PARTIAL AND MULTIPLE WH-MOVEMENT*

This paper deals with two types of Wh-constructions that occur in German and Romani: partial and multiple Wh-movement. In these constructions a Wh-phrase moves to the specifier of a CP that is lower than the CP over which the Wh-phrase takes scope. In partial Wh-movement, the scope position contains a scope-marker, and in multiple Wh-movement, the scope position contains another Wh-phrase. Both constructions are restricted by a Subjacency-like constraint. It is argued that the data can be accounted for by considering Subjacency to be a condition on representation. In addition, it is claimed that Absorption applies at S-structure, as well as LF, in these languages, whereas in languages like English, it applies only at LF. The possibility of S-structure Absorption unifies partial and multiple Wh-movement and accounts for their existence in a language.

0. Introduction

In this paper, I discuss a type of Wh-construction, partial Wh-movement, in which the Wh-phrase appears in a position lower than the position from which it takes scope. The latter position is occupied by an element referred to as a scope-marker. This construction will be related to a second construction, multiple Wh-movement, in which more than one Wh-phrase moves in multiple questions. The languages that serve as the basis of the investigation are German and Romani,¹ which have these two constructions in addition to the English-type Wh-construction, full Wh-movement.

Full Wh-movement is restricted in certain ways in German, whereas it appears to be freer in Romani. It will be shown that in both languages partial and multiple Wh-movement are restricted in the same way as full Wh-movement. This is the motivation for handling the constraints on all three types of Wh-movement the same way. This involves claiming Subjacency to be a condition on representation rather than on movement.

Partial and multiple Wh-movement behave very similarly in German

---

* I am grateful to Helen Cairns, Robert Fiengo, Janet Fodor, D. Terence Langendoen, Howard Lasnik, Carme Picallo, and anonymous NLLT reviewers for helpful comments and discussion. I also thank my informants, especially Hans Joachim and Marianne Althaus, Râmiz Emin, Sonja McDaniels, and Dûda Raštî.

¹ Unless otherwise stated, the German data are from standard German spoken in the northern part of Germany. The Romani dialect under consideration is spoken in the area of Priština, Yugoslavia.

---

and Romani. The differences will be attributed to minor parametric variation. Parametric variation will also account for the differences between these languages and languages like English that do not allow the constructions at all.

I will analyze these constructions within the Barriers framework (Chomsky (1986a)). In this framework, Wh-phrases move to the specifier position of CP. I will refer to this position throughout as Cspec. Wh-movement, like movement of other maximal projections, is either adjunction to a maximal projection or substitution. It is stipulated that Wh-phrases may not adjoin to IP (although this seems to be problematic for languages like Polish, as discussed in Rudin (1988)). Subjacency is stated in terms of barriers rather than bounding nodes. Whereas in Chomsky (1981), Subjacency is generally assumed to be a condition on movement, the question of whether it is a condition on movement or representation is left open in Barriers (p. 93, note 25). Subjacency is formalized as in (1) (approximately (58) and (59) of Chomsky (1986a)).

(1)a. If \((a_i, a_{i+1})\) is a link of a chain, then \(a_{i+1}\) must be \(n\)-subjacent to \(a_i\), where \(n\)-subjacent is defined as in (b).

b. \(y\) is \(n\)-subjacent to \(x\) iff there are fewer than \(n + 1\) barriers for \(y\) that exclude \(x\).

The best case is 0-subjacency. 1-subjacency results in a marginally grammatical sentence. Examples are given in (2).

(2)a. ?What do you wonder [\(\text{CP where} \_ \text{IP PRO to put} \_ \text{tj}\)]?

b. *[Which book], did you see [\(\text{NP the boy} \_ \text{CP who} \_ \text{IP tj read} \_ \text{tj}\)]?

---

2 The following definitions are given for “blocking category” (BC) and “barrier” (Chomsky (1986a, p. 14)).

(i) \(z\) is a BC for \(x\) iff \(z\) is not L-marked and \(z\) dominates \(x\).

(ii) \(z\) is a barrier for \(x\) iff (a) or (b):

\(a.\) \(z\) immediately dominates \(y\), \(y\) a BC for \(x\);

\(b.\) \(z\) is a BC for \(x, z \neq \text{IP}\).

\(z\) in (i) and (ii) is a maximal projection. The term “immediately dominate” in (iia) is considered to be a relation between maximal projections only. In addition, a category can be a barrier by the Minimality Condition, which is defined as in (iii) (Chomsky (1986a, p. 42).

(iii) In the configuration \(\ldots x \ldots [z \_ y \_ b \_ \ldots]\), \(x\) does not govern \(b\) if \(z\) is a projection of \(y\) excluding \(x\).

However, such barriers count only for Government Theory and not for Bounding Theory, which is the focus of this paper.
In (2a) *what* cannot move through the lower Cspec, which contains *where*. It therefore crosses one barrier, the lower CP, which results in a marginally acceptable sentence. In (2b) the NP inherits barrierhood from CP, since the CP is not L-marked. Two barriers, the NP and the CP, are crossed, resulting in ungrammaticality. Since the equivalent of sentences like (2a) with a tensed lower clause are worse, Chomsky proposes that the lowest IP is an inherent barrier for Bounding Theory if it is tensed. In (3), then, two barriers are crossed, the lower IP and the lower CP, resulting in ungrammaticality.

(3)  *What* do you wonder [*CP where* [*IP John put t1 t2]*]?

This inherent barrier varies across speakers and languages (presumably being the lowest CP that is tensed, rather than the lowest IP, in languages like Spanish that were previously claimed to have CP as a bounding node) and is a weak barrier. Although it is not made explicit in Barriers, the tensed IP barrier must be strong enough to cause ungrammaticality when combined with another barrier (as in (3)), but too weak to cause marginality if it is the only one. In the sentences in (4), the lowest IP is tensed and therefore a barrier, but no other barriers are crossed. The sentences do not have the marginal status of (2a), but are completely grammatical.

(4)a.  Who do you think that John saw?

b.  Who did John see?

Finally, since “double Wh-island violations” are worse than single ones, Chomsky claims that Subjacency violations are cumulative. In (5), first one barrier (the lower CP) and then (after adjunction to the intermediate VP) a second barrier (the intermediate CP) is crossed. The sentence is ungrammatical, with the status of a 2-subjacency violation, although each movement crosses only one barrier.

(5)  *What* do you wonder [*CP who* [*IP t1 knows [*CP where* [*IP PRO to put t2 t3]*]]]?

This is not formalized in Barriers. The formalization could be as in (6).

\[
\sum_{i=1}^{n-1} b_i \leq 1, \text{ where } b_i = \text{the number of barriers between } a_i \text{ and } a_{i+1} \text{ in the chain } (a_1, a_2, \ldots, a_n).
\]

\[3\] Langendoen (personal communication) has suggested that this could be formalized by considering the tensed IP to be some fraction of a barrier, such as 0.1, and changing “\(n + 1\)” in (1b) to “\(n + 0.1\)”.
Some version of the Doubly Filled Comp Filter (Chomsky and Lasnik (1977)) is necessary to prohibit movement through a filled Cspec. I will consider this filter to be slightly modified to accommodate the Barriers framework (although I will not refer to the filter by a new name). Since it restricts the cooccurrence of a Wh-phrase and a complementizer, as well as two Wh-phrases, it must apply to both pre-IP positions together. In other words, in English the filter states that only one Wh-phrase or complementizer element may occur in the pre-IP positions of a given CP.

In this paper, I deal primarily with Subjacency. The ECP facts, although highly interesting, are beyond the scope of the paper. Most of the data will, therefore, involve extraction of complements. In Section 1, the data involving partial Wh-movement are presented and Subjacency is shown to account for the properties of both full and partial Wh-movement, if it is considered to be a condition on representation. In Section 2, multiple questions are discussed. Multiple Wh-movement is shown to follow the same principles as full and partial Wh-movement, if a rule of Absorption, applying at S-structure, is posited. The possibilities of partial and multiple Wh-movement are claimed to be determined by the same parameter.

1. Partial Wh-movement

1.1. Basic Facts

Descriptively, in partial Wh-movement structures the Wh-phrase moves to a Cspec, but not all the way to the Cspec from which it takes scope (the Cspec of a [+Wh] CP). The Cspec of the [+Wh] CP is obligatorily filled by was in German and so in Romani. These words correspond to the Wh-word what, and in Romani so is also homophonous with the complementizer. I will gloss both was and so as WHAT and refer to them as scope-markers, since they mark the scope of a Wh-phrase. The (b) sentences in (7) and (8) illustrate the construction in interrogatives in German and Romani respectively, and have the same meaning as the (a) sentences, which are the corresponding full Wh-movement structures.4

4 German word order is generally verb second in matrix clauses (i.e., the verb presumably moves to the head of CP) and verb final in embedded clauses. Romani is a null subject language with free word order internal to IP (although SVO is preferred). o, i, and e are forms of the definite article, which is used with proper nouns, as well as with common nouns.

Sample sentences are given with some bracketing and traces, indicating the parts of
(7)a. [Mit wem]i glaubt [IP Hans [CP ti dass [IP Jakob jetzt ti spricht]]]?  
With whom does Hans think that Jakob is now talking?

b. Wasi glaubt [IP Hans [CP [mit wem]i [IP Jakob jetzt ti spricht]]]?  
WHAT does Hans believe with whom Jakob is now talking?

(8)a. Kasi [IP o Demiri mislinol [CP ti so [IP i Ar'ifa dikh[a ti]]]?  
Whom does Demir think that Arifa saw?

b. Soi [IP o Demiri mislinol [CP kasi [IP i Ar'ifa dikh[a ti]]]?  
WHAT does Demir think whom Arifa saw?

(I have coindexed was and so with the Wh-phrase whose scope they indicate. This will be discussed further below.)

Wh-phrases with which and whose can undergo partial Wh-movement like single Wh-words and PPs, as shown in (9)–(10).

(9)a. Wasi glaubst [IP du [CP [welchen Mantel]i [IP Jakob ti heute angezogen hat]]]?  
WHAT do you think which coat Jakob put on today?

b. Wasi glaubst [IP du [CP [wessen Onkel]i [IP Jakob ti besuch[t]]]?  
WHAT do you think whose uncle Jakob is visiting?

(10)a. Soi [IP misline [CP [savo filmi]i [IP o Demiri dikh[a ti]]]?  
WHAT do you think which film Demir saw?

b. Soi [IP misline [CP [kasqoro lil]i [IP o Demiri çitinol ti]]]?  
WHAT do you think whose book Demir is reading?

S-structure that bear directly on the issues in question. Certain S-structure phenomena, such as traces left by verb fronting in German, are omitted.

The English glosses are not word-for-word, but represent the rendering into English of the original sentence (i.e., everything but the part of the structure under discussion is given in close to usual sounding English). In the case of Romani, which has no infinitive, the subjunctive marker te is glossed as “to”.

5 Some dialects of Yugoslav Romani, which are close to the one discussed here, as well as German dialects from the Cologne area, have, in addition to partial Wh-movement, a construction involving a type of Wh-word copying, as shown in (i) and (ii).

(i) Wen, glaubt [IP Hans [CP wen, [IP Jakob ti gesehen hat]]]?  
Whom does Hans think whom Jakob saw?

(ii) Kas, [IP o Demiri mislinol [CP kasi [IP i Ar'ifa dikh[a ti]]]?  
Whom does Demir think whom Arifa saw?

Since this construction is not possible in the dialects of German and Romani under discussion. I will not investigate it here. (See McDaniel (1986) for some further discussion.)
In any of these constructions, if there are more than two clauses, the Wh-phrase may move to an intermediate Cspec as well as to the lowest and the highest. These cases will be discussed in detail further below.

It might be thought that the partial Wh-movement constructions actually consist of two separate questions: “What does Hans think?” “With whom is Jakob talking?” This may actually be the case in certain Slavic and Balkan languages, which allow the structure, but only in biclausal interrogatives; in these languages there is an intonation break between the clauses. In German and Romani, however, there is no intonation break; moreover, there is other evidence against such an analysis. In German, the second clause has verb final word order, indicating that it is subordinate. The structure can be used in indirect questions in both languages, as shown in (11), and in relative clauses in Romani (but not in German), as shown in (12a), with the full Wh-movement counterpart in (12b). ⑥

(11a).  Ich weiss nicht [CP wasi [IP Hans glaubt [CP [mit wem], [IP Jakob jetzt ti spricht]]]].
I don’t know WHAT Hans thinks with whom Jakob is now talking.

b. Na janav [CP soi [IP o Demiri mislinol [CP kas [IP i Arifa dikhła ti]]]].
I don’t know WHAT Demir thinks whom Arifa saw.

(12a). Ake [NP o čhavo [CP soi [IP mislinav [CP kas [IP i Arifa dikhła ti]]]]].
Here’s the boy WHAT I think whom Arifa saw.

⑥ The existence of partial Wh-movement in relative clauses in Romani also precludes an analysis of partial Wh-movement whereby the Wh-word in the higher Cspec is the interrogative word what, originating in the higher clause, and the lower clause is a type of indirect question. That is, due to the existence of (12a), a sentence like (8a) could not be analyzed as “What does Demir think [about] who Arifa saw?” Such an analysis is, in any case, counterintuitive and would not account for the interpretation of partial Wh-movement structures, which is identical to that of full Wh-movement structures.

It might be thought that French relative clauses exhibit a partial Wh-movement structure, as shown in (i).

(i). Voilà [NP la fille [CP que [IP je crois [CP qui, [IP ti est arrivée hier]]]]].
Here’s the girl { that [WHAT] } I think who arrived yesterday.

Qui would be the Wh-phrase and que the scope-marker. However, it is argued in McDaniel (1986) that such an analysis is unlikely and that the analysis put forth by Pesetsky (1981), in which qui is a coindexed complementizer, is preferable.
(12)b. Ake [NP o čhavo [CP kas, [IP mislinav [CP so [IP i Arifā dikīhā t4]]]]].

Here's the boy whom I think that Arifa saw.

1.1.1. Case Inheritance. In certain cases in German, partial Wh-move-
ment is possible when full Wh-movement is ruled out and vice versa.7 In
the northern German dialect considered here, extraction out of indicative
(tense-independent) clauses is impossible unless the extracted element is
an adverb or a prepositional phrase, as shown in the following examples.8

7 One case in which partial (as well as multiple) Wh-movement is ruled out, whereas full
Wh-movement is possible, will not be discussed here. These are constructions in both
German and Romani with extraposed sentential subjects, as shown in (iii) in German and
(iv) in Romani. The (a) cases exemplify full Wh-movement and the (b) cases partial
Wh-movement.

(iii)a. *[Mit wem]i, ist [IP es schade [CP t4 dass [IP Hans t4 gesprochen hat]]? With whom is it too bad that Hans talked?
b. *Was, ist [IP es schade [CP mit wem], [IP Hans t4 gesprochen hat]]? WHAT is it too bad with whom Hans talked?

(iv)a. ?Kas, [IP ex nane šukar [CP t4 so [IP o Demirı marja t4]]? Whom isn't [it] good that Demir hit?
b. *So, [IP ex nane šukar [CP kas, [IP o Demirı marja t4]]? WHAT isn't [it] good whom Demir hit?

These facts can probably be attributed to the ECP (as they were in McDaniel (1986) for
other reasons), if it is assumed that due to the principle of Full Interpretation, the
extraposed clause must move back to subject position at LF to cover the expletive, and the
partially moved Wh-phrase must move to its scope position at LF to cover the scope-
marker (which will be argued to be a type of expletive). The situation at LF in the partial
Wh-movement constructions will then be similar to that of full Wh-movement out of a
sentential subject at S-structure. I will not attempt to work out the details of such an
account at this point.

8 The tense-dependency of a clause is indicated by its inability to express tense distinctions
(cf. Piccallo (1985)). In German, the present subjunctive is not used in clauses that are
tense-dependent in Romance. Instead, the present indicative, or in some cases the past
subjunctive, occurs. Tense distinctions cannot be expressed in such clauses, as shown in the
following example.

(i) Hans will/wollte/hatte gewollt/wird wollen, dass Jakob nach Hause
geht/ginge/*ging/*gegangen ist/*gegangen war/*gehen wird.
Hans wants/wanted/had wanted/will want that Jakob goes/go-PAST
SUBJ/went/has gone/had gone/will go home.

Infinitivals differ from tense-dependent clauses in that infinitivals are tenseless. They are in
a sense time-dependent rather than tense-dependent. The two types have in common that
tense cannot be independently expressed, so that it is not surprising that they pattern
 Together in some cases.

The facts in (14) are often overlooked in the literature, where it is claimed that in
northern dialects, all extraction out of this type of clause is impossible. The facts in (14) also
show that in a framework with bounding nodes, German should not be analyzed as having
three bounding nodes (CP, IP, NP).
(13) *Wen_i glaubt [IP Hans [CP t_i dass [IP Jakob t_i anruft]]]?  
*Whom does Hans think that Jakob is calling?*

(14)a. Wohin_i glaubt [IP Hans [CP t_i dass [IP Jakob t_i gegangen ist]]]?  
*Where does Hans think that Jakob went?*

b. [Mit wem], glaubt [IP Hans [CP t_i dass [IP Jakob t_i spricht]]]?  
*With whom does Hans think that Jakob is calling?*

(15)a. Wen_i versucht [IP Hans [CP t_i [IP PRO t_i zu bestechen]]]?  
*Whom is Hans trying to bribe?*

b. Wen_i will [IP Hans [CP t_i dass [IP Jakob t_i besticht]]]?  
*Whom does Hans want that Jakob bribe?*

(13) is ungrammatical since the object *wen* is extracted out of an indicative clause. In the grammatical (14a,b) the extracted element is an adverb and a PP respectively. (Note that the extracted elements are arguments in these cases, so that the distinction between (13) and (14) does not involve argumenthood.) (15a) and (15b) are also grammatical, since the lower clause is infinitival or tense-dependent. Since the extractable Wh-words are caseless (or have inherent Case, which is true of certain adverbials) or accompanied by a Case assigner (a preposition), I propose that a restriction on Case inheritance is involved. The claim is that a Wh-word that has moved away from its structural Case assigner must inherit Case from its trace. In German, then, Case inheritance is blocked over a tense-independent clause. The restriction is stated in (16).

(16) Case Inheritance Restriction (German)  
In the configuration ... x ... [z ... y ...]..., where z is a tense-independent CP, x may not inherit structural Case from y.

As would be expected, partial Wh-movement “saves” violations of (16),

---

9 For some speakers, the tense-dependent complements pattern with indicatives with respect to full Wh-movement, so that (15b) has the same status as (13). This is problematic, since for these speakers, the tense-dependent complements pattern with infinitives with respect to partial Wh-movement (i.e., they find (18b) ungrammatical). I have no suggestion for how to account for such dialects.

10 The behavior of the dative, *wem* (“to whom”, interrogative)/*dem* (“to whom”, relative), varies among speakers. For some speakers, Case inheritance is required, as in the case of the objective, but for others, the dative patterns with PPs and adverbs. The facts are interesting in light of the distinction between structural and inherent Case, as pointed out by an anonymous reviewer for *NLLT*. 
since now the Wh-word is within the same CP as the trace from which it inherits Case, as shown in (17), the equivalent of (13).

(17)  \text{Was}_i \text{ glaubt } [\text{IP } \text{Hans } [\text{CP wen}_i [\text{IP } \text{Jakob } t_i \text{ anruft}]]]?

\textit{WHAT does Hans think whom Jakob is calling?}

In constructions with tense-dependent or infinitival complement clauses in German, partial Wh-movement is ruled out, whereas full Wh-movement is possible. Compare the ungrammatical sentences below with their full Wh-movement counterparts, given in (15a) and (15b).

(18)a.  *\text{Was}_i \text{ versucht } [\text{IP } \text{Hans } [\text{CP wen}_i [\text{IP } \text{PRO } t_i \text{ zu bestechen}]]]?

\textit{WHAT is Hans trying whom to bribe?}

b.  *\text{Was}_i \text{ will } [\text{IP } \text{Hans } [\text{CP wen}_i [\text{IP } \text{Jakob } t_i \text{ besticht}]]]?

\textit{WHAT does Hans want whom Jakob to bribe?}

These facts can be attributed to a general prohibition on a Wh-phrase appearing in the Cspec of a such clauses, rather than to the impossibility of partial Wh-movement in particular. Since these types of clauses are tenseless or tense-dependent, they never occur as matrix clauses, so that it never happens that their Cspec is the Cspec of a [+Wh] matrix CP. As would be expected if only Cspects of tense-independent clauses can accommodate Wh-phrases, indirect questions are impossible with infinitivals in German, as shown in (19).

(19)a.  *\text{Ich weiss nicht } [\text{CP was}_i [\text{IP } \text{PRO } t_i \text{ zu machen}]].

\textit{I don’t know what to do.}

b.  *\text{Ich weiss nicht } [\text{CP wen}_i [\text{IP } \text{PRO } t_i \text{ anzurufen}]].

\textit{I don’t know whom to call.}

(Note that tense-dependent clauses could never be indirect questions, since the class of verbs subcategorizing this type of clause does not subcategorize a [+Wh] CP.)

I will suggest that infinitival and tense-dependent clauses in German have no Cspec position at all. These clauses are defective in that the highest projection of C has one bar rather than two.\footnote{I am indebted to an anonymous reviewer for this suggestion. I have no account for the fact that (18a) sounds worse than (18b). In order to ensure that PRO in the infinitivals is ungoverned, Ĉ must be a barrier by the Minimality Condition, even though C is phonetically null in infinitivals (so that it does not work like the null complementizer in English, cf. Chomsky (1986a), p. 47).} This explains why Wh-phrases can never appear fronted in such clauses in any construction.
The full Wh-movement cases in (15) should, then, have no intermediate traces. The consequences of this with respect to Subjacency will be discussed later on. The Case Inheritance Restriction can now refer simply to CP, as in (20), since clauses that are not tense-independent are not CPs, but Ĉs.

(20) Case Inheritance Restriction (German; revised)
    In the configuration \( \ldots x \ldots [_{CP} \ldots y \ldots] \), \( x \) may not inherit structural Case from \( y \).

In Romani, partial Wh-movement in tense-dependent clauses is grammatical, as shown in (21). (Recall that there is no infinitive in Romani (see note 4).)

(21) \( [_{IP} \text{mange} [_{CP} \text{kasi} [_{IP} \text{o Demiri te marol} \text{t}]]] \)
    WHAT do you want whom Demir to hit?

Such clauses in Romani are therefore CPs, unlike in German.

1.1.2. The That-trace Effect. Extraction of the subject in German creates a that-trace effect,\(^{12}\) which results in stronger ungrammaticality than a violation of the Case Inheritance Restriction and is impossible with a tense-dependent lower clause as well. These facts are illustrated in (22).

(22)a. \( \text{*Wer}_{i} \text{ glaubst} [_{IP} \text{du} [_{CP} \text{t} i \text{ dass} [_{IP} \text{t} i \text{ heute ankommt}]]]? \)
    Who do you think that is arriving today?

    b. \( \text{*Wer}_{i} \text{ willst} [_{IP} \text{du} [_{Ĉ} \text{ dass} [_{IP} \text{t} i \text{ morgen ankommt}]]]? \)
    Who do you want that arrive tomorrow?

With partial Wh-movement, the that-trace effect in (22a) is avoided, as shown in (23).

(23) \( \text{Was}_{i} \text{ glaubst} [_{IP} \text{du} [_{CP} \text{wer}_{i} [_{IP} \text{t} i \text{ heute ankommt}]]]? \)
    WHAT do you think who is arriving today?

With a tense-dependent clause the that-trace effect cannot be avoided with partial Wh-movement, since a Wh-phrase may not appear fronted in such a clause, as discussed above. (24) is ungrammatical, as is its full Wh-movement counterpart, given in (22b).

\(^{12}\) The that-trace effect is generally not as strong in German as in English (cf. Haider 1983) and appears not to occur in Romani at all. I will not address the issue of the that-trace effect in any detail.
1.2. Wh-Islands

When more complex structures are considered, it becomes clear that the partial Wh-movement constructions obey a Subjacency-like constraint, as first pointed out by van Riemsdijk (1983). Since German and Romani behave differently with respect to island violations, I will discuss them separately.

1.2.1. German. In full Wh-movement in German, Subjacency appears to work as in English. In the case of partial Wh-movement in German, it is necessary that every Cspec between the scope-marker and the Wh-phrase be filled by was, as shown in (25).

   *What do you believe that Hans thinks that Jakob talked?*

b. Wasi glaubst [IP du [CP mit wem], [IP Hans meint [CP t dass [IP Jakob t] gesprochen hat]]]]?
   *What do you believe with whom Hans thinks that Jakob talked?*

c. Wasi glaubst [IP du [CP wasi [IP Hans meint [CP mit wem], [IP Jakob t] gesprochen hat]]]]?
   *What do you believe WHAT Hans thinks with whom Jakob talked?*

---

13 Van Riemsdijk (1983) briefly discusses this construction in German in connection with the "L-model" of core grammar (as opposed to the T-model of Chomsky and Lasnik (1977)), first proposed in van Riemsdijk and Williams (1981). Since, in this model, LF rules precede Wh-movement, an LF rule is necessary to indicate where a Wh-phrase will move. The rule, Quantifier Interpretation, assigns an index to a quantified phrase and adjoins an empty category with the same index to a containing IP node. In order to avoid an ECP violation, the Wh-phrase must move to a position from which it properly governs the empty category. In this account, all Wh-phrases are referred to as scope-markers (not to be confused with my more restrictive use of the term) and the German was is treated as one as well, on a par with other Wh-phrases. The fact that was must appear in intermediate Comps (Cspecs) is accounted for by claiming that, in German, Quantifier Interpretation is successive cyclic, i.e., subject to Subjacency.
(25) d. *Was$_i$ glaubst [IP du [CP dass [IP Hans meint [CP [mit wem]$_i$ [IP Jakob $t_i$ gesprochen hat]]]]?  
WHAT do you believe that Hans thinks with whom Jakob talked?

(25a–c) show that the Wh-phrase can move to any of the Cspecs above it. (25d) is ungrammatical because the Cspec intervening between the Cspec containing the scope-marker and the one containing the Wh-phrase is not filled by a scope-marker. As is expected, when the intervening clause is a C, rather than a CP, it does not contain a scope-marker. Compare (25c–d) with the sentences in (26).

(26) a. Wasi hat [IP Hans vor [CP PRO zu sagen [CP warum$_i$ [IP er $t_i$ zu spät gekommen ist]]]]?  
WHAT is Hans planning to say why he arrived too late?

b. *Wasi hat [IP Hans vor [CP was$_i$ [CP PRO zu sagen [CP warum$_i$ [IP er $t_i$ zu spät gekommen ist]]]]?  
WHAT is Hans planning WHAT to say why he arrived too late?

c. Wasi will [IP Hans [CP dass [IP ich sage [CP warum$_i$ [IP er $t_i$ zu spät gekommen ist]]]]?  
WHAT does Hans want that I say why he arrived too late?

d. ?*Wasi will [IP Hans [CP was$_i$ [IP ich sage [CP warum$_i$ [IP er $t_i$ zu spät gekommen ist]]]]?  
WHAT does Hans want WHAT I say why he arrived too late?

A Cspec filled by a Wh-phrase may not intervene between one filled by another Wh-phrase and one filled by the scope-marker of the latter. Sentence (27), with warum (“why”) in the intermediate Cspec is ungrammatical in the same way as (25d), with the complementizer.

(27) *Was$_i$ fragt [IP sie sich [CP warum$_i$ [IP Hans $t_j$ glaubt [CP wen$_i$ [IP Jakob $t_i$ gelobt hat]]]]?  
WHAT does she wonder why Hans thinks whom Jakob praised?

This is reminiscent of the Wh-Island Constraint, and I will claim that it is the same phenomenon.

1.2.2. Romani. In Romani, Subjacency appears to hold much less strongly than in English and German. Long distance and double Wh-island violations are possible, as shown in (28).
(28a.) Kasi [IP na jāne [CP sosoqe [IP o Demiri mislinol tj [CP t] so [IP marjum t]])]

Whom don't you know why Demir thinks that I hit?

b. Kasi [IP na jāne [CP koj [IP t] puchļa [CP kaj [IP o Demiri dikhļa tij t]])]

Whom don't you know who asked where Demir saw?

If partial Wh-movement patterns the same way as full Wh-movement, the partial Wh-movement equivalent of (28a) would be expected to be grammatical. (There is no partial Wh-movement equivalent of (28b), since there is no available lower Cspec into which kās could move.) This is not the case, however, as shown by (29), the equivalent of (28a) with partial Wh-movement.

(29) *So [IP na jāne [CP sosoqe [IP o Demiri mislinol tj [CP kās, [IP marjum t]])]]

WHAT don't you know why Demir thinks whom I hit?

Although the facts are less clear than in German, it seems that in partial Wh-movement in Romani a scope-marker must appear in every Cspec above the one containing the Wh-phrase up to the Cspec of the [+Wh] CP, as in German. This cannot be determined from a sentence like (30), in which all the clauses are indicative, since the scope-marker so is homophonous with the complementizer.

(30) So [IP vakerjan [CP so(i) [IP i Arīfa mislinol [CP kās [IP o Demiri marija tj]]]]]

WHAT did you say WHAT/that Arīfa thinks whom Demir hit?

Subjunctive clauses, however, provide a good test for whether a Cspec can be skipped in partial Wh-movement structures, since such clauses are never introduced by an overt complementizer. If so appears, then, it must be the scope-marker. Examples are given in (31).

(31a) So [IP mange [CP ?? (soi) [IP o Demiri te mislinol [CP kāča [IP kheļļjan tj]]]]]

WHAT do you want (WHAT) Demir to think with-whom you danced?

b. Puchļum e Arīfa [CP so [IP mangol [CP ?? (soi) [IP o Demiri te mislinol [CP kāča [IP kheļļjan tj]]]]]

I asked Arīfa WHAT she wants (WHAT) Demir to think with-whom you danced.
In the sentences in (31), the clause directly below the [+Wh] CP is subjunctive. In (31a), the direct question, the so in the subjunctive clause is preferred. In the indirect question equivalent, given in (31b), so is obligatory. This indicates that the marginal possibility of (31a) without so is probably due to an interpretation of the string as consisting of two direct questions: “What do you want Demir to think?, With whom did you dance?” In this case, there would normally be an intonation break before the last clause. In German, such an ambiguity never arises, due to the fact that subordinate clauses are marked as such by verb final word order.

It appears, therefore, that in Romani, partial Wh-movement is constrained by a Subjacency-like condition (which applies to both full and partial Wh-movement in German), whereas full Wh-movement is not. However, there is some indication that full Wh-movement is constrained by Subjacency. This is the impossibility of extraction out of relative and adverbial clauses, as illustrated in (32). (The Condition on Extraction Domains (CED) is subsumed under Subjacency in the Barriers framework, since the adjunct, which is not L-marked, is a barrier, and the higher IP inherits barrierhood from it.)

(32)a. *Kasi [IP jane [NP jikas [CP koj [IP tj kalol tj]]]]?
   Whom do you know someone who will marry?

b. *Kasi [IP o Demiri stålno rovol [CP angle te kosal tj]]?
   Whom does Demir always cry before he scolds?

If there were no Subjacency requirement on full Wh-movement in Romani, the sentences in (32) should be grammatical. This fact along with those of partial Wh-movement in (29) and (31) suggests that full Wh-movement is constrained by Subjacency in Romani.

1.2.3. The Doubly Filled Comp Filter. The possibility of island violations in Romani can be accounted for by claiming that in Romani, unlike in German and English, a trace and a Wh-phrase can cooccur in Cspec. The Cspec of the middle clause of (28a) then contains both sosqe and the trace of kas, and the lower and middle Cspecs of (28b) each contain the trace of kas along with the Wh-words kaj and ko respectively. This means that the Doubly Filled Comp Filter, rather than Subjacency, is weaker in Romani. The Doubly Filled Comp Filter then is stated as in
(33) with the proviso (33a) in English and German, and (33b) in Romani.\(^{14}\)

(33) Doubly Filled Comp Filter
Only one complementizer or Wh-element may be contained in pre-IP positions
a. not counting the complementizer when it cooccurs with a trace (English, German)
b. not counting traces (Romani)

(33b) includes the cooccurrence of two traces. This arises in cases of extraction out of an indirect question where both Wh-phrases originate in the same clause, as in (34).

(34) (?)Kasi, \([\text{IP } \text{na } \text{jane } [\text{CP } \text{t}_i \text{ kaj}_i \text{ [IP o Demiri mislinol } [\text{CP } \text{t}_i \text{ t}_j \text{ so } [\text{IP dikhl} \text{um } \text{t}_i \text{ t}_j]]] ]]\)?

Whom don’t you know where Demir thinks that I saw?

1.3. \textit{Wh-Chains}

Before an account of the island facts in partial Wh-movement can be given, it is necessary to characterize the construction more precisely. The construction is in some ways inconsistent with the account given in Lasnik and Saito (1984).\(^{15}\) There it is suggested that (35a–d) (their (183–186)) hold universally at LF and that (35e) (their (187)) is an implicational universal.


c. *[\ldots \text{Head} \ldots]_i \text{ where } i \neq j, \text{ (that is, a category and its head cannot be contraindexed)}.\]


\(^{14}\) A further proviso must be added for languages (including some dialects of German) that allow the cooccurrence of a complementizer and a Wh-phrase. Parametric variation in the Doubly Filled Comp Filter is easily accounted for from the point of view of learnability. The child starts out with the most restrictive value of the parameter, which is (33) without any provisos, and loosens it when presented with positive evidence.

\(^{15}\) In discussing Lasnik and Saito’s analysis, I refer to \textit{Cspec} instead of \textit{Comp}, except in direct quotations.
(35)e. If a language L has syntactic Wh-movement, [35a] and [35b] apply at S-structure in L. (p. 287)

Partial Wh-movement constructions seem to contradict (35e), at least the second part of it, since the Wh-phrase in these constructions appears as the sole element in a Cspec of a \([-\text{Wh}]\) CP. The question of whether (35a) can be considered to hold at S-structure here is not as clear. Since the Cspec of the \([+\text{Wh}]\) CP is filled by a scope-marker in these constructions, (35a) is not violated if scope-markers count as \([+\text{Wh}]\) elements. This does not seem implausible. It seems clear that the scope-marker should be linked to the Wh-phrase whose scope it marks. It behaves like a Wh-word with respect to word order and cooccurrence restrictions, and its form indicates that it is a Wh-word (possibly lacking features of animacy and Case). I will assume that scope-markers are base-generated in Cspec and are linked with a moved Wh-phrase. They can be thought of as types of Wh-expletives, indicating that the moved Wh-phrase is in some sense "out of place." I will refer to the latter as the "true Wh-phrase"; to true Wh-phrases and scope-markers together as "Wh-phrases"; and to true Wh-phrases, scope-markers, and Wh-traces as "Wh-elements". Given this account, (35a) can still be claimed to hold.

Lasnik and Saito's (35e) needs to be replaced by a weaker condition, requiring the Cspec of a \([-\text{Wh}]\) CP not to contain Wh-phrase, unless it is bound by a scope-marker in the Cspec of a \([+\text{Wh}]\) CP. The requirement is best expressed in terms of the notion Wh-chain, defined as in (36).\(^{16}\)

\begin{align*}
(36) \quad \text{A chain } C = (a_1, a_2, \ldots, a_n) \text{ is a Wh-chain iff:} \\
\text{a. } \forall a_i, 1 \leq i < n, a_i \text{ locally } \text{\`A}-\text{binds } a_{i+1}, \\
\text{b. } \forall a_i, 1 \leq i \leq n, a_i \text{ is a Wh-element,} \\
\text{c. } a_n \text{ is a variable in IP-internal position, and} \\
\text{d. for any scope-marker } a_i, 1 \leq i < n, (a_{i+1}, \ldots, a_{n-1}) \text{ contains a true Wh-phrase.}
\end{align*}

Given this definition, a well-formed Wh-chain consists of scope-markers,

\(^{16}\) In standard chain formation, chains are created as a result of movement. For this reason, it seems that scope-markers could not be part of the Wh-chain. However, as was suggested above, scope-markers are actually a type of expletive. As discussed in Chomsky (1986b), expletives form a CHAIN with their arguments. In theory, then, the Wh-chains are actually CHAINS, rather than chains. The multiple Wh-movement constructions discussed in Section 2 below complicate the issue somewhat. In this case, the higher Wh-phrase acts as an expletive with respect to the lower Wh-phrase, but is also a Wh-phrase in its own right. There seems to be no A-chain equivalent to this situation.

One question that must be addressed is how c-command obtains in the Romani construction with a trace together with a Wh-phrase in an intermediate Cspec (or two traces
a true Wh-phrase, and traces, in that order. It is not stated in the
definition that traces always occur lower than the true Wh-phrase. I am
assuming that this is due to an independent condition on traces that they
must be c-commanded by their antecedents. (36d) states that a Wh-chain
containing a scope-marker is well-formed only if the true Wh-phrase
occurs lower than it. (37) is ungrammatical, since the lowest scope-
marker is lower than the true Wh-phrase.

(37) *Was$_i$ glaubst [IP du [CP [mit wem]$_i$ [IP Hans sagt [CP was$_i$
[IP ich heute t$_i$ getanzt habe]])]? 
WHAT do you think with whom Hans says WHAT I danced
today?

It is intriguing that Wh-chains greatly resemble A-chains. In both cases,
expletive-type elements (scope-markers in the case of Wh-chains) may
appear higher, and traces lower, than the antecedent. This observation
might lead to insights concerning chains in general and might also be
helpful in determining the nature of traces in Cspec, which do not
behave like operators or variables. It seems that they behave comparably
to traces in A-chains and that they could therefore be considered to be
A-anaphors or anaphoric operators.

The S-structure requirement replacing Lasnik and Saito's (35e) can
now be stated as in (38).\(^\text{17}\)

\(^\text{17}\) I will not address the question of whether the LF counterpart to (38) should take the
same form as (38) (without the phrase "in A-position"), replacing Lasnik and Saito's
(35a,b), or whether it needs to be stronger. In its weak form, it would not require LF
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 $\tilde{A}$-position, there must be a Wh-chain which contains $y$ and whose head is in the Cspec from which $y$ takes scope.

The first part of (38) states that Wh-movement must occur at S-structure and that the head of the chain must be in the Cspec of a [+Wh] Cspec. The second part ensures that a Wh-phrase will not move to the Cspec of a [−Wh] CP in a construction that contains no [+Wh] CP, as shown in (39).

(39) *O Demiri mislinol [CP kaça₄ [IP i Arifa t₄ kheîol]].

Demir thinks with-whom Arifa dances.

Note that (38) allows the possibility of multiple questions with Wh-phrases in situ. In these cases, one Wh-chain will correspond to the scope of several Wh-phrases. The first part of (38) ensures that one of the Wh-phrases will move. More will be said about multiple questions in Section 2.

Condition (38) will hold for languages without partial Wh-movement as well. Since partial Wh-movement is impossible in these languages, Wh-chains never contain scope-markers, so that (38) will require that the Cspec of a [+Wh] CP contain a true Wh-phrase. The question of why some languages allow partial Wh-movement, whereas others do not, still has not been addressed. In Section 2, it will be proposed that a certain aspect of German and Romani syntax is responsible for the possibility of partial Wh-movement.

1.4. Subjacency

Since partial Wh-movement exhibits Wh-island-type effects, the facts involving this construction should be handled by Subjacency. Since scope-markers presumably do not move into their S-structure position, movement of a partially moved true Wh-phrase to the Cspec of the [+Wh] CP. There are some data suggesting that LF movement is required (cf. McDaniel (1986)). However, it is possible that such a requirement exists for independent reasons. For example, as pointed out by an anonymous reviewer for NLLT, the assumption that scope-markers are expletives implies that they must be eliminated at LF, by the principle of Full Interpretation (see note 7). This means that in constructions of partial Wh-movement, LF movement of the Wh-phrase would not only be required, but would be Cspec-to-Cspec.

Note that I am not assuming the Vacuous Movement Hypothesis put forth in Barriers, according to which vacuous movement (i.e., movement of a subject to an adjacent Cspec) is not obligatory at S-structure.
and clearly cannot delete at S-structure, subjacency must be a condition on representation in order to account for the facts. (The precise operation of Subjacency in these constructions will be dealt with further below.) It would be problematic for scope-markers to move, since it would be unclear where they would be generated and since more than one may occur in a construction. In addition, the facts indicate that scope-markers do not move at all at S-structure. In Romani the evidence is provided by the contrast between (28a) and (29), repeated here.

\[(28)\text{a.}(?)\text{Kas}_i [\text{IP na jane [CP } t_i \text{ sosqe}_i [\text{IP o Demiri mislinol } t_j \text{ so [IP marjum } t_i] ]]]？
\text{Whom don't you know why Demir thinks that I hit?}
\]

\[(29) *\text{So}_i [\text{IP na jane [CP sosqe}_i [\text{IP o Demiri mislinol } t_j \text{ [CP kas}_i [\text{IP marjum } t_i] ]]]？
\text{WHAT don't you know why Demir thinks whom I hit?}
\]

If scope-markers could move, the scope-marker in the ungrammatical (29) could have moved through the middle Cspec, leaving a trace. There would then be no way to differentiate this case from the grammatical full Wh-movement construction in (28a), which has been claimed to contain a trace in the intermediate Cspec. Similarly, in German there would be no way to distinguish the ungrammatical (25d) from the grammatical (25a), repeated here.

\[(25)\text{a. } [\text{Mit wem}_i, \text{glaubst [IP du [CP } t_i \text{ dass [IP Hans meint [CP } t_i \text{ dass [IP Jakob } t_i \text{ gesprochen hat]}]]}？
\text{With whom do you believe that Hans thinks that Jakob talked?}
\]

\[(25)\text{d. } *\text{Was}_i, \text{glaubst [IP du [CP dass [IP Hans meint [CP [mit wem], }_i \text{ [IP Jakob } t_i \text{ gesprochen hat]}]]}？
\text{WHAT do you believe that Hans thinks with whom Jakob talked?}
\]

If scope-markers could move, was in (25d) could have moved from the Cspec of the middle clause, leaving a trace. The fact that scope-markers do not move could be attributed to a prohibition on non-overt scope-markers (i.e., traces of scope-markers).\(^{18}\) Multiple question constructions

---

\(^{18}\) There is one construction in German that could suggest that scope-markers do move and leave traces. This involves embedded indicative clauses with no complementizer, where the word order must be verb second, rather than verb final, as in (i).

(i) Hans glaubt, Jakob geht nach Hause.
\text{Hans believes Jakob is going home.}

provide additional evidence against Subjacency as a condition on movement. This will be discussed in the next section.

There are independent motivations for considering Subjacency to be a condition on representation. First, Freidin (1978) provided arguments showing that filters are preferable to conditions on derivations. Second, as was pointed out above, having Subjacency as a condition on representation does not directly contradict the analysis in Chomsky (1986a), where the question is basically left open. Furthermore, several aspects of the Barriers framework are actually more consistent with Subjacency as a condition on representation. For example, Chomsky appeals to Subjacency to account for the properties of extended chains (p. 64). Since chain composition does not involve movement, this is possible only if Subjacency is a condition on representation. Other aspects of Barriers would be conceptually unattractive with Subjacency as a condition on movement. For example, consider the claim that Subjacency violations are cumulative (see (6) above). Since each movement is a separate instantiation of Move \( \alpha \), Subjacency would have to keep track of previous steps in the derivation; that is, it would be a global rule. The same problem arises with the reference to the lowest IP as an extra barrier (if tensed). "Lowest" must refer, not to the lowest IP in the sentence, but rather to the lowest IP above the D-structure position of the Wh-phrase. Again, Subjacency would have to keep track of previous steps in the derivation in order to determine which IP was the lowest. These problems do not arise with Subjacency as a condition on representation, since it would have access to S-structure as a whole.\(^{19}\)

Partial Wh-movement is possible in such constructions without an overt scope-marker in the intermediate clause, as in (ii).

(ii) \[\text{Was}, \text{meinst [IP du [CP glaubt [IP Hans [CP wen, [IP Jakob t, bestochen hat]]]]]?}\]

What do you think believes Hans whom Jakob bribed?\(^{19}\)

Rather than analyzing (ii) as containing the trace of was in the middle Cspec, McDaniel (1986, in preparation) gives independent arguments that in all complementizerless constructions in German, the clause above the one without the complementizer is par- enthetical. The structure of (ii) would be as in (iii).

(iii) \[\text{Was}, \text{(meinst du) glaubt [IP Hans [CP wen, [IP Jakob t, bestochen hat]]]}\]

There would then be no intermediate Cspec at all and no movement of the scope-marker.

The prohibition on non-overt scope-markers may not hold universally. It is suggested in McDaniel (1986) that the positing of non-overt scope-markers might account for Wh-constructions in Iraqi Arabic (Wahba forthcoming) and Belauan (Georgopoulos 1984).

\(^{19}\) An inconsistency with Lasnik and Saito's (1984) analysis is that, if Subjacency is an S-structure condition on Wh-chains, traces in Cspec must be created and will not be able to delete at S-structure, since they will be necessary to satisfy Subjacency. Most of Lasnik and Saito's analysis would not be affected by this, since traces could still delete at LF (but see
There are, therefore, both empirical and conceptual reasons for considering Subjacency to be a condition on representation. I now turn to the question of precisely how Subjacency correctly constrains the constructions discussed so far.

Subjacency correctly rules out partial Wh-movement constructions exhibiting Wh-island-type effects. Consider sentences (25d) and (29), repeated here.

(25d) *Was_i glaubst [IP du [CP dass [IP Hans meint [CP [mit wem], [IP Jakob t_i gesprochen hat]]]]]
WHAT do you believe that Hans thinks with whom Jakob talked?

(29) *So_i [IP na jane [CP sosqe_j [IP o Demir mislinol t_j [CP kas_i [IP marjum t_j]]]]]
WHAT don’t you know why Demir thinks whom I hit?

Since in each case the intermediate Cspec does not contain a member of the chain, the intermediate CP is a barrier (by inheritance from IP). The lowest IP is also a barrier, since it is tensed. Two barriers are therefore crossed, creating a Subjacency violation.

However, a major problem for grammatical partial Wh-movement constructions is created by VP-adjunction. Consider (40).

(40) Was_i soll [IP Hans glauben [CP wen_i [IP Jakob t_i gesehen hat]]]
WHAT should Hans think whom Jakob saw?

In (40), there should be no barriers (other than the lowest IP). However, the links of the chain are interrupted by the higher VP node. In full Wh-movement, it is claimed that the Wh-phrase can adjoin to VP on its way to Cspec, voiding the barrierhood of the VP. This could not occur in partial Wh-movement, since the Wh-phrase is in a Cspec below the VP. One might expect that scope-markers would obligatorily be base-generated adjoined to the VP. However, this is precluded, as shown by the ungrammaticality of (41), the equivalent of (40) with a scope-marker adjoined to VP.

(41) *Was_i soll [IP Hans [VP was_i [VP glauben [CP wen_i [IP Jakob t_i gesehen hat]]]]]
WHAT should Hans WHAT think whom Jakob saw?

McDaniel (1986)). Their analysis of the that-trace effect could not hold, but it depends on the claim that there is only one pre-IP position (Comp), which the Barriers framework has superseded.
The fact is that neither scope-markers nor true Wh-phrases ever appear in VP-joined position in German or Romani. The grammatical (40) is incorrectly predicted to be a severe Subjacency violation, since three barriers are presumably crossed: the lowest IP, because it is tensed; the higher VP, because it is not L-marked; and the higher IP, because it inherits barrierhood from VP.

I will offer two possible solutions to this problem, neither of which seems to be completely satisfactory at this point. The first is that the VP in German and Romani is always L-marked by the moved verb in Infl. This is not implausible in the case of Romani, which does not have modals of the English type. Verbal inflection in Romani appears only on the main verb. However, it is not enough just to say that the VP is always L-marked. This would allow for sentences like (40) (since the VP and, therefore, the IP above it, would no longer be barriers), but sentence (41) would not be ruled out. Nothing would preclude optional adjunction to VP of a scope-marker or a true Wh-phrase. An additional constraint would have to be stipulated in these languages, stating that Wh-phrases may not appear in adjoined positions at S-structure.

Alternatively, German and Romani could be claimed not to contain a VP node at all. Haider (1984, 1985) argues for a flat structure in German, and McDaniel (1986) adopts such an analysis for both German and Romani. However, the claim is controversial and its consequences require careful investigation. If this account is correct, then languages that clearly have a VP node and also allow partial Wh-movement would be expected to have overt Wh-phrases adjoined to VP. It would be beyond the scope of this paper to investigate these possibilities further. I will henceforth ignore the VP-node, assuming that one of the above proposals can be satisfactorily worked out.

A second problem arises with the German full Wh-movement constructions with infinitival or tense-dependent clauses. Recall that it was claimed that such clauses are dominated by Č, rather than CP, so that there is no Cspec. Consider the sentences in (15), repeated here.

(15)a. Wennt versucht [IP Hans [Č [IP PRO ti zu bestechen]]]?  
    Whom is Hans trying to bribe?

b. Wennt will [IP Hans [Č dass [IP Jakob ti besticht]]]?  
    Whom does Hans want that Jakob bribe?

There should be no barriers in these cases, since the sentences are grammatical. However, since there is no member of the chain between the two IPs, the higher IP inherits barrierhood from the lower IP.
there is an intervening L-marked VP, then that VP will inherit barrierhood from the lower IP. Since the lower IP is not tensed (counting tense-dependent as untensed), these sentences are predicted to have the status of 1-subjacency violations. This is problematic, since they are completely grammatical. In addition, the fact that adjuncts can be extracted out of such clauses, as in (42), shows that there cannot be one barrier, since an ECP violation would otherwise result.20

(42)a. \( \text{Wie}_i \) hat \([\text{IP} \text{ Hans vor } [\check{c} [\text{IP} \text{ PRO Jakob } t_i \text{ zu bestechen}]]]\)?
How is Hans planning to bribe Jakob?

b. \( \text{Wie}_i \) will \([\text{IP} \text{ Hans } [\check{c} \text{ dass } [\text{IP} \text{ du Jakob } t_i \text{ bestichst}]]]\)?
How does Hans want that you bribe Jakob?

It must be that the lower \( \check{c} \) prevents the higher IP from inheriting barrierhood from the lower IP. This can be accomplished by modifying the concept of “immediately dominate” (in the sense relevant to barriers) to refer to highest projections, rather than to maximal projections. Then, the higher IP would not immediately dominate the lower IP, since the \( \check{c} \), the highest projection of C, intervenes. Barrierhood would still be limited to maximal projections, so that \( \check{c} \) could not be a barrier. In this way, as is

20 The grammaticality of the sentences in (42) brings up a separate problem for the ECP. It was claimed in note 11 that \( \check{c} \) must count as a barrier by the Minimality Condition to ensure that PRO is not governed by the verb. However, this should also rule out the sentences in (42), since the \( \check{c} \) would prevent government of the trace by its antecedent. The concept of Relativized Minimality proposed by Rizzi (1988) could be invoked here. According to Relativized Minimality, lexical government is blocked only by a potential lexical governor, and antecedent government is blocked only by a potential antecedent governor. In the case under consideration, C is a potential lexical governor, and therefore blocks lexical government of PRO, but does not block antecedent government of the trace.

I have not investigated in detail ECP effects involving adjunct extraction in German, but they appear to hold as in English. Due to the Case Inheritance Restriction ((20)), it is important to compare extraction of adjuncts and non-structurally cased complements, since extraction of structurally case-assigned complements violates the Case Inheritance Restriction. The data seem to be as predicted. Consider the following sentences.

(i) *\( \text{Wohin, fragst } [\text{IP} \text{ du dich } [\text{CP} \text{ ob } [\text{IP} \text{ du } t_i \text{ gehen sollst}]]]? \)
\( \text{Where do you wonder whether you should go?} \)

(ii) **\( \text{Wen, fragst } [\text{IP} \text{ du dich } [\text{CP} \text{ ob } [\text{IP} \text{ du } t_i \text{ anrufen sollst}]]]? \)
\( \text{Whom do you wonder whether you should call?} \)

(iii) **\( \text{Wie, fragst } [\text{IP} \text{ du dich } [\text{CP} \text{ ob } [\text{IP} \text{ du das Auto } t_i \text{ reparieren sollst}]]]? \)
\( \text{How do you wonder whether you should fix the car?} \)

(i) violates only Subjacency, (ii) violates Subjacency and the Case Inheritance Restriction, and (iii) violates Subjacency and the ECP.
required, there are no barriers intervening in the Wh-chains of such constructions. 21

In this section, partial Wh-movement has been shown to behave like full Wh-movement. The theory was claimed to be able to handle the two constructions in the same way, given the definition of Wh-chain in (36), Condition (38), and Subjacency as a condition on representation. In the next section, it will be claimed that a third construction, multiple Wh-movement, can be handled in the same way.

2. Multiple questions

2.1. Basic Facts

In this section, I will present the facts of multiple questions that are directly relevant to the analysis of partial Wh-movement developed up to this point. 22

2.1.1. Wh in Situ. In both German and Romani, multiple questions may take the form they do in English, i.e., one Wh-phrase moves to the Cspec of the [+Wh] CP and the others remain in situ. Examples are given in (43) and (44) in German and Romani respectively.

(43)a. Weri hat [IP tı wen gesehen]?
   *Who has whom seen?*

   b. Wanni glaubst [IP du [CP tı dass [IP Hans tı an welcher Universität studiert hat]]]
   *When do you think that Hans at which university studied?*

   c. Weri glaubt [IP tı [CP dass [IP Hans wen bestochen hat]]]
   *Who thinks that Hans whom bribed?*

---

21 This account also explains the fact that extraction out of infinitival sentential subjects is possible in German, as shown in (i).

(i) Ich weiss nicht [CP wen, [IP [PRO tı jeden Tag zu sehen]] dir Spass macht].
   *I don’t know whom every day to see to you fun makes.*

   “I don’t know who it is fun for you to see every day.”

Since Ĉ prevents the higher IP from inheriting barrierhood from the lower IP, no barriers are crossed.

22 There are several interesting contrasts, particularly in multiple Wh-movement constructions in German, that are probably (but not obviously) due to the ECP. I will leave discussion of these data to future research.
In the (a) and (b) sentences, both Wh-phrases originate in the same clause, whereas in the (c) sentences, one originates in the matrix clause and the other in the embedded clause.

As would be expected, it is also possible for the moved Wh-phrase to move to a Cspec lower than the Cspec of a [+Wh] CP, i.e., to undergo partial Wh-movement. Then the Cspec of the [+Wh] CP contains a scope-marker, as usual. The partial Wh-movement equivalents of (43b) and (44b) are given in (45a) and (45b) respectively.

(45)a. \[\text{Was}_i \text{ glaubst [IP du [CP wann}_i [IP Hans t}_i \text{ an welcher Universität studiert hat]]]?

WHAT do you think when Hans at which university studied?

b. \[\text{So}_i [\text{IP misline [CP kaji [IP o Demiri dikhÍa kas t}_i]]]?

WHAT do you think where Demir saw whom?

In these sentences, \textit{wann} and \textit{kaj} move to the lower Cspec and are coindexed with the scope-marker in the Cspec of the [+Wh] CP. As in other cases, in German the moved Wh-phrase may not appear in a tense-dependent or infinitival clause. (46) is ungrammatical.

(46) \*\[\text{Was}_i \text{ willst [IP du [C wann}_i [IP Hans wen t}_i \text{ anruft]]]?

WHAT do you want when Hans whom call?

The movement of the Wh-phrase obeys Subjacency. (47) is ungrammatical for this reason.

(47) \*\[\text{Woi fragt [IP sie sich [CP warum}_i [IP Hans wen t}_i t}_i \text{ getroffen hat]]]?

Where does she wonder why Hans whom met?

As is expected, then, Wh-movement in multiple questions is a subcase of usual Wh-movement.

2.1.2. Multiple Wh-Movement. In Romani, as well as in some dialects of German, there is a second construction for multiple questions, in which more than one Wh-phrase may move. I will refer to this as multiple
Wh-movement.\textsuperscript{23} In Romani, the two Wh-phrases appear to be able to move to the same Cspec. In both German and Romani, the second of two Wh-phrases may move to a lower Cspec. The equivalents of (43b–c) and (44b–c) with this type of multiple Wh-movement are given in (48) and (49) respectively. The sentences in (50), corresponding to those in (44), illustrate the Romani construction with two Wh-phrases in one Cspec.

(48)a. $\text{Wann}_i$ glaubt $[\text{IP} \ du \ [\text{CP} \ [\text{an welcher Universität}] \ [\text{IP} \ \text{Hans} \ t_i \ t_j \ \text{studiert} \ hat]]]$

When do you think at which university Hans studied?

b. $\text{Wer}_i$ glaubt $[\text{IP} \ t_i \ [\text{CP} \ \text{wen} \ [\text{IP} \ \text{Hans} \ t_j \ \text{bestochen} \ hat]]]$

Who thinks whom Hans bribed?

(49)a. $\text{Kaj}_j \ [\text{IP} \ \text{misline} \ [\text{CP} \ \text{kas}_j \ [\text{IP} \ \text{o Demir} \ \text{dikhīa} \ t_j \ t_i]]]$

Where do you think whom Demir saw?

b. $\text{Koj}_i \ [\text{IP} \ t_i \ \text{mislinol} \ [\text{CP} \ \text{kas}_j \ [\text{IP} \ \text{o Demir} \ \text{ćuminja} \ t_j]]]$

Who thinks whom Demir kissed?

(50)a. $\text{Koj}_i \ \text{kas}_j \ [\text{IP} \ t_i \ \text{dikhīa} \ t_j]$

Who whom saw?

b. $\text{Kaj}_j \ \text{kas}_j \ [\text{IP} \ \text{misline} \ [\text{CP} \ t_j \ t_i \ \text{so} \ [\text{IP} \ \text{o Demir} \ \text{dikhīa} \ t_j \ t_i]]]$

Where whom do you think that Demir saw?

c. $\text{Koj}_i \ \text{kas}_j \ [\text{IP} \ t_i \ \text{mislinol} \ [\text{CP} \ t_j \ \text{so} \ [\text{IP} \ \text{o Demir} \ \text{ćuminja} \ t_j]]]$

Who whom thinks that Demir kissed?

(In (50a–c) the Wh-phrases are in the most common order, but the opposite order is also possible.) I will discuss the construction in (50)

\textsuperscript{23} For some German speakers, including speakers from the north, multiple Wh-movement is completely impossible (i.e., examples (48a, b), (51c, d), (53a, b), (59a, b), and (69a) with wide scope of wo are ungrammatical). Partial Wh-movement, on the other hand, is possible in both dialects. I will suggest later on that a minor parametric difference can distinguish these two dialects. However, from the point of view of learnability, it is a puzzle how speakers have opposite judgments on a construction that is hardly encountered. It seems that some additional facts must distinguish the two dialects, but I do not know what they would be. It is also not clear whether the distinction corresponds to regional dialects or is idiolectal. I have asked twelve people outside of my family (which is from Hamburg and accepts the construction). Two speakers from Berlin, two from Cologne, two from Düsseldorf, one from Hannover, one from Magdeburg, and one from Frankfurt accept multiple Wh-movement, whereas two from Hamburg and one from Dresden do not. An anonymous NLLT reviewer, who is a southern German speaker, did not accept multiple Wh-movement and, in an informal investigation, found no other southern German speakers who did (although these dialects allow partial Wh-movement).
further below and will concentrate now on the one represented in (48)–(49).

The first thing to notice about multiple Wh-movement is that, as in the case of partial Wh-movement, a Wh-phrase ends up in the Cspec of a [−Wh] CP. However, there is no scope-marker in the position from which this Wh-phrase takes scope, since this Cspec is filled by the first Wh-phrase. It is not the case that the chain created by movement of the second Wh-phrase is unconstrained. In German, when two Wh-phrases do not originate in subjacent clauses or the same clause, a scope-marker must appear in the intermediate Cspec if the second Wh-phrase moves only as far as the lower Cspec. This is illustrated in (51).

(51a) *Wer$_i$ glaubt [IP $t_i$ [CP dass [IP ich meinte [CP [mit wem]$_j$ [IP Jakob $t_j$ gesprochen hat]]]]]

Who believes that I thought with whom Jakob talked?

b. Wer$_i$ glaubt [IP $t_i$ [CP dass [IP ich meinte [CP dass [IP Jakob mit wem gesprochen hat]]]]]

Who believes that I thought that Jakob with whom talked?

c. Wer$_i$ glaubt [IP $t_i$ [CP [mit wem]$_j$ [IP ich meinte [CP $t_j$ dass [IP Jakob $t_j$ gesprochen hat]]]]]

Who believes with whom I thought that Jakob talked?

d. Wer$_i$ glaubt [IP $t_i$ [CP was$_j$ [IP ich meinte [CP [mit wem]$_j$ [IP Jakob $t_j$ gesprochen hat]]]]]

Who believes WHAT I thought with whom Jakob talked?

(51a) seems to be ungrammatical because the intermediate Cspec does not contain a member of a Wh-chain. This is not necessary (or possible) in (51b), where the second Wh-phrase does not move at all at S-structure. (51c), in which it moved to the Cspec subjacent to the [+Wh] CP, and (51d), in which it moved to a lower Cspec and is coindexed with a scope-marker in the middle Cspec, are grammatical. As in the case of partial Wh-movement, the facts are harder to assess in Romani due to the homophony of so as the scope-marker and the complementizer. Again, the facts involving constructions with a subjunctive clause indicate that the scope-marker is obligatory. (52) has the same status as (31b), repeated here.

(52) Puchľum e Arifa [CP ko$_l$ [IP $t_l$ mangol [CP * (so$_b$) [IP o Demiri te mislinol [CP kaç$_a$ [IP khe$ñ$jan $t_j$]]]]].

I asked Arifa who wants (WHAT) Demir to think with-whom you danced.
(31)b. Puchlum e Arifa [CP soj [IP mangol [CP ?* (soj) [IP o Demiri te mislinol [CP kaçař [IP khejjan t_j]]]]].
I asked Arifa WHAT she wants (WHAT) Demir to think with-whom you danced.

This indicates that when movement of a second Wh-phrase takes place, it must be linked, in a sense, to the Wh-chain of the higher Wh-phrase. This constraint is not as apparent when the two Wh-phrases originate in the same clause. If the second Wh-phrase moves to the lowest of three Cspecs, the intermediate Cspec can be filled by either the scope-marker or the complementizer, as shown in (53).

(53)a. Wo_i glaubst [IP du [CP wasj [IP Hans behauptet [CP [welche Gedichte]_j [IP Goethe jeweils t_j t_i geschrieben hat]]]]]
Where do you think WHAT Hans claims which poems Goethe wrote at various times?

b. Wo_i glaubst [IP du [CP t_i dass [IP Hans behauptet [CP [welche Gedichte]_j [IP Goethe jeweils t_j t_i geschrieben hat]]]]]
Where do you think that Hans claims which poems Goethe wrote at various times?

However, in this case, as opposed to (51) and (52), in which the first Wh-phrase originated in the highest clause, the intermediate Cspec may be filled by the trace of the first Wh-phrase.

2.2. Absorption

It seems, then, that in multiple Wh-movement every moved Wh-phrase must be part of a Wh-chain that links it to a Wh-phrase in the Cspec of a [+Wh] CP. This means that two or more Wh-phrases with the same scope are members of one Wh-chain. The only way this could work technically would be for them to have the same index. I will propose that in multiple Wh-movement constructions, a type of absorption, as discussed in Higginbotham and May (1981) or Huang (1982), takes place. The rule is considered to apply at LF and in a sense absorbs the features of the Wh-phrases into a single super feature matrix. Huang states the rule as in (54).

(54) [s [Comp WH_1, WH_2, ..., WH_n] [s ...]] \rightarrow [WH_{(1,2,...,n)} [s ...]]
This rule will, then, turn the LF representation (55b) of (55a) into (55c).

(55)a. Who saw what?

b. [CP [CSpec what_j who_i] [IP t_i saw t_j]]

c. [[For which (j, j a thing; i, i a person)] [i saw j]]
I will assume that such a rule always applies in multiple questions. The rule in German and Romani would have to apply at S-structure, since Condition (38) and Subjacency apply at this level. I will consider the rule to form abstract Wh-operators carrying a multiple index and directly dominating the Wh-element that occupied the Cspec prior to Absorption. In each case, the operator is the same type of element as its daughter, i.e., a true Wh-phrase, a scope-marker or a trace.

The statement of Absorption in (54) has to be modified to allow for the creation of multiply indexed abstract operators in different Cspecs. The environment for Absorption is simply the occurrence of more than one Wh-phrase (including scope-markers) in Cspec positions. If the rule applied to Wh-phrases with different scopes, then Condition (38) would be violated, since the Cspec of at least one [+Wh] CP would not contain the head of a Wh-chain. Absorption is stated in (56).

\[(56)\quad \text{Absorption} \]
\[wh_i, wh_j, \ldots, wh_n \rightarrow WH_{(i-j-\ldots-n)},\]
\[\text{where } wh \text{ is a true Wh-phrase, scope-marker or Wh-trace, and each } Wh \text{ is in a Cspec.}\]

After Absorption, the S-structures of the sentences in (53) are as in (57).

\[(57)a. \quad [wh_{i-j} woi] \text{ glaubst } [IP \ du \ [CP \ [wasi-i wasj] [IP \ Hans \ behauptet \ [CP \ [wh_{hi-j} \ \text{[welche Gedichte]}_j] \ [IP \ Goethe \ jeweils } t_j \ t_i \ \text{geschrieben hat}]])]]]

\[b. \quad [wh_{i-j} woi] \text{ glaubst } [IP \ du \ [CP \ [ti-i t_j] \ dass } [IP \ Hans \ behauptet \ [CP \ [wh_{hi-j} \ \text{[welche Gedichte]}_j] \ [IP \ Goethe \ jeweils } t_j \ t_i \ \text{geschrieben hat}]])]]]

(WH = a true Wh-phrase operator, WAS = a scope-marker operator, and T = a trace operator; in most of the examples to follow, I will represent this structure by giving the multiple index directly to the original Cspec elements (true Wh-phrase, scope-marker, trace) for purposes of exposition.)

2.2.1. Absorption and Conditions on Wh-Chains. The positing of Absorption in these cases has the effect that two or more Wh-phrases can be members of the same Wh-chain. In this way, the part of Condition (38) stating that the head is in the Cspec of a [+Wh] CP is met. Subjacency applies to these Wh-chains in the usual way. It should be pointed out that ungrammatical sentences like (51a), repeated here, give additional support to the claim that Subjacency must be a condition on representation.
Who believes that I thought with whom Jakob talked?

No barriers (other than the lowest IP) are crossed by movement in such cases. The violation is caused by the fact that a barrier (the intermediate CP) intervenes in the chain after Absorption has applied.

It must still be verified that the Wh-chains in the multiple Wh-movement constructions are well-formed according to the definition given in (36). (36d) specifies that scope-markers always appear higher than a true Wh-phrase. Since in multiple Wh-movement constructions there are two true Wh-phrases, (36) requires that scope-markers could occur higher than either true Wh-phrase. This means that scope-markers may not occur lower than one true Wh-phrase, unless they are higher than another one (as in (51d)). This is certainly the case, as shown by the ungrammaticality of (58).

(58) *Wohin_{i-j} glaubst [IP du [CP mit wem]_{i-j} [IP Hans meint [CP was_{i-j} [IP Jakob t_i t_j gegangen ist]]]]?
   Where do you believe with whom Hans thinks WHAT Jakob went?

A problem might be caused by the fact that (36) would allow scope-markers and traces to appear in any order with respect to each other in Cspecs occurring between two Wh-phrases. The constructions that would test this are highly complex, so that intuitions are unclear. The sentences in (59) should both be grammatical.

(59a) *Wo_{i-j} meinst [IP du [CP t_{i-j} dass [IP Hans glaubt [CP was_{i-j} [IP Jakob behauptet [CP welche Gedichte]_{i-j} [IP Goethe jeweils t_i t_j geschrieben hat]]]]]
   Where do you think that Hans believes WHAT Jakob claims which poems Goethe wrote at various times?

b. *Wo_{i-j} meinst [IP du [CP was_{i-j} [IP Hans glaubt [CP t_{i-j} dass [IP Jakob behauptet [CP welche Gedichte]_{i-j} [IP Goethe jeweils t_i t_j geschrieben hat]]]]]
   Where do you think WHAT Hans believes that Jakob claims which poems Goethe wrote at various times?

Since intuitions are uncertain, I will assume that no revision is necessary.

Certain properties of Wh-chains are complicated to some extent by the multiple Wh-movement constructions. First, an abstract operator with two indices will have to be able to bind a trace with only one of the
indices, and in some cases more than one such trace will have to be bound by the same operator. Both of these problems arise in the case of an LF absorption rule as well. It must be that an operator carrying two indices may bind as many traces as it has indices. Sentences like (51c–d), in which two Wh-phrases with the same scope originate in different clauses, bring up an important fact about Wh-chains. Since a Wh-chain must end in an element in IP-internal position, in these structures two overlapping Wh-chains will be formed. In (51c), for example, repeated here, one Wh-chain is \((WH_{i-j}, t)\) and the other is \((WH_{i-j}, T_{i-j}, t_j)\).

(51)c. \(\text{Wer}_{i-j} \text{ glaubt } [\text{IP } t_i \text{ [CP } [\text{mit wem}]_{i-j} \text{ [IP ich meinte } [\text{CP } t_{i-j} \text{ dass } [\text{IP } \text{Jakob } t_j \text{ gesprochen hat}]]]]\]?

Who believes with whom I thought that Jakob talked?

Note that the intervening trace in IP-internal position, \(t_i\), c-commands the lower part of the second Wh-chain. This will be permitted if it is assumed that, whereas a multiply indexed operator may bind a trace with only one index, a trace with only one index could not bind an operator with more than one. This restriction on binding is stated in (60).

(60) \(a\) binds \(b\) only if the indices of \(a\) include the indices of \(b\).

There is one question raised by the multiple Wh-movement constructions that I have not considered. The ungrammaticality of (51a) and (52) without \(so\), repeated here, in which the Wh-phrases originate in different clauses, is attributed to the intervening CP, which is a barrier (along with the lowest IP), since its Cspec contains no member of the chain.

(51)a. \(*\text{Wer}_{i-j} \text{ glaubt } [\text{IP } t_i \text{ [CP ] dass } [\text{IP ich meinte } [\text{CP } [\text{mit wem}]_{i-j} \text{ [IP Jakob } t_j \text{ gesprochen hat}]]]]\]?

Who believes that I thought with whom Jakob talked?

(52) \(*\text{Puchlum } e \text{ Arifa } [\text{CP } k{o}_{i-j} \text{ [IP } t_i \text{ mangol } [\text{CP } o \text{ Demi}r \text{ te mislinol } [\text{CP } \text{kaça}_{i-j} \text{ [IP kheľan } t_j]]]]\].

I asked Arifa who wants Demir to think with-whom you danced.

The question is what prevents the higher Wh-phrase (\(\text{wer}\) in (51a), \(\text{ko}\) in (52)) from moving down to the intermediate Cspec, and then up to the higher Cspec, leaving a trace in the intermediate Cspec. Similarly, it seems that there is nothing to prevent the lower Wh-phrase (\(\text{mit wem}, \text{kaça}\) from moving to the intermediate Cspec and then down to the
lower one, leaving a trace. In either case, a trace would appear in the intermediate Cspec, so that its CP would no longer be a barrier and the sentence should be grammatical. This problem does not arise with single questions. In this case, if a Wh-phrase moved down, it would be bound by its trace, which is presumably ruled out by a general principle. When the multiple Wh-movement construction is examined more carefully, it is seen that for one of the problematic cases, the same principle can be appealed to. Recall that when Absorption applies, abstract operators are created that dominate the original elements in Cspec. Although the original elements do not count as members of the Wh-chain, they are still present in the structure. If mit wem in (51a) moved to the next higher Cspec and then down, the structure would be as in (61).

(61) \*[$\text{wHi}_j \text{wer}_j$] glaubt [IP $t_i$ [CP $[\text{Ti}_i \text{j}_j$]] dass [IP ich meinte [CP $[\text{wHi}_j \text{[mit wem]}_j]$] [IP Jakob $t_j$ gesprochen hat]]]]

Since the abstract operator $T_{i-j}$ is not branching, $t_j$ still binds the original Wh-phrase mit wem, violating the condition on traces. Note that the problem is specifically that the Wh-phrase is bound by the trace and not that the trace is not bound by the Wh-phrase. The trace does not have to be bound by the Wh-phrase as long as it is bound by an element containing its index (in accordance with (60)), which in this case is the abstract operator in the highest Cspec. This leaves the other problematic case to be resolved. The condition on traces cannot be appealed to here, since if wer moved first down and then up, it would not be bound by its trace. The structure would be as in (62).

(62) \*[$\text{wHi}_j \text{wer}_j$] glaubt [IP $t_i$ [CP $[\text{Ti}_i \text{j}_j$]] dass [IP ich meinte [CP $[\text{wHi}_j \text{[mit wem]}_j]$] [IP Jakob $t_j$ gesprochen hat]]]]

I will propose that there is a condition as in (63).

(63) \forall x_i, x a Wh-element in \bar{A}-position, $x_i$ must be contained in every Wh-chain containing the true Wh-phrase with exclusively index $i$.

Elements contained in a chain are those which are members of the chain or are immediately dominated by members of the chain (i.e., by abstract operators). (63) applies trivially in the case of single questions. If $x$ is a true Wh-phrase, then $x$ itself counts as the true Wh-phrase to meet the condition. With (63), the illicit multiple question construction exemplified in (62) can be ruled out. According to (63), the $t_i$ in Cspec in (62) should be contained in both Wh-chains containing wer, which are ($\text{WH}_i-j$, $T_{i-j}$, $\text{WH}_i-j$, $t_j$) and ($\text{WH}_i-j$, $t_i$). The $t_i$ in Cspec is contained in
the first, but not in the second, violating condition (63). The requirement in (63) that the Wh-phrase in question must carry exclusively index \( i \) prevents a multiply indexed abstract operator from allowing the condition to be satisfied. In (62), the lower abstract operator could otherwise count as the true Wh-phrase in (63), since its index does include the index of \( i \). Although it would be preferable for (63) to follow from some larger principle, the condition does not seem ad hoc. It basically ensures that Wh-elements appear only within their scope.

It has been shown, then, that the definition of Wh-chain in (36), Condition (38), and Subjacency will hold for multiple Wh-movement constructions, as long as Condition (63) is posited and Absorption is assumed to apply.

2.2.2. Parametric Variation. The positing of Absorption allows the difference between languages with partial and multiple Wh-movement and those without them to be stated. In the former, Absorption applies in the syntax, whereas in the latter, it applies at LF. Partial Wh-movement can be analyzed as a subcase of Absorption in the following way. If the scope-markers are base-generated without an index, the creation of a chain by coindexing them with the true Wh-phrase can be considered to be a type of simple Absorption. This means that in multiple Wh-movement constructions, scope-markers could directly be assigned the multiple index without the creation of an abstract operator dominating them. This has the advantage that no type of non-overt scope-marker (i.e., an abstract scope-marker operator) needs to be posited, so that it can be held that in all cases, scope-markers are overt.

Recall that there are dialects of German that have partial Wh-movement, but not multiple Wh-movement (see note 23). This means that the two constructions, though related, must be independent. It must be that a language with the subcase of Absorption that allows partial Wh-movement does not necessarily have the complete Absorption rule at S-structure, so that the possibility of multiple Wh-movement does not follow. In other words, such languages allow Absorption by coindexing at S-structure, but not the creation of abstract operators (henceforth, complete Absorption).

It is also not necessarily the case that every language with multiple Wh-movement has partial Wh-movement, since a language with complete Absorption in the syntax might not have a scope-marker (an Ā-expletive) in its lexicon. Such a language would allow multiple, but not partial, Wh-movement.

If it is correct that the presence or absence of an Ā-expletive in the
lexicon can determine the possibility of partial Wh-movement, then the
difference between English and German dialects with partial, but not
multiple, Wh-movement could also be accounted for in this way. English
does not have an Ā-expletive in its lexicon, whereas German does. In the
case of German (all dialects), this might explain why partial Wh-move-
ment is not possible in relative clauses. The interrogative Wh-words in
German are distinct from the relative pronouns. The lexicon seems to
contain a scope-marker corresponding to the former (*was*), but none
corresponding to the latter.

Alternatively, it is possible that the existence of an Ā-expletive in the
lexicon is directly dependent on Absorption. Any language with any type
of Absorption in the syntax would have an Ā-expletive in its lexicon, and
any language with an Ā-expletive in its lexicon would have at least the
subcase of Absorption in the syntax that allows for partial Wh-move-
ment. (A distinction could still be made between interrogatives and
relatives, by saying that at least one of these sets, but not necessarily
both, must include an Ā-expletive, if there is Absorption in the syntax.)
In this case the difference between English and dialects of German with
only partial Wh-movement would be that the latter, but not the former,
allow the subcase of Absorption in the syntax. The difference between
these dialects of German and those that also allow multiple Wh-move-
ment would still be that the latter, but not the former, allow complete
Absorption in the syntax. In this case, it is predicted that any language
with multiple Wh-movement also has partial Wh-movement. In the
absence of empirical evidence on this issue, I will assume that this latter
approach is correct, since it is more restrictive.\(^{24}\) Absorption is, then,
restated as follows.

\[(66) \quad \text{Absorption (revised)}\]

\[\text{wh}_i, \text{wh}_j, \ldots, \text{wh}_n \rightarrow \text{WH}_{(i,j,-
\ldots,n)},\]

where wh is a true Wh-phrase, scope-marker or Wh-trace,

each wh is in a Cspec, and \(i, j, \ldots, n\) can be null.

A wh with no subscript is a scope-marker. In the case where true
Wh-phrases or traces are absorbed, the output of the rule is interpreted

\(^{24}\) There are constructions in Romanian and some Slavic languages, discussed by Toman
(1981) and Rudin (1988), in which a type of multiple Wh-movement occurs where more
than one Wh-phrase appears in pre-IP position. The construction looks like the Romani
examples in (50). However, these languages do not allow movement of one of the
Wh-phrases to a lower pre-IP position (i.e., they all occur in the [+Wh] CP). Therefore, I
would not analyze such languages as having Absorption in the syntax, but rather would
claim, following Rudin, that they do not obey the Doubly Filled Comp Filter in this respect.
as creating an abstract operator. In the dialects of German without multiple Wh-movement, the proviso to (66) given in (67) applies at S-structure.

(67) If any two or more of \( i, j, \ldots, n \) are non-null, then they must be identical.

This proviso reduces Absorption to coindexing scope-markers with one true Wh-phrase. More than one true Wh-phrase cannot be involved, since there would be more than one distinct index.

I have been assuming that in languages like German and Romani Absorption applies at LF as well as at S-structure. If Absorption did not apply at LF, then Absorption and Condition (38) would be complicated, since they would have to refer to a Wh-phrase \textit{in situ} in the English-type multiple questions, exemplified in (43)–(44). An indication that Absorption does not take place only at S-structure is that Wh-phrases \textit{in situ} do not create island violations. The sentence in (68) is ambiguous between wide and narrow scope interpretation of the Wh-phrase \textit{in situ}.

(68) \textit{Wer}_i \textit{fragte} \([\textit{IP} \ t_i \ \textit{Hans} [\textit{CP} \ \textit{wo}j \ [\textit{IP} \ \textit{er} \ \textit{was} \ t_i \ \textit{gekauft} \ \textit{hätte}]]]? Who asked \textit{Hans} where \textit{he} \textit{what} \textit{bought}?

The parameterization of Absorption can also account for languages like Italian, in which multiple questions of any type are impossible (Rizzi (1982)) and partial Wh-movement does not exist. In these languages, no type of Absorption is permitted at any level. \(^{25}\)

The parametric variation in the level where Absorption applies accounts for the existence of ambiguities in German and Romani that do not occur in English. These are cases where a CP could be subcategorized as either [+Wh] or [−Wh], discussed in Chomsky (1986a) with respect to English. The sentences in (69) are ambiguous.

(69)a. \textit{Wer}_i \textit{sagte} \([\textit{IP} \ t_i \ [\textit{CP} \ \textit{wo}j \ [\textit{IP} \ \textit{Hans} \ t_i \ \textit{getanzt} \ \textit{hätte}]]]? Who said where \textit{Hans} danced?

“Who said where \textit{Hans} danced?” or “Who said that \textit{Hans} danced where?”

---

\(^{25}\) Rizzi (1982), in claiming that Italian has CP and IP as bounding nodes, attributes the restriction of island violations to relative clauses to the fact that Italian does not allow multiple questions. Given the account proposed here, this explanation could not hold, since the two phenomena are distinct. The fact that multiple questions do not occur is due to the lack of Absorption, whereas the possibility of island violations depends on whether it is the lowest IP or CP that is an extra barrier for Subjacency. The analysis given here, then, has no way to account for the fact that Italian does not allow island violations in interrogatives.
b. Ko$_i$ [IP $t_i$ vakerja [CP kaj$_j$ [IP o Demiri khesija $t_j$]]]?  

*Who said where Demir danced?*

"Who said where Demir danced?" or "Who said that Demir danced where?"

The most natural interpretation is the one given in the first translation. The lower CP is considered to be [+Wh], so that there are two distinct Wh-chains. The lower clause is interpreted as an indirect question, as in English. With slight stress on the lower Wh-phrase, the second interpretation is readily available. In this case, the embedded CP is [−Wh] and the lower Wh-phrase forms a chain with the higher one, i.e., takes wide scope. With this interpretation, the construction is one of a double direct question. Chomsky (1986a) attributes the impossibility of the double direct question interpretation in English to the LF principle given in (70) (his (113c)).

(70)  Chain formation can only be initiated from IP-internal positions.

This principle would rule out the double direct question interpretation by disallowing movement of the second Wh-phrase to its scope position at LF if it has already moved to Cspec. The fact that the interpretation is possible in German and Romani does not mean that (70) is violated. Rather, since Absorption can take place in the syntax in these languages, the chain already exists at LF (and is therefore not initiated from an IP-external position). In fact, (70) is equivalent to the second part of Condition (38). Both require that, if a Wh-phrase moves at S-structure, its scope be determined at S-structure (either by it being in its scope position or by it being part of a Wh-chain whose head is in that position). Therefore, one of the two statements can be dispensed with.

2.2.3. *Multiply Filled Cspec.* It has still not been explained why Romani allows constructions like (50), repeated here, with more than one Wh-phrase in Cspec.

(50)a. Ko$_i$ kas$_j$ [IP $t_i$ dikhla $t_j$]?  

*Who whom saw?*

b. Kaj$_i$ kas$_j$ [IP misline [CP $t_j$ $t_i$ so [IP o Demiri dikhla $t_j$ $t_i$]]]?  

*Where whom do you think that Demir saw?*

c. Ko$_i$ kas$_j$ [IP $t_i$ mislinol [CP $t_j$ so [IP o Demiri cuminja $t_j$]]]?  

*Who whom thinks that Demir kissed?*

These structures should be ruled out by the Doubly Filled Comp Filter. It cannot be claimed that the Doubly Filled Comp Filter is weakened in
Romani to allow the cooccurrence of two or more Wh-phrases. This is because two or more Wh-phrases with different scopes cannot cooccur, as shown by the ungrammaticality of (71).

(71)  
\[
\text{So} \[\text{Ip} \text{puchl} \text{an e} \text{\  \chave} \text{[Cp} \text{\ kaj} \text{\ kas} \text{[\text{Ip} \text{ov marja \ t} \text{\ t}\]]}]?
\]
WHAT did you ask the boy where whom he hit?

((71) is also ungrammatical with kaj and kas in the reverse order. The equivalent of (71) without so, where both Wh-words have lower scope, is grammatical.) In (71), kaj has scope over the embedded clause, whereas kas has wide scope. kaj has undergone full Wh-movement to the Cspec of the embedded clause, and kas has undergone partial Wh-movement to the same Cspec. The cooccurrence of two or more Wh-phrases is, then, permitted only if they have the same scope. Absorption itself can account for this. More than one Wh-phrase could cooccur in Cspec only if Absorption had taken place. Absorption has the effect of combining them into one operator, thus circumventing the Doubly Filled Comp Filter.

Two questions arise at this point. One concerns Romani in particular. If two Wh-phrases with the same scope can cooccur in one Cspec, it seems that a scope-marker and a Wh-phrase could also cooccur, since Absorption takes place in partial Wh-movement as well. This is impossible, however, as shown by the ungrammaticality of (72).

(72)  
\[
\text{So} \[\text{Ip} \text{misline} \text{[Cp so Kas} \text{[Ip dikhllum \ t]}]]\?
\]
WHAT do you think WHAT whom I saw?

This can be explained by the fact that no abstract operator is formed in this case (since the scope-marker has no index to begin with), so that there are still two distinct elements in Cspec.

The second question is more problematic. If Absorption allows the Doubly Filled Comp Filter to be circumvented, then this should hold in German as well. The ungrammaticality of (73) shows that this is not the case.

(73)  
\[
\text{Whi-}i \text{Wo} \text{[mit wem]}_j \text{\ hat} \text{[Ip} \text{Hans \ t} \text{\ t}\text{ getanzt}]]?
\]
Where with whom did Hans dance?

One possible solution would be for languages to differ in the ordering of the Doubly Filled Comp Filter with respect to Absorption. In German, the former would apply first, ruling out the cooccurrence of any two Wh-phrases, whereas in Romani Absorption could apply first, allowing the Doubly Filled Comp Filter to be circumvented. Since ordering statements are generally undesirable, it is preferable to analyze this as a
difference in the operation of the Doubly Filled Comp Filter. Romani has a weaker form of the Filter, which looks only as far down as the element directly under the Cspec node, so that two Wh-phrases dominated by one operator are not ruled out. In German, on the other hand, the Filter applies to elements further down.

The Absorption analysis nicely handles an aspect of the Romani construction with more than one Wh-phrase in Cspec. There is a restriction on the occurrence of resumptive pronouns in Romani, according to which a resumptive pronoun may not be bound by an overt Wh-phrase within a CP. In constructions with a multiply filled Cspec, however, resumptive pronouns may occur in the same clause as the Wh-phrases. This appears directly to violate the restriction of resumptive pronouns. All the possibilities in the sentences in (74), indicated by parentheses, exist.

(74)a. \[\text{[wh}_{i-j} \text{ Koi kas}_j] \text{ [ip (ov}_i \text{) marja (le}_j)]?\]
Who whom (he) hit (him)?

b. So_{i-} [ip misline [cp [wh}_{i-j} \text{ Koi kas}_j] \text{ [ip (ov}_i \text{) marja (le}_j)]]?\]
WHAT do you think who whom (he) hit (him)?

However, in these cases, it is not the overt Wh-phrases that are binding the resumptive pronouns, but the non-overt operator with the combined index. A resumptive pronoun may cooccur with a Wh-phrase in CP only when the two Wh-phrases are in the same Cspec. When they are in different Cspecs, even though Absorption takes place, the resumptive pronoun is illicit, as shown by the ungrammaticality of (75).

(75) \*[wh}_{i-j} \text{ Koi}] \text{ [ip misline [cp [wh}_{i-j} \text{ Kasi}] [ip (ov}_i \text{) marja le}_j)]?\]
Who do you think whom (he) hit him?

This can be explained by the fact that the overt Wh-phrase (kas) still c-commands the resumptive pronoun in this case, since it is the only element dominated by the operator.

3. Summary

Three types of Wh-movement have been discussed: full, partial, and multiple, of which all appear to be subject to Subjacency. Since in partial Wh-movement, the scope-markers are generated without movement, and in multiple Wh-movement, the links of two originally independent chains must be subjacent, the constraint must be on representation, rather than on movement. Condition (38) was posited as a condition on S-structure
representation determining the distribution of Wh-chains, which are
created in all three types of Wh-movement, and consist of scope-
markers, true Wh-phrases, and traces.

It was shown that in order for multiple Wh-movement to be analyzed
in the same way as full and partial Wh-movement, the Wh-phrases must
undergo Absorption in the syntax. In this way, two true Wh-phrases can
be members of a single chain. Partial Wh-movement is considered to
involve a subcase of Absorption, which consists of the coindexing of the
scope-markers with the true Wh-phrase. It was suggested that the level at
which Absorption applies varies parametrically. In Italian, it is not
permitted at any level, so that multiple questions are impossible. In
English, it is permitted at LF only, so that multiple questions are possible,
but with only one Wh-phrase moving at S-structure. In some dialects of
German, Absorption may apply at S-structure, but only in its restricted
form (i.e., the subcase of Absorption), and complete Absorption applies
only at LF. This allows partial, but not multiple, Wh-movement. In
Romani and other dialects of German, complete Absorption may apply
at S-structure, as well as at LF, allowing partial and multiple Wh-
movement.

References

Georgopoulos, C.: 1984, 'Resumptive Pronouns, Syntactic Binding, and Levels of
Haider, H.: 1983, 'Connectedness Effects in German', Groninger Arbeiten zur ger-
manistischen Linguistik 23, 26-64.
———: 1984, 'A Unified Account of Case- and θ-Marking: The Case of German',
unpublished manuscript, Universität Wien.
———: 1985, 'The Case of German', in J. Toman (ed.), Studies in German Grammar,
Higginbotham, J. and R. May: 1981, 'Questions, Quantifiers and Crossing', The Linguistic
Review 1, 41-80.
dissertation, MIT, Cambridge, Massachusetts.
15, 235-289.
Massachusetts.
McDaniel, D.: 1986, Conditions on Wh-chains, doctoral dissertation, City University of
New York, CUNY, New York.
DANA MCDANIEL

—--: in preparation, 'A Parenthetical Account of Complementizerless Clauses in German'.


Received 14 October 1987
Revised 12 December 1988

Department of Linguistics
Douglass 200 East
University of Arizona
Tucson, AZ 85721
U.S.A.