi showing that there are reasons to doubt that it has “partial” *wh*-movement of the kind we see in German. For a detailed list of properties in Hindi *kyaa*-questions and a list of differences and similarities between Hindi and German, see Mahajan (this volume).

¹³One may be concerned with the copy of the feature. However, it should be noted that under a copy theory of movement, the copies no longer have the same “status” as the original. In the account here, the copy essentially serves the phonological repair purpose. Thus, the fact that the feature bundle is gone from the *wh*-phrase does not affect the *wh*-phrase in this account.

4.1. Wh-in situ and Fronting

It should first be pointed out that in Hindi, *wh*-words are allowed to stay in situ or to undergo fronting. (29) shows that Hindi is similar to Chinese and Japanese in that it allows in situ *wh*-words in both direct and indirect questions. (30) shows the fronting of *wh*-words.¹⁴ Examples are from Mahajan (1990).

- (29) a. Raam-ne *kis-ko* dekhnaa caahaa
 R._{erg} who to see want
 ‘Who did Ram want to see?’
 b. Raam-ne puuchaa [ki mohan-ne *kis-ko* dekhaa]
 R._{erg} asked M._{erg} who saw
 ‘Ram asked who Mohan saw.’
- (30) a. Raam-ne puuchaa [ki *kis-ko* mohan-ne dekhaa]
 R._{erg} asked who M._{erg} saw
 ‘Ram asked who Mohan saw.’
 b. *Kon* raam-ne puuchaa [ki aayaa hE]
 who R._{erg} asked come has
 ‘Ram asked who has come.’

4.2. Overt Scope Marker

Hindi uses an overt scope marker in certain situations: *wh*-words taking matrix scope are not allowed to stay in situ in tensed clauses unless an overt scope marker is present:

- (31) a. *Raam-ne kahaa ki *kon* aayaa hE
 R._{erg} said who come has
 ‘Who did Ram say has come?’
 b. *Raam-ne socaa ki *kon* aayaa hE
 R._{erg} thought who come has
 ‘Who did Ram think has come?’

To rescue this sentence, the language employs something that has apparent affinity to *was* in German. *kyaa* (‘what’) is found in the matrix object position:

- (32) a. Raam-ne *kyaa* kahaa ki *kon* aayaa hE
 R._{erg} WH said who come has
 ‘Who did Ram say has come?’
 b. Raam-ne *kyaa* socaa ki ravii-ne *kis-ko* dekhaa
 R._{erg} WH thought R._{erg} who saw
 ‘Who did Ram think that Ravi saw?’

However, there is an apparent difference between German and Hindi. In German, the overt scope marker is closely associated with the partial fronting of *wh*-words.

¹⁴(30-b) may seem like an impossible sentence given the fact that verbs like *ask* require a [+wh] complement clause. However, assuming Saito’s (1989) claim that scrambling can be undone at LF, this sentence will not be problematic.

In contrast, there is no direct connection between the presence of the scope marker and the fronting of the *wh*-words in Hindi. Rather, we see the scope markers even when the *wh*-words are “in situ.” We have seen that Hindi allows both *wh*-in situ and *wh*-fronting. Following Mahajan (1990), I assume that *wh*-fronting in Hindi involves long distance scrambling of a *wh*-phrase (i.e., not to Spec of CP). Hence, *wh*-fronting is not fronting to Spec of CP; thus it can co-exist with *wh*-in situ in the sense that the possibility of leaving *wh*-words in situ does not preclude the fronting (scrambling) of *wh*-words (see also Cheng (1991)). Furthermore, from the sentences in (29) as well as the fact that the *wh*-scope marker *kyaa* shows up in an object position, it appears that Hindi is a *wh*-in situ language. Hence, Hindi will not generate a structure comparable to German partial *wh*-movement cases under the current account. There will be no overt movement of the set of formal features to CP. The remaining question regarding Hindi is the relationship between the scope marker *kyaa* and the *wh*-word.

4.3. Mahajan (1990) and Dayal (1994)

As mentioned above, the scope marker *kyaa* marks the scope of *wh*-words in tensed embedded clauses ((32-b) is repeated below). Mahajan (1990) proposes that *kyaa* is the *wh*-counterpart of the expletive *yeh*, which optionally appears in sentences such as (33).

(32) b. Raam-ne *kyaa* socaa ki ravii-ne *kis-ko* dekhaa
 R._{erg} WH thought R._{erg} who saw
 ‘Who did Ram think that Ravi saw?’

(33) Raam-ne (*yeh*) socaa hi mohan cor hE
 R._{erg} this thought M. thief is
 ‘Ram thought that Mohan is a thief.’

In (33), *yeh* appears in an object position and the tensed clause is extraposed to the right (for similar views on tensed complements in Hindi see also Davison (1984) and Dayal (1994)). Under such views, *kyaa* is also an expletive in the object position. The difference between *kyaa* and *yeh* aside from the [+wh] feature of the former is that *kyaa* must be present when the embedded clause has a *wh*-word in it.

Mahajan (1990) considers the movement of *wh*-words at LF in Hindi (and perhaps in other languages as well) to be adjunction to IP, on a par with Quantifier Raising. Further, for sentences involving *kyaa*, he proposes that the complement clause adjoins to *kyaa* at LF as an instance of expletive replacement (following Chomsky (1991); see also Mahajan (this volume) and Fanselow & Mahajan (this volume)). Note that *kyaa* questions appear to have a stronger locality constraint than partial *wh*-movement questions in German in that in multiple embeddings, *kyaa* must be present in every intermediate embedding, as shown in (34).

- (34) a. *Raam-ne socaa ki ravii-ne *kyaa* kahaa ki kon sa aadmii
 R._{erg} thought R._{erg} WH said which man
 aayaa thaa
 came
- b. *Raam-ne *kyaa* socaa ki ravii-ne kahaa ki kon sa aadmii
 R._{erg} WH thought R._{erg} said which man
 aayaa thaa
 came
- c. Raam-ne *kyaa* socaa ki ravii-ne *kyaa* kahaa ki kon sa aadmii
 R._{erg} WH thought R._{erg} WH said which man
 aayaa thaa
 came
 ‘Which man did Ram think that Ravi said came?’

Mahajan’s explanation for the multiple *kyaa* appearance is that “... an overt *kyaa* is required (i) to absorb the [-wh] feature of Comp (ii) for the associate CP to adjoin” (p. 171).

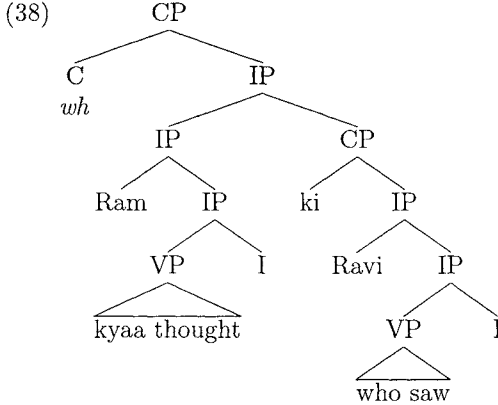
Dayal (1994) points out two differences between Hindi and German which are problematic for Mahajan’s account as well as for direct dependency approaches: (i) in Hindi, *kyaa* questions are allowed with factive islands but not negative islands (see (35), provided by Utpal Lahiri (p.c.), and (36), from Dayal (1994)); but in German, factive islands are also not allowed (as seen in (21) and (18)); (ii) *kyaa* constructions also allow embedded yes-no questions, but German *was* constructions do not allow a yes-no variant (see (37)).

- (35) *Raam-ne *kyaa* nahiiN socaa ki ravii-ne kis-ko dekhaa
 R._{erg} WH NEG thought R._{erg} who saw
 ‘Who did Ram not think that Ravi saw?’
- (36) a. Jaun *kyaa* jaantaa hai meri kis-se baat karegii
 J. WH knows M. who-with will talk
 ‘Who does John know Mary will talk to?’
- b. Tum-ko *kyaa* pataa calaa meri kyuun nahiiN aayegii
 you_{dat} WH discovered M. why not will come
 ‘Why did you discover that Mary won’t come?’
- (37) a. *Was glaubst du ob die Maria mit dem Hans gesprochen hat ?
 WH believe you if the M. with ART H. spoken has
- b. Tum *kyaa* sochte ho ki meri-ne haans-se baat kiyaa yaa nahiiN
 you what think that M. H.-with talked or not
 ‘Do you think Mary talked to Hans?’

4.4. Hindi vs. German

I show here that if we do take an approach à la Mahajan (1990) for Hindi *kyaa* questions and at the same time retain a feature movement account for German partial *wh*-movement, we can explain the Hindi-German differences. I will argue

here for an approach comparable to Rizzi's (1992) account of negative islands. Let us first consider how a typical *kyaa* question can be derived. Following Mahajan (1990) among others, I assume that the finite complement in a *kyaa* question is adjoined to IP. The structure of (32-b) is (38). Here I leave aside the question of whether the CP containing 'who' undergoes movement at LF to replace *kyaa* (cf. Mahajan (this volume)).



Let us assume that at LF the *wh*-feature of *kyaa* undergoes movement to the matrix C^0 . The *wh*-feature of 'who' cannot move all the way to the matrix C due to the extraposition structure. Here I will assume that the *wh*-word 'who' in the embedded clause can be interpreted in situ along the lines proposed in Reinhart (1998).¹⁵

Turning now to the negative/factive island effects, I have noted in section 3.4 that "pure feature movement" (i.e., movement of a feature bundle that is not followed by category movement) can be considered on a par with adjunct movement. In other words, the movement of the *wh*-feature of *kyaa* crossing a weak island is expected to generate violations. The problem raised by Dayal (1994) is particularly targeted towards the contrast between negative islands and factive islands. If we examine the two different islands, the contrast noted in Dayal (1994) follows immediately. The contrast in Hindi *kyaa* questions with respect to negative islands and factive islands is not surprising since movement of the *wh*-feature of *kyaa* does cross a negative island but not a factive island. Regardless of how one represents a factive island, it belongs to the embedded clause, which movement of the *kyaa wh*-feature will not cross.

Turning now to German, (18) and (21) are repeated below:

(18) *Negative islands:*

- a. *Was glaubst du nicht [_{CP} wen_i (daß) Hans t_i getroffen hat] ?
 wh think you not whom that H. met has

¹⁵I am assuming that at LF, it is possible to have both feature movement and *wh*-in situ licensing without movement. This at a first sight seems rather ad hoc. See however Bošković (1997) for an argument that French displays this difference for *wh*-in situ.

b.??Wen_i glaubst du nicht [_{CP} t'_i daß Hans t_i getroffen hat] ?
 whom think you not that H. met has

(21) *Factive islands:*

- a. *Was weißt du [_{CP} wen_i (daß) sie wirklich t_i liebt] ?
 wh know you who that she really loves
 b.??Wen_i weißt du [_{CP} t'_i daß sie wirklich t_i liebt] ?
 who know you that she really loves

Again, the difference between the two languages is easily explainable if one assumes that German partial *wh*-movement involves movement of the *wh*-feature while the Hindi *kyaa* question involves an expletive-CP associate structure (or à la Dayal (1994)). In German, the movement of the *wh*-feature crosses the negative as well as the factive islands under our analysis, since the feature has to be moved from a *wh*-phrase in an embedded clause. Thus, we expect ungrammaticality with negative and factive islands. In Hindi, *kyaa* is the expletive associated with an extraposed clause containing a *wh*-word, and thus its feature can only cross a negative island and never a factive island.

With respect to embedded yes-no questions, if *kyaa* has a more general question feature (such as [+Q]), it is conceivable that both yes-no and *wh*-associates are allowed (see also Mahajan (this volume) and Horvath (1997)). However, in German, *was* is the spell-out of the *wh*-feature of a *wh*-phrase. This in itself blocks any construal with an embedded question. That is, if the embedded sentence contains a yes-no question, there will be no source for *was* (cf. Dayal (this volume)).

In short, *kyaa*-questions do not have structures like *was*-questions in German. It should be noted that Dayal (this volume) argues that there are a number of facts that point to the impossibility of a direct approach for German. These include conjunction, parasitic gaps, *de re/de dicto* readings, as well as the anti-locality effects. I would like to note here that conjunction and the anti-locality effects have simple answers given the current account. As for parasitic gaps and *de re/de dicto* readings, further work on overt pure feature movement needs to be done before we can decide whether or not these can also follow under this account.

5. Conclusion

In the above sections, I have explored an analysis of partial *wh*-movement as overt feature movement. This analysis provides answers to the initial questions posed in section 2:

- (39) a. A *wh*-scope marker is the overt spell-out of a *wh*-feature (i.e., feature bundle containing a *wh*-feature).
 b. A *wh*-feature undergoes successive-cyclic movement, leaving copies at each embedded CP.
 c. The *wh*-phrase needs to undergo category movement for PF convergence.
 d. A [-*wh*] CP can host a “half-way” moved *wh*-phrase because the actual *wh*-feature has left the *wh*-phrase.

This analysis also raises several interesting issues.

I will briefly point out four of them here. First, if this analysis is correct, it entails that there is overt feature movement without subsequent category movement. Agbayani (1998) explores such a type of “split” movement for other constructions as well (e.g., *there*-expletive constructions). For the proposal here, the split is possible only if the *wh*-word has a certain “morphological make-up.” However, the requirement for such feature scattering may not be as simple as it is stated in 3.3. In Frisian, as discussed in Hiemstra (1986), there is also partial *wh*-movement. On the surface, it appears to be similar to the type we see in German ((40) = Hiemstra’s ex. (1-c)):

- (40) Wat tinke jo wa’t ik sjoien haw
 WH think you who that-cl I seen have
 ‘Who do you think (that) I have seen?’

Frisian does not appear to have a *wh*-indefinite paradigm like the one we see in German (Rint Sybesma, p.c.). The same problem arises with Dutch: it appears that some speakers accept partial *wh*-movement sentences, despite the fact that the only *wh*-element in Dutch that has a clear-cut indefinite use is *wat* (‘what’). Further work is needed to determine the nature of partial *wh*-movement in Dutch and Frisian.

Second, in this analysis, the moved feature after spell-out acts as an XP with respect to verb second. However, we have considered feature movement as X^0 -movement. Thus, the question that arises is when and how the feature bundle is considered an XP. Under the Bare Phrase Structure theory of Chomsky (1995b), there is in fact no X^0 or XP in the structure. However, if the moved feature bundle acts as an XP regarding verb second, the question is when it projects as an XP. Another possibility is that assuming a more articulated CP structure (Rizzi (1997)), *was* (i.e., the *wh*-feature) lands in a different X^0 than the verb.¹⁶ There is thus no clash between the verb and the *wh*-feature. Further, it can be argued that the landing site of *was* is the same as the position of a regular complementizer. Müller (p.c.) points out that in many dialects of German, there is no Doubly-Filled Comp Filter (i.e., a *wh*-phrase in Spec of CP and the complementizer *daß* can co-occur). However, *was* cannot co-occur with *daß*, as shown by the contrast in (41-a) and (41-b).

- (41) a. Ich weiß nicht [PP mit wem]_i (daß) du meinst t’_i daß Jakob t_i
 I know not with whom that you think that J.
 gesprochen hat
 talked has
 b. Ich weiß nicht was_i (*daß) du meinst [PP mit wem]_i (daß) Jakob
 I know not wh that you think with whom that J.
 t_i gesprochen hat
 talked has

¹⁶I thank Gereon Müller for pointing out this possibility as well as the German data to me.

In (41-a), the *wh*-phrase *mit wem* can co-occur with *daß*. This is expected if the Doubly-Filled Comp Filter is not obeyed. (41-b) however is not accounted for if we assume that *was* is on a par with a *wh*-phrase (i.e., in Spec of CP). On the other hand, if *was* indeed is a *wh*-feature landing in C^0 , the contrast between (41-a) and (41-b) can be explained.

Third, given the analysis put forth here, German partial *wh*-movement also involves overt extraction (albeit only feature movement). This directly leads to the question of whether or not there are characteristics of partial *wh*-movement that are shared by other cases of overt extraction. Müller (1998) argues that obligatory CP extraposition under bridge verbs in German can be considered a diagnostics for overt extraction. If this is correct, it provides further support for the analysis advocated here: CP extraposition is also obligatory in German partial *wh*-movement constructions.

Finally, in this analysis, sentences with more than one scope marker *was* in German are considered to have copies of the feature bundle. However, only the original one carries the [+*wh*] feature, even though every spelled-out *wh*-feature is *was*. This raises the question of the nature of copies as well as the spell-out mechanism. I leave this question for future research.

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