

Wh-movement in Armenian and Ruhr German^{*}

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1 Introduction

In this paper we shall be considering Wh-movement in a German dialect and we compare this data to Wh-movement in Armenian. We shall assume (following Tamrazian (in prep.)) that in languages with partial Wh-movement, Wh-phrases must be licensed as foci. This is done in the embedded clause by movement of the Wh-phrases to the embedded FP.

We shall be using the LLF framework proposed in Brody (1993). In this framework it is assumed that there are no derivations in the grammar. Based on the fact that the notion of chains is necessary independently of the notion of move- α Brody argues for a framework where chains are considered as primitives which are taken directly from the lexicon and inserted into trees. As in Chomsky (1992), it is argued that there is only one interface level in the grammar. All the trees given in this paper are in fact LF trees, where WH or F chains are inserted. The actual phrases are associated with operators in scope positions and, if the phrases are not the root of their chain, they are associated with traces in the lower positions of their chain.

2 The data¹

2.0 Wh-movement strategies in Armenian and in Ruhr German exhibit a number of interesting characteristics. In the following we will consider examples from both languages, draw a comparison, and try to account for differences.

^{*}Many thanks to Misi Brody for discussion and helpful comments on the Armenian data, and to the audience at the 1991 LAGB meeting in Surrey for discussions of some of the German data. We would especially like to thank Rita Manzini and Neil Smith for their help and encouragement.

¹We will continue to refer to Wh-dependencies as *Wh-movement* for ease of reference, although in the framework that we have adopted these dependencies are formed not by movement but by chain.

2.1 Armenian

Long distance Wh-movement is not allowed in Armenian irrespective of whether the moved element is an argument or an adjunct. Consider the examples in (1):

- (1) a. * *umen_i e sirane asum vor surike t_i tesav*
whom is Siran saying that Surik saw
"Who did Siran say that surik saw"
- b. * *inchkan_i e sirane kartsum vor ais girke t_i arzhi*
how much is Siran thinking that this book costs
"How much does Siran think this book costs"

The Wh-phrase has to remain within the clause in which it originates as in (2):

- (2) a. *sirane asum e vor surike ume tesav*
Siran saying is that Surik whom saw
"Who did Siran say that Surik saw"
- b. *Sirane kartsum e vor ais girke inchkan arzhi*
Siran thinking is that this book how much costs
"How much does Siran think that this book costs"

The Wh-phrases in the embedded clauses in the above examples have matrix scope, i.e. over the matrix clause and over the embedded clause as the logical form for (2)a in (3) shows:

- (3) For which *x*, *x* a person, Siran says that Surik saw *x*

Thus, at LF there is a link between the spec of the matrix CP and the Wh-phrase in the embedded clause².

²In Brody (1992) it is argued that move-alpha is a redundant notion and can be dispensed with completely given the fact that chains express the same kind of relations. Thus, it is argued that there are no derivations in the grammar and the relations of elements with different positions in the structure are expressed through chains which are formed directly from the lexicon. It is also argued that the only interface levels in the grammar are LF and PF. At PF, elements appear in the position in a chain where spell-out applies.

2.2 Ruhr German

Ruhr German is a language with three types of Wh-movement, (a) long distance movement, (b) partial movement, and (c) copying. Long distance movement is the kind of movement where the Wh-phrase moves to the matrix CP from the embedded clause. As in (4):

(4) Long distance movement

- a. ? Mit welchem Auto, glaubt Hans daß Paul t_i nach Berlin fährt
with which car believes Hans that Paul to Berlin drives
"With which car does Hans believe that Paul is going to drive to Berlin?"
- b. ? Wann, glaubt Hans daß Paul t_i nach Berlin fährt?
When believes Hans that Paul to Berlin drives?
When does Hans believe that Paul will drive to Berlin
- c. * Wen, glaubst du daß sie t_i gesehen hat
whom believe you that she t seen has

The construction gives rise to ungrammaticality when case-marked elements are not spelled out in the CP of the clause from which they originate, as in (4c), while it is acceptable to move non-case marked elements to the matrix clause without spell-out in the embedded clause. As the question mark in (4a) and (4b) suggests this is not a perfectly grammatical construction.

The other two types of Wh-movement are exemplified in (5) and (6).

(5) Partial movement

- a. Was_i glaubt Hans mit wem_i Paul t_i nach Berlin fährt
what believes Hans with whom Paul to Berlin goes
"With whom does Hans believe that Paul will go to Berlin?"
- b. Was_i glaubt Hans wen_i Paul t_i anruft
what believes Hans whom Paul phones
"Whom does Hans believe that Paul is calling?"

In partial Wh-movement the scope marker *was* (= "what") indicates the position from which the Wh-phrase takes scope by being coindexed with the real Wh-phrase which remains in the embedded clause from which it originates.

(6) Copying

- a. Welchem Mann_i glaubst du wem_i sie t_i das Buch gegeben hat
which man believe you whom she the book given has
- b. Wen_i glaubst du wen_i sie t_i gesehen hat
whom believe you whom she saw

In copying-constructions the Wh-phrase moves to the matrix CP and leaves an identical Wh-phrase in all the intermediate CPs. The fact that (in Ruhr German) the Wh-phrases in the intermediate CPs must consist only of single words suggests that it is the head of CP in the intermediate clauses which is occupied by the copied Wh-phrase and not the spec position.

The following example shows that whenever the moved Wh-phrase has a preposition the copy incorporates it to consist of only one lexical element in order to be able to appear in the head of CP:

- (7) Mit welchem Werkzeug_i glaubst du womit_i Ede das Auto t_i repariert
with which tool believe you with-what Ede the car repairs

Notice that it is not possible to leave out the spell-out of the Wh-phrase in partial Wh-movement or copying constructions.

- (8) * Mit welchem Werkzeug_i glaubst du [_{CP} t_i Ede das Auto t_i repariert

2.3 Comparison

Of the three types of Wh-movement that exist in Ruhr German, partial movement seems to be similar to the Armenian data in that the Wh-phrase remains in the embedded clause. In both Armenian and German the Wh-phrases in the embedded clause can have matrix scope, which suggests that there is an association between the Wh-phrase and the matrix CP. We will assume that in Armenian Wh-constructions the matrix scope is determined by a null operator in the matrix CP coindexed with the Wh-phrase in the embedded clause. In German, on the other hand, the scope marker must be spelled out.

There are two differences between Armenian *wh*-movement and the partial *wh*-movement in Ruhr German: in the latter case the scope marker is overt whereas in Armenian it is phonetically null, and the *wh*-phrase remains in situ in Armenian while it has to move to a scope position in Ruhr German. The resulting *Wh*-chains will, however, be identical at LF, as in (9):

- (9) a) Armenian: op_i sirane asum e vor op_i surike ume_i tesav
 op Siran saying is op that Surik whom saw
- b) German: was_i sagt Hans wen_i Paul t_i sah

In both languages, an operator serves as the scope marker for the *Wh*-phrase which remains in the embedded clause. We want to suggest that in Armenian there is a null operator in the matrix clause coindexed with the *Wh*-phrase in the embedded clause which determines its scope. Evidence from German will be given to show the properties of partial *Wh*-movement in a language where the scope marker is not null. Then the Armenian data will be compared to it and an analysis will be given to account for the differences that exist between the *Wh*-movement strategies in the two languages.

3 Licensing of *Wh*-phrases

3.1 Armenian

Wh-phrases in Armenian are ambiguous in the sense that they can also be used as indefinites in certain cases. Consider for instance (10):

- (10) a. YERB es galu
 WHEN are-you coming
 "when are you coming"
- b. yerb vor ases
 whenever that say-you
 "Whenever you say"

In (10) when the *Wh*-phrases are not stressed, as in (10b) they have an indefinite interpretation. When the *Wh*-phrases are stressed however, they are necessarily interpreted as interrogative phrases, as in (10a).

Thus, in Armenian in order for Wh-phrases to be interpreted as quantifiers they must be focussed (i.e. they must have the [+f] feature). This feature is assigned by F, according to Brody (1991). F heads a maximal projection FP which hosts (and licenses) focussed elements.

It is argued (in Tamrazian (in prep.)) that the licensing of focussed elements is done either through spec-head agreement or through head government. The analysis can be summarized as follows.

In Armenian declaratives the auxiliary, which is an affixal element, always appears following the verb as shown in the following example:

- (11) *sirane surikin sirum e*
Siran-nom Surik-acc liking is
 "Siran likes Surik"

Notice that if the auxiliary appears in any other position the structure will be ungrammatical. In focussed constructions however, the auxiliary must always follow the focussed element as in (12):

- (12) a. *SIRANEN e surikin sirum*
SIRAN is Surik liking
 "It is Siran who likes Surik
- b. **SIRANE surikin sirum e*³
Siran Surik liking is

In multiple focus constructions the auxiliary follows the last focussed element in the sequence.

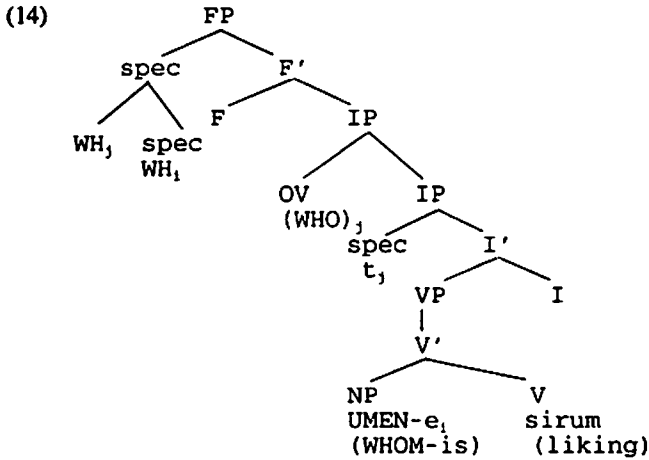
- (13) *OV UMEN e sirum*
WHO WHOM is liking
 "Who likes whom"

It is argued (ibid.) that the element bearing the auxiliary is in situ. The reason why the auxiliary appears adjoined to it is that this element is associated with an operator which is the head of the spec FP. Thus, the Wh-chain is in a spec-head relation with the auxiliary chain. Because of the affixal nature of the auxiliary

³Notice that the difference between the suffixes of *Siran* in (a) and (b) is purely phonological. In (a) a consonant is inserted because the following element (namely the auxiliary) begins with a vowel.

it is realized on the lexical element in the chain with which it is in a spec-head relation. The other foci appear adjoined to IP. The reason for the adjunction has to do with licensing.

The element which bears the auxiliary is licensed by the adjunction of a [+f] element (namely the auxiliary) to it, whereas the other elements must remain in a position which is governed by F and the IP adjoined position is the only such position available.



This example has been chosen for simplicity, but it is not clear here that the subject Wh-phrase is adjoined to IP. The fact that the Wh-phrase is adjoined to IP is more clear in cases where the last phrase in the sequence of Wh-phrases is not the lowest element in a declarative structure as in (15).

- (15) a) VOR GIRKE OV e kartalu
 which book who is reading
 "Who will read which book"
- b) * OV e VOR GIRKE kartalu
 who is which book reading

Because elements such as adverbs can intervene between the Wh-phrases, these Wh-phrases cannot form a constituent. Consider (16):

- (16) VOR GIRKE aisor OV e kartalu
 Which book today who is reading
 "Who is reading which book today"

This phenomenon provides independent evidence for the assumption that if a Wh-phrase does not carry the auxiliary it has to be adjoined to IP (for further arguments see Tamrazian (in prep.)).

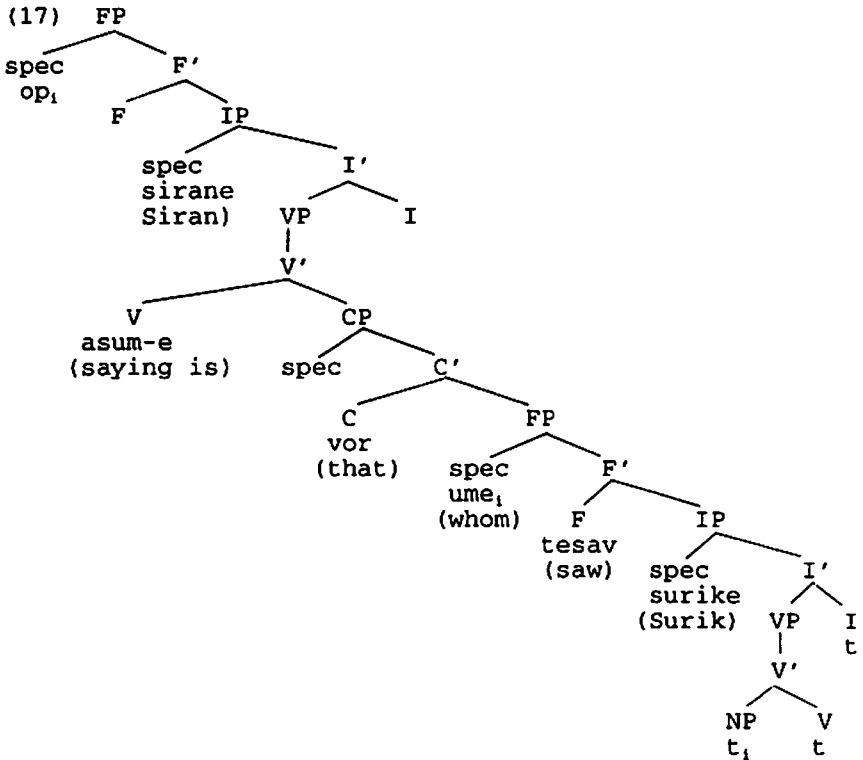
This means that Wh-phrases in Armenian either have to be associated with the spec of FP or must be adjoined to IP in order to be licensed as interrogatives. As FPs can host only foci, all FPs are always [+f] (the feature which all focussed elements share). In this respect they are unlike CPs which can either be [\bar{t} -wh] or [-wh]. Thus, whereas a -wh CP cannot host a wh-element, every FP can only host a [+f] phrase. As FPs are always specified as [+f], every FP can license foci. Notice that the +/- wh feature is irrelevant here because the feature that the elements are being licensed for is the [+f] feature.

Because of the Principle of Economy, the Wh-phrase moves up only if forced to do so. In Armenian, the Wh-phrase can and must remain in situ where it will enter a licensing relation with the head chain including the lowest FP ⁴.

The scope of the Wh-phrase is then determined by the scope marker which is placed in the appropriate FP higher up in the structure. Notice that in this framework it is assumed that Wh-phrases move to FP rather than CP because of the fact that they have to be licensed as +f elements, and this can only be done in FP. Consider the tree diagram of the LF structure of example (9a) in (17):

⁴Notice that this is not true in all partial Wh-movement languages. Albanian for instance, is a language where the Wh-phrase can be spelt out in any FP up to its scope position as in the following examples taken from Turano (in prep.):

- a. A mendon se Maria thotë se çfarë ka sjellë burri?
 Q think that Maria says that what brought her husband?
 "What do you think that Maria says that her husband brought?"
- b. A mendon se çfarë thotë Maria se burri ka sjellë?
 Q think that what says Maria that her husband brought?



Notice that the fact that the Wh-phrase is actually in a spec head relation with the head of the lower FP is evident from the auxiliary movement in the lower clause.

The tree diagram in (17) represents the LF structure of the Armenian Wh-construction, where the Wh-phrase appears in the lower FP. As there is no overt Wh-movement, the word order is not the one that we get at PF where Wh-phrases appear in their base-generated position.

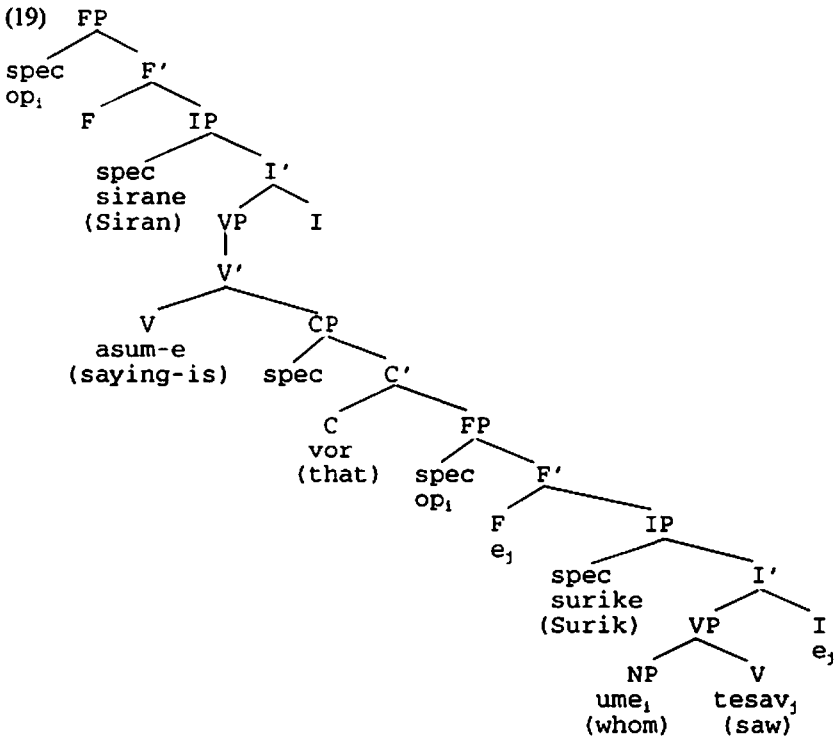
In (17) the Wh-phrase is licensed in the embedded FP and it is coindexed with the Wh operator in the matrix clause. Let us assume that verb movement in the embedded clause takes place in order to satisfy the Focus Criterion which requires that in the above case the FP with its spec filled by an element should also have a head:

(18) The Focus Criterion (Brody 1991)

- a. Each +f X must be in a spec-head relation with a +f XP.
- b. Each +f XP must be in a spec-head relation with a +f X.

Notice that the fact that the operator in the matrix clause of the above structure is not in a spec-head relation with a +f head does not cause any problems here, because this operator belongs to a chain one member of which (namely the Wh-phrase in the lower clause) satisfies the Focus Criterion.

If we adopt a framework where there are no derivations (following Brody 1993), but only chain representations, the structure given in (17) should be modified as follows:



In (19), the scope marker in the matrix FP is connected with the operator in the lower FP and the Wh-phrase in object position via a chain. At first approximation it is not clear that the head of the higher FP is left empty. However in cases with an auxiliary in the embedded clause this phenomenon can easily be observed.

Notice that it might be the case that in structures with intermediate FPs there are null scope markers in all the intermediate spec FP positions. This would be parallel to the German data where there is an overt scope marker in every intermediate CP. At present there is no evidence for or against this.

The auxiliary in Armenian is an affixal element which attaches to elements either through a spec-head relation or head movement. In cases where there is a focus in the structure, the auxiliary attaches to the focus through a spec-head relation in FP. If there is no focus the auxiliary is attached to the verb through head movement. In (19) the auxiliary in the matrix clause is attached to the verb, which means that there is no spec-head relation with the spec of FP. F is therefore empty.

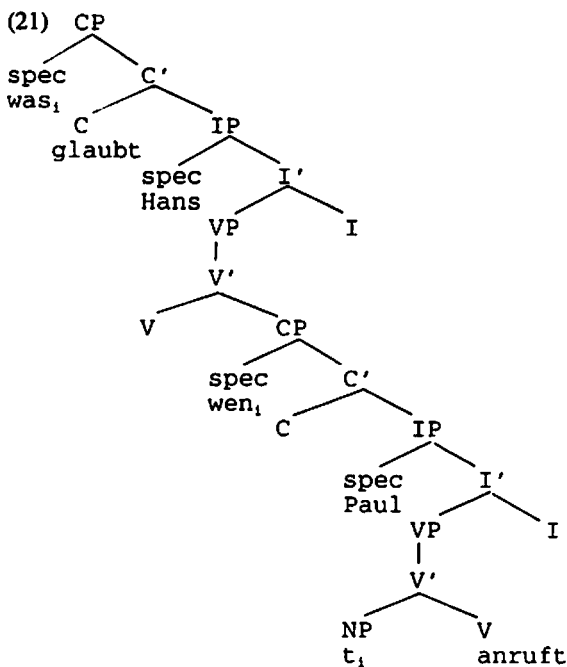
In embedded Wh-constructions the Wh-phrase in the lower clause always bears the lower auxiliary which suggests that it is in a spec-head relation with this element and not with the matrix auxiliary, as in (20):

- (20) *sirane asum e vor surike umen-e tesel*
Siran saying is that Surik whom-is seen
"Who does Siran say Surik has seen"

The matrix auxiliary, on the other hand, attaches to the matrix verb.

3.2 German

Let us now examine the structure of the German Wh-constructions. As Wh-phrases move to CP in German, the structure for the German examples will differ from the one given for Armenian. The structure for example (5b) is as follows:



Unlike in Armenian, Wh-phrases do not move to FP in Ruhr German. The fact that it is not possible to have the complementiser "daß" when there is a partially moved Wh-phrase suggests that the two elements must be occupying the same maximal projection⁵, consider the following example:

- (22) * Was glaubt Hans daß wen Paul anruft?
 what believes Hans that whom Paul phones

Further evidence comes from the fact that when a topicalised or focussed element is extracted from a Wh-island, the Wh-phrase cannot have matrix scope.

⁵In Armenian it is possible to have the non-interrogative complementiser in the structure even with Wh-phrases in the embedded clause which shows that they occupy different projections (i.e. CP and FP).

sirane kartsum er vor surike ume heradzainets
 Siran thinking was that Surik whom phoned
 "Who did Siran think Surik phoned"

- (23) Das Auto, fragte Hans wann Peter t_i reparierte
the car asked Hans when Peter repaired
"Hans asked when Peter repaired THE CAR"
(impossible interpretation: *When did Hans ask that Peter repaired the car
t)

The Wh-phrase in (23) cannot have matrix scope because the matrix spec CP, being filled by the focus, cannot host a scope marker for the Wh-phrase.

It has been argued (Fukui (1986), Kiss (1987) and Brody (1990)) that inflection and focus are closely linked. Thus, inflection is always a focal element and it is inherently +f. In fact, there have been suggestions that FP might in some languages not be different from IP (Brody). Let us assume that in Armenian foci are licensed by inflection associated with F whereas in German they are licensed by the inflection which occupies the head of CP. This is supported by the fact that there are no distinct mechanisms in German for focus and topicalised constructions. Consider (24):

- (24) Den PETER hat Martin gestern getroffen.
the PETER has Martin yesterday met
- As for Peter, Martin met him yesterday
- It was Peter that Martin met yesterday (not Thomas)

Notice that it is not the head C which licenses the foci but the element which fills this position, i.e. the inflection either in the form of the auxiliary or as part of the verb. Thus, in Armenian focussed elements are licensed in FP whereas in German, because of the fact that foci are licensed by I there is no need to postulate a different maximal projection for foci, therefore foci can be licensed in CP.

If we assume that in German it is INFL which licenses foci, we would normally expect the sentence-initial element, which is in a spec-head-relation with INFL, to be focussed in all instances because of the focus criterion. However, this is not always the case: in subject-initial sentences the initial element is usually not focussed. Consider (25) and (26):

- (25) a. Der Mann gab Peter ein Buch
the man_{nom} gave Peter_{dat} a book
"The man gave a book to Peter"
b. Der MANN gab Peter ein Buch

- (26) a. * Dem Mann gab Peter ein Buch
 the man_{dat} gave Peter_{nom} a book
 "Peter gave a book to the man"

b. Dem MANN gab Peter ein Buch

In (25) the sentence is grammatical whether the subject is stressed (=focussed) as in b. or not as in a., while any other element that is preposed, such as the indirect object in (26), must be stressed for the sentence to be grammatical. This phenomenon looks problematic at first because we would expect subjects in initial position to be stressed obligatorily just as any other elements because all are in a spec-head relation with INFL.

It is likely that this different behaviour is due to different landing sites. It has been argued (Travis (1984), Zwart (1993), a.o.) that the subject does not have to move up to spec CP but can remain in spec IP when it is not focussed, while all other elements have to move up to spec CP. This analysis would entail a head-initial IP rather than the head-final IP used in more traditional analyses of German. The question of whether IP is head-initial or head-final, is beyond the scope of this paper.

Another characteristic of Wh-movement in Ruhr German is that it is possible to extract a non-case marked element from an embedded clause as in (4a), repeated in (28a). This option is not available in Armenian. Compare the examples in (27) and (28):

- (27) a. * vor seghani_i vera er sirane asum vor girke t_i derets
 which table on was Siran saying that book-the put
 b. sirane asum er vor girke vor seghani vera derets
 Siran saying was that book-the which table on put
 "on which table did Siran say that she put the book"
- (28) a. ? Mit welchem Auto_i glaubt Hans daß Paul t_i nach Berlin fährt
 with which car believes Hans that Paul to Berlin goes
 b. Was_i glaubt Hans mit welchem Auto_i Paul t_i nach Berlin fährt.
 What believes Hans with which car Paul to Berlin goes.

The fact that non-case marked elements can undergo long distance Wh-movement in German suggests that for some reason these elements can bypass the (necessity to spell out in the) CP of the lower clause.

McDaniel (1989) suggests that this phenomenon could be explained by a restriction on Case inheritance, i.e. "that a Wh-word that has moved away from its structural Case assigner must inherit Case from its trace. In German, [...] Case inheritance is blocked over a tense-independent clause" (McDaniel 1989: 572).

There are a number of problems with this suggestion: in the framework of Brody (1993) which we have adopted, case is assigned to a chain rather than to a specific position. The fact that case-marked elements cannot undergo long Wh-movement cannot be accounted for by a restriction on case inheritance because it is the chain which carries the case.

Secondly, it is not only Wh-phrases with structural case that cannot undergo long movement but also Wh-phrases with inherent case, as exemplified in (29):

(29) a. Dative

* *Wem glaubt Hans daß Jakob das Buch gegeben hat?*
to-whom believes Hans that Jakob the book given has
Who does Hans believe that Jakob gave the book to?

b. Genitive

* *Wessen Buch glaubt Hans daß Jakob gestohlen hat?*
whose book believes Hans that Jakob stolen has
Whose book does Hans believe that Jakob stole?

As it is not only DPs with structural case that cannot be extracted, but also other DPs, we would like to suggest here that the restriction applies to DPs in general; i.e. DPs cannot undergo long wh-movement in Ruhr German, but other maximal projections, such as PPs, can. Consider the following examples:

(30) a. PPs

? *Mit welchem Auto glaubst du daß Jakob in den Urlaub gefahren ist?*
with which car believe you that Jakob in the holiday driven is
With which car do you believe that Jakob went on holiday?

b. APs

? *Wie glaubst du daß Hans das Auto bezahlt hat?*
how believe you that Hans the car paid has
How do you believe that Hans paid for the car?

These sentences are essentially well-formed although the minor ungrammaticality remains to be explained⁶.

In German partial Wh-movement, all the intermediate CPs must also have a +wh element in order for the structure to be grammatical. Consider example (31):

- (31) Was hat Susanne gesagt was Peter erzählt hat wen er im Urlaub getroffen hat
 What did Susanne say what Peter said whom he on holiday met has
 "Whom did Susanne say that Peter said that he met on holiday?"

This phenomenon, however, is not universal. In Albanian partial Wh-movement, as in German, a scope marker occupies the scope position and the Wh-phrase moves to spec CP. Unlike German, any intermediate CP contains only a -wh complementiser. Consider the following example from Turano (in prep.):

- (32) A mendon se Maria thotë se çfarë ka sjellë burri?
 Q think that M. says that what has brought her-husband
 What do you think that Maria said that her husband brought?

4 Parameters involved in Wh-movement

4.0 In the comparison of Ruhr German and Armenian question formation, it has become obvious that, although the structures are identical at LF, there are many variations as to the spellout point. We will suggest here a number of parameters to account for these differences, and look at some additional languages to illustrate our points.

4.1 Location of Wh-phrases

For scope reasons, operators always have to be in the specifier position of a functional category at LF. What this category is depends on the language: in German it is CP, in Armenian and Hungarian it is FP.

⁶This may be due to the fact that extraction has taken place from a tensed clause, which is restricted in German. Consider the example below, which shows that extraction from an infinitive is perfectly grammatical:

Wie glaubtest du das Auto bezahlt zu haben?
 how believed you the car paid to have
 "How did you believe to have paid for the car?"

After spell-out (in an LF-based framework), Wh-phrases can be in different positions: they can remain in situ or they can move to an operator position. In Armenian, wh-phrases must remain in situ, while in German they normally cannot. In German, Wh-phrases in situ must be stressed and have an echo-question reading. Consider:

- (33) Susanne sagte sie habe WEN gesehen?
 Susanne said she had WHOM seen
 "Susanne said that she had seen WHO?"

Japanese, on the other hand, behaves similarly to Armenian, as the following example from Lasnik & Saito (1984) shows:

- (34) Bill-wa John-ga naze kubi-ni natta tte itta no?
 Bill-topic John_{nom} why was fired COMP said Q
 "Why did Bill say that John was fired?"

The Wh-phrase *naze* does not appear in a scope position at S-structure, it remains in situ. The table below schematises the parameter settings for a few languages:

	German English	Armenian Japanese
wh-in-situ	-	+

French does not fit into either category: it allows wh-in-situ as well as movement of the Wh-phrase to an operator position. Consider the French examples in (35):

- (35) a. Wh-in-situ
 Tu as vu qui?
 you have seen who
 "Who have you seen?"
- b. long Wh-movement
 Qui as-tu vu?
 who have you seen

This is not a conceptual problem as for parameter setting the two options must necessarily be available during language acquisition. It is therefore not surprising if some languages allow both settings of a parameter. Recent work on Igbo (Uwalaka 1990) suggests that this Nigerian language also allows both types of Wh-movement.

4.2 Spell-Out Parameter

4.2.1 Wh-in-situ. Languages that employ a wh-in-situ strategy have been claimed to require overt scope markers (cp Cheng 1991), as in the Japanese example in (34). Armenian seems to be an exception: overt scopemarkers are not obligatory.

4.2.2 Long Wh-movement. In some languages, the Wh-phrase can appear only in its scope position, i.e. the Wh-phrase must undergo long Wh-movement, as, for example, in English:

(36) Who_i did Mary say t_i that John mentioned t_i that Bill had met t_i?

The Wh-phrase must be spelled out in the operator position that indicates its scope. Any intermediate CPs are normally filled with a complementiser, English is an exception in that complementisers are optional.

Work by McCloskey has shown that in Irish complementisers are overtly marked for +wh when Wh-movement takes place across them:

(37) cén t-úrscéal aL mheas mé aL dúirt sé aL thuig sé
Which novel did I think he said he understood?

In Irish, the -wh complementiser is *go*, which is changed to *aL* when a Wh-chain goes across it. Thus, in Irish the +wh-feature is spelled out on a head under spec-head agreement.

4.2.3. Partial Wh-movement. Other languages have an additional strategy available whereby the Wh-phrase is spelled out in the nearest operator position and its scope is indicated by scopemarkers in all operator positions over which the Wh-phrase has scope. Consider the example from Ruhr German repeated below, the Yugoslav Romani examples (from McDaniel 1989) and the Hungarian examples from Marác (1987):

(38) **Ruhr German**

a. long Wh-movement

? Mit welchem Auto glaubt Hans daß Peter fährt?
 with which car believes Hans that Peter drives
 Which car does Hans believe that Peter is driving?

b. partial wh-movement

Was glaubt Hans mit welchem Auto Peter fährt?
 what believes Hans with which car Peter drives

(39) **Yugoslav Romani**

a. long Wh-movement

Kas o Demri mislinol so i Arifa dikhla?
 whom does Demir think that Arifa saw

b. partial Wh-movement

So o Demri mislinol kas i Arifa dikhla?
 what does Demir think whom Arifa saw

(40) **Hungarian**

a. long wh/Focus movement

Kit_i gondolsz hogy János látott t_i ?
 Who_{acc} think-2sg-indef that John_{nom} saw-3sg-indef
 Who do you think John saw?

b. partial wh-movement

Mit_i gondolsz (hogy) János kit_i látott t_i ?
 what_{acc} think-2sg-indef. (that) John_{nom} who_{acc} saw-3sg-indef.
 Who do you think John saw?

According to Marácz' analysis of Hungarian the Wh-phrase remains in the embedded focus position in partial Wh-movement constructions (Marácz, 1988: 229).

Although long Wh-movement is available in all these languages, its occurrence is restricted in those dialects which also have partial Wh-movement. In Ruhr German, for example, DPs cannot undergo long movement. Some Hungarian dialects reject long wh-movement entirely, others find it completely acceptable; Marácz (1987) reports a hierarchy in some Hungarian dialects where certain long extractions are more acceptable than others: OBL > IOBJ > OBJ > SUBJ (footnote 10).

The languages under consideration here have scopemarkers in the scope position as well as in intermediate operator positions⁷. The scopemarkers usually consist of a specific *wh*-phrase which can be translated as *what* (e.g. *was* in German, *mit* in Hungarian). The scopemarkers used in Romani, *so*, is also "homophonous with the complementiser" (McDaniel, 1989: 568). Some languages allow in addition a copy of the *Wh*-phrase as a scopemarkers⁸. Consider the example from Ruhr German in (6b), repeated below, from Afrikaans in (41) and from a dialect of Yugoslav Romani in (42):

- (6b) Wen, glaubst du wen, sie t_i gesehen hat
whom believe you whom she saw
- (41) Met wie, het jy nou weer gesê met wie, het Sarie gedog met wie, gaan Jan trou?
with who did you now again said with who did Sarie thought with who go Jan marry
"Whom did you say (again) did Sarie think Jan is going to marry?" (Plessis, 1977)
- (42) Kas o Demiri mislinola kas i Arifa dikhla?
whom does Demir think whom Arifa saw? (from McDaniel, 1989)

As discussed above, in Ruhr German the copies are spelled out in a head position as they may consist only of one word. In Afrikaans this is not the case, copies can include one or more words, e.g. *met wie* in (41). Thus, in Afrikaans copies of *Wh*-phrases are spelled out in a specifier position.

The choice between a neutral *wh*-scopemarkers or copies of the *wh*-phrase as scope marker is a choice between equivalent strategies. In Ruhr German, for

⁷Although there are languages, for instance Albanian (cp footnote 5), where this does not apply.

⁸This pattern of data also emerges in early stages of the acquisition of English, where children produce *Wh*-constructions with copies as scope markers initially. Long *Wh*-movement, which is the only acceptable construction in adult speech, is acquired at a later stage (Crain & Thornton). The following data is from 3 - 4 year old children:

- a. Who do they think who gets the two blue marbles
- b. Who did they say who got kicked
- c. Which ones do they think which ones they pushed out of bed
- d. What do you think what the baby drinks
- e. Who do you think who Grover wants to hug

example, they can both occur within one sentence, although all copies must be below all of the neutral scopemarkers. Consider (43) and (44):

- (43) Was glaubt Thomas denn wen Peter behauptet wen Maria getroffen hat?
what believes Thomas actually whom Peter claims whom Maria met has
Actually, whom does Thomas believe that Peter claims that Maria met?
- (44) *Wen glaubt Thomas denn was Peter behauptet wen Maria getroffen hat?

Thus, languages vary as to whether overt spell-out of the *wh*-feature is obligatory, as in Japanese, Irish and German partial *Wh*-movement, or whether it is not obligatory as in Armenian, Albanian and Ruhr German long *Wh*-movement.

In languages where overt spell-out does take place, it can be either in the specifier position, or, under spec-head-agreement, in a head position.

5 Conclusion

In this paper we have looked at *Wh*-constructions in Ruhr German and Armenian, and provisionally suggested the need for at least two parameters to account for some of the differences.

The first parameter is concerned with the location of *Wh*-phrases. It is set to *in situ* in Armenian, and to *scope position* in Ruhr German. We have also considered the status of a number of other languages, e.g. Japanese, which patterns with Armenian, and English, which patterns with German. We suggested that French and Igbo allow both parameter settings.

The second parameter suggested is a spell-out parameter. It can be set to such a value as to force spell-out of the +*wh*-feature in all of the potential spell-out positions that form part of the *Wh*-movement chain, as in Irish and Japanese. Spell-out can take place either in a specifier position (e.g. Afrikaans), or under spec-head-agreement in the head of a functional category (e.g. Ruhr German, Irish).

In other languages, spell-out in all potential positions is impossible (e.g. Armenian, Albanian). The Ruhr German data cannot all immediately be fitted into this parameter, however, as there is no spell-out in long *Wh*-movement constructions while spell-out is obligatory in partial *Wh*-movement constructions.

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