THE WH-EXPLETIVE CONSTRUCTION

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Abstract

The wh-expletive or partial movement construction is an interrogative in which a wh-phrase takes matrix scope even though it appears in an embedded question. The scope of the 'true' wh-phrase in the embedded clause must be marked by the presence of a wh-word in the matrix clause. This paper is the first to provide an analysis of the wh-expletive scope-marking construction in the non-derivational framework of Lexical Functional Grammar.

1 Introduction[1]

Wh- or constituent questions have often been cited as proof of the 'displacement property' of natural language (Chomsky 1995, 2000) and therefore are central to the debate concerning derivational and non-derivational theories of syntax. Analysis of the wh-expletive construction represents a challenge to both approaches because this type of long-distance wh-dependency is characterised by a unique set of properties.

2 Wh-dependencies cross-linguistically

When one considers multiple wh-questions, it is clear that wh-dependencies differ cross-linguistically. A basic three-way typological distinction can be made between wh-in-situ languages, simple wh-fronting languages and multiple wh-fronting languages.

In a simple wh-fronting language like English or German, a single wh-phrase is fronted while the rest remain in situ.

(1) What do you think Tom bought for whom?

In a wh-in-situ language such as Cantonese Chinese, wh-phrases in an interrogative sentence do not appear to have been displaced.

(2) CANTONESE CHINESE
Léih gú [Wai Ling sung mātyéh béi bīngo] ?
you think Wai Ling send what to who
"What do you think Wai Ling is giving to whom?"

In a multiple wh-fronting language like Bulgarian, Polish or Romanian, all wh-phrases are fronted.

(3) ROMANIAN
Cine cui ce ziceai [că i a promis] ?
who to whom what say.PAST.2SG that to him have.2SG promise
"Who did you say promised what to whom?"

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3 Wh-Scope Marking Constructions

Wh-scope marking constructions are interrogatives in which a wh-phrase takes matrix scope even though it appears in a lower clause.[2] Wh-scope marking constructions are found in all three of the types of language outlined above. That is, in languages in which the constituent question formation strategy is simple wh-fronting (4), wh-in-situ (5), or multiple wh-fronting (6).

(4) GERMAN

simple wh-fronting

a. Wann glaubst du, [dass sie gekommen ist] ?
when think you that she come is
"When do you think she came?"

wh-scope marking construction

b. WAS glaubst du, [**wann** sie gekommen ist] ?
WHAT think you when she come is
"When do you think she came?"

(Staudacher, 2000: 195)

(5) MALAY

wh-in-situ

a. Ali memberitahu kamu tadi [Fatimah membaca *apa*] ?
Ali tell.PAST you just now Fatimah read what
"What did Ali tell you just now Fatimah was reading?"

wh-scope marking construction

b. Ali memberitahu kamu tadi [**apa** (yang) Fatimah baca] ?
Ali tell.PAST you just now what that Fatimah read
"What did Ali tell you just now (that) Fatimah was reading?"

(Cole & Hermon, 2000: 105)

(6) RUSSIAN

multiple wh-fronting language

a. Kogo kogda ty xočeš' [čtoby ja priglasil] ?
who.DAT when you want that.SUBJUNC I invite.PAST
Who do you want me to invite when?"

(Stepanov, 1997: 460)

wh-scope marking construction

b. KAK vy dumaete, [**kto** **čto** čitaet] ?
HOW you.PL think who.NOM what read
"Who do you think read what?"

(Stepanov, 2000: 7)

c. Ty dumaesh, [**kogo** ja videla] ?
you.SG think who.ACC I see.PAST
"Who do you think I saw?"

(Gelderen, 2001: 90)

[2] Throughout, wh-expletive elements appear in SMALL CAPS, wh-phrases which take matrix scope but occupy the embedded clause's scope position ('true' wh-phrases) appear in **bold**, and wh-phrases which take matrix scope but remain in situ in the embedded clause of a wh-scope marking construction (also 'true' wh-phrases) appear in *italics*.

4 Typology of wh-scope marking constructions

In broad terms, a further typological distinction can be made between those languages in which matrix scope in a wh-scope marking construction is indicated by the presence of a wh-expletive (Type 1: wh-expletive languages, e.g. (4b) and (6b)) and those in which no such element appears (Type 2: bare wh-scope marking languages, e.g. (5b) and (6c)).

This split follows for all languages with the possible exceptions of Russian and Iraqi Arabic. Gelderen (2001) discusses Russian wh-scope marking constructions in which the presence of a wh-expletive in matrix scope position appears to be optional (compare (6b) and (6c)). She argues that Type 2 interrogatives exhibit more properties of the wh-scope marking construction than Type 1 interrogatives in Russian, and therefore proposes that the only wh-scope marking construction which exists in Russian is the Type 2 one. In Iraqi Arabic, a wh-expletive appears to be optional when the embedded clause is non-finite (Wahba, 1991).

The subject of this paper is the wh-expletive construction found in Type 1 languages.

5 Generalisations about the wh-expletive construction

A Extension of scope

- **i** A wh-expletive extends the scope of a wh-phrase in an embedded clause.
- **ii** The scope of any number of wh-phrases in an embedded clause can be extended.

(7) HINDI[3]

Siitaa-ne	KYAA	socaa,	[ki	ravii-ne	*kis-ko*	dekhaa] ?
Sita-ERG	WHAT	think.PAST	that	Ravi-ERG	who-DAT	see.PAST

"Who did Sita think that Ravi saw?"

(Mahajan, 2000: 319)

In wh-in-situ languages such as Mandarin Chinese, an in-situ wh-phrase may take matrix scope. It is not necessary to insert a wh-expletive to extend scope because it would not have any semantic effect.

(8) MANDARIN CHINESE

Ying	yiwei	[Min	mai-le	shenme] ?
Ying	think	Min	buy-ASP	what

"What does Ying think Min bought?"

Generalisation **Ai** therefore accounts for the lack of wh-scope marking constructions in Chinese-type wh-in-situ languages.

Aii means that the embedded clause in a wh-expletive construction can be a multiple constituent question, as in (9).

[3] The term Hindi is used throughout following the data sources.

(9) HINDI
John KYAA soctaa hai, [*kaun kahaaN* jaayegaa] ?
John.NOM WHAT thinks who where go.FUT
"Who does John think will go where?"

(Dayal, 1994: 140)

B **Anti-locality** (Müller, 1997)
A wh-expletive and a true wh-element cannot occur in the same clause.

(10) GERMAN
*WAS ist sie **warum** gekommen ?
WHAT is she why come
"Why has she come?"

This property of the wh-expletive construction is closely linked to **A** because a wh-phrase in a simple wh-question, whether fronted or in situ, will not need to extend its scope beyond the clause containing it.

C **Position of the wh-expletive**
The wh-expletive occupies a position consistent with being focussed.

In Frisian, a wh-fronting language, **C** means that the wh-expletive appears in the clause-initial matrix scope position.

(11) FRISIAN
a. Wa tinke jo [dat ik sjoen haw] ?
who think you that I seen have
"Who do you think (that) I have seen?"

wh-expletive construction
b. WAT tinke jo [**wa**'t ik sjoen haw] ?
WHAT think you who.that I seen have
"Who do you think (that) I have seen?"

(Hiemstra, 1986: 97)

In Hindi, a wh-in-situ language, **C** means that the wh-expletive appears preverbally.[4]

(12) HINDI
a. Sitaa-ne KYAA socaa, ki Ravii-ne *kis-ko* dekhaa ?
Sita-ERG WHAT thinks that Ravi-ERG who-DAT see.PAST
"Who does Sita think Ravi saw?"

(Mahajan, 2000: 317)

[4] Butt & King (1996) claim that focussed elements and non-specific objects are mutually exclusive in Urdu and Turkish because they are licensed in the same position. A question word is by definition non-specific, so **C** is consistent with their analysis.

b. *Siitaa-ne KYAA abhii abhii socaa, ki ravii-ne *kis-ko*
Sita-ERG WHAT now now think.PAST that Ravi-ERG who-DAT
dekhaa ?
see.PAST
"Who did Sita think just now that Ravi saw?"

(Mahajan, 2000: 319)

D Relative positions of wh-expletives and true wh-phrases

A true wh-phrase may appear in any clause below the one containing a wh-expletive, but will never appear in a clause higher than one containing a wh-expletive.

(13) GERMAN

a. WAS meinst du, [WAS sie gesagt hat, [**wann** sie
WHAT think you WHAT she said has when she
kommen würde]] ?
come would
"When do you think she said she would come?"

b. WAS meinst du, [**wann** sie gesagt hat, [dass sie kommen
WHAT think you when she said has that she come
würde]] ?
would

c. * WAS meinst du, [**wann** sie gesagt hat, [WAS sie
WHAT think you when she said has WHAT she
kommen würde]] ?
come would

(Müller, 1997: 257)

E Wh-expletives in intervening clauses

Wh-expletives may appear in any clause which intervenes between the wh-expletive in the matrix clause and the embedded clause containing the true wh-phrase.

The question arises, can **E** be stated more strongly? That is, might **E** be expressed as a requirement that a wh-expletive cannot be separated from a true wh-phrase by intervening clauses which do not contain a wh-expletive.

In Hindi, it is true that wh-expletives must appear in every clause between the true wh-phrase and the highest occurrence of the wh-expletive.

(14) HINDI

Raam-ne KYAA socaa, [ki ravii-ne *(KYAA) kahaa, [ki
Ram-ERG WHAT think.PAST that Ravi-ERG WHAT say.PAST that
kon sa aadmii aayaa thaa]] ?
which man came be.PAST
"Which man did Ram think that Ravi said came?"

(Mahajan, 2000: 322)

In some dialects of German though, wh-expletives are not obligatory in intervening clauses and so the original version of **E** stands.

(15) GERMAN
% WAS meinst du, [dass sie gesagt hat, [**wann** sie kommen
WHAT think you that she said has when she come
würde]] ?
would
"When do you think that she said that she would come?"
(Müller, 1997: 253)

An adequate analysis of wh-scope marking must account for this dialectal variation in German.

F Nature of the embedding predicate and its complement

i The embedding predicate in a wh-expletive construction must subcategorise for a non-interrogative [-Q] complement, that is, a proposition.

ii The complement of a wh-expletive embedding predicate must be a legitimate question [+Q].

iii The embedding predicate in a wh-expletive construction is able to combine with a nominal object with propositional meaning, either in place of or in addition to a complement clause.

(16) HINDI

a. **verb which takes [+Q] complement with [+Q] complement**
*John KYAA puuchhtaa hai, [[+Q] Mary *kis-se* baat karegii] ?
John WHAT asks Mary who-INS talk.FUT
"With whom does John ask Mary will talk?"

b. **verb which takes [-Q] complement with [-Q] complement**
*John KYAA jaantaa hai, [[-Q] Mary Ravi-se baat karegii] ?
John WHAT knows Mary Ravi-INS talk.FUT
"With Ravi does John know Mary will talk?"

c. **verb which takes [-Q] complement with [+Q] complement**
John KYAA jaantaa hai, [[+Q] Mary *kis-se* baat karegii] ?
John WHAT knows Mary who-INS talk.FUT
"With whom does John know Mary will talk?"
(Dayal, 1994: 141)

Fii is controversial. There is cross-linguistic variation regarding the acceptability of yes/no questions as complement clauses in wh-expletive constructions. For example, the complement clause may be an embedded yes/no question in Hindi (17a) or Hungarian (17b).[5]

[5] Horvath (1997) claims that in Hungarian an embedded yes/no question is ungrammatical unless it contains a wh-phrase and the embedding predicate requires a [+Q] complement clause. My informants do not agree with Horvath's grammaticality judgements though, and in fact find such questions ungrammatical

(17) HINDI

yes/no [+Q] complement

a. Tum KYAA socte ho, [[+Q] ki Mary-ne Hans-se baat kiyaa
you WHAT think that Mary-ERG Hans-INS talked
yaa nahiiN] ?
or not
"Do you think Mary talked to Hans or not?"

(Dayal, 1994: n. 2)

HUNGARIAN

yes/no [+Q] complement

b. MIT gondolsz, [[+Q] hogy találkoztam-e vele] ?
WHAT.ACC think.2SG that meet.PAST.1SG-Q with.3SG
"Do you think whether I had met him/her?"

However, in German grammaticality judgements differ regarding embedded yes/no questions in wh-expletive constructions. Many find (18) ungrammatical; some apparently do not (see Beck and Berman, 2000: 20; Fanselow and Mahajan, 2000: n. 10). Any analysis of wh-expletives must be able to account for such variation in grammaticality judgements.

(18) GERMAN

yes/no [+Q] complement

% WAS glaubst du, [[+Q]ob sie kommt] ?
WHAT believe you whether she comes
"Do you believe whether she will come?"

(Fanselow and Mahajan, 2000: 215)

Höhle (2000) suggests **Fiii**, and provides examples of German wh-expletive embedding predicates combining with a nominal expression with a propositional meaning. Similar constructions are found in Hindi and Hungarian.

(19) HINDI

non-wh-nominal with propositional meaning

a. Hanna kehti hai ki.
Hanna says that
"Hanna says that."

wh-nominal with propositional meaning

b. Hanna kyaa soctaa hai ?
Hanna what thinks
"What does Hanna think?"

non-wh-expletive in addition to a complement clause

c. Sirf Hanna yeh soctaa hai, [ki baarish ho
only Hanna this thinks that rain happen.INF
rahi hai].
stay.NON-FIN(F) be.PRES.3SG
"Only Hanna thinks that it rains."

---

and unanswerable. They state that an embedded yes/no question can be the complement of a [-Q] embedding verb in a Hungarian wh-expletive construction.

(20) HUNGARIAN

non-wh-nominal with propositional meaning

a. Hanna azt mondja.
Hanna it say.3SG
"Hanna says that."

wh-nominal with propositional meaning

b. Mit gondol Hanna ?
what think.3SG Hanna
"What does Hanna think?"

non-wh-expletive in addition to a complement clause

c. Csak Hanna gondolja azt, hogy esik.
only Hanna think.3SG it that rains
"Only Hanna thinks that it rains."

G Wh-expletives and non-wh sentential expletives[6]

Sentential non-wh expletives cannot co-occur with wh-expletives.

(21) HINDI

a. *Sitaa-ne yeh KYAA socaa, ki ravii-ne *kis-ko*
Sita-ERG this WHAT think.PAST that Ravi-ERG who-DAT
dekhaa ?
see.PAST
"Who did Sita think that Ravi saw?"

(Mahajan, 2000: 319)

HUNGARIAN

b. *MIT azt hallottál, hogy **kit** látott
WHAT.ACC it.ACC hear.PAST.2SG that who.ACC see.PAST.3SG
János ?
John
"Who did you hear it that John saw?"

H Wh-expletives and negation[7]

A matrix clause containing a wh-expletive cannot be negated or contain a negative operator.[8]

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[6] The expletive analysis is not the only one which has been given for the non-wh-expletive construction. É. Kiss (1987, 1990) proposes that this construction in Hungarian involves extraposition, that is, that the clause is part of a complex noun phrase headed by *azt*. See Kenesei (1994) for an assessment of É. Kiss' analysis.

[7] It is difficult to make further generalisations about the sensitivity of wh-expletive constructions to island constraints (Ross, 1967) because of wide-ranging language-specific variation. The facts about negation in wh-expletive constructions appear to hold cross-linguistically though, and hence are discussed separately as a property of the construction itself.

[8] Exceptions to **H** exist in Hungarian according to Horvath (1997). The predicates concerned are REVEAL, NOTICE, DENY, PERMIT and ADMIT. This appears to be a language-specific issue though because these verbs cannot be negated when they appear as the embedding predicate in a wh-expletive construction in Passamaquoddy (Bruening, 2001).

(22) HINDI

*Koi bhii nahii KYAA soctaa thaa, ki *kon* aayegaa ?
no-one WHAT thinks be.PAST that who come.FUT
% "Who did no-one think will come?"

In those languages such as German which permit wh-fronting, **H** means there is a contrast between a wh-expletive construction and the corresponding wh-fronting one.

(23) GERMAN

wh-expletive construction

a. *WAS glaubst du nicht, **mit wem** Maria gesprochen hat ?
WHAT think you not with whom Maria spoken has
"Who don't you think Maria has spoken to?"

wh-fronting construction

b. Mit wem glaubst du nicht, dass Maria gesprochen hat ?
with whom think you not that Maria spoken has
"Who don't you think Maria has spoken to?"

(Dayal, 2000: 182)

Any analysis of the wh-expletive construction cross-linguistically must account for generalisations **A**-**H**, and explain why they hold.

6 Previous Analyses

While it is clear that the true wh-phrase and wh-element in the matrix clause are linked in the wh-expletive construction, the nature of the link between them has been the subject of much discussion. There are three major competing analyses: the Direct Dependency approach, the Indirect Dependency approach, and the Mixed Dependency approach. They must be assessed in terms of the generalisations in Section 5.

6.1.1 The Direct Dependency Approach

The Direct Dependency (DD) approach was the earliest attempt at an analysis of the wh-expletive construction. It has been explored by researchers including Riemsdijk (1983) and McDaniel (1989). Under the DD approach there is a direct link between the wh-expletive and any true wh-phrase in the embedded clause. The wh-expletive is semantically empty. It is only inserted to extend the scope of the true wh-phrase(s).

According to this analysis, a wh-fronting construction and its wh-expletive equivalent are semantically and structurally identical because both permit the same types of answers. The only major difference between the two constructions is argued to be that the wh-expletive is a special type of wh-operator, that is, the source but not the type of wh-dependency is different.

6.1.2 The Indirect Dependency Approach

Those advocating the Indirect Dependency (ID) approach maintain that there is no direct link between the wh-expletive and the true wh-phrase, only an indirect one. Rather there is a direct link between the wh-expletive and the embedded question which

contains the true wh-phrase. This means that a wh-expletive construction is two local wh-dependencies which are co-indexed, rather than one long-distance wh-dependency.

Dayal's (1994) highly influential ID work provides a unified account of the wh-expletive construction in German and Hindi. Dayal notes that the wh-phrase in the matrix clause is cross-linguistically the same one that quantifies over propositions. She maintains that it is actually an argument of the matrix predicate which is an existential wh-quantifier over propositions rather than an expletive or scope marker. Therefore, the construction in which it appears will be referred to as the WHAT construction in relation to the ID approach. Dayal claims that the embedded clause which contains the true wh-phrase restricts WHAT. According to the ID approach, WHAT and wh-fronting constructions are interpreted in an equivalent way but are not structurally identical.

6.1.3 The Mixed Dependency Approach

The Mixed Dependency (MD) approach combines elements of the ID and DD approaches. The embedded clause containing the true wh-phrase and not the true wh-phrase itself is treated as being directly linked to WHAT in the matrix clause, while WHAT is taken to be a wh-expletive element. This means that the MD approach has the advantages of the ID approach, but it is not challenged by evidence that the wh-element in the matrix clause is an expletive rather than an argument of the matrix predicate.

In order to assess these three approaches, it is necessary to examine two key issues: the nature of the link between the two wh-words, and whether the wh-word in the matrix clause is an expletive or an argument.

6.2 The link between the two wh-words: direct or indirect?

If the link between the two wh-words in this construction was direct, as the DD claims, wh-fronting and wh-expletive constructions should be semantically and structurally identical. Data show they are not variants of the same long-distance wh-dependency though because their grammaticality differs, for example in relation to adjunct islands, and therefore the DD is rejected.

(24) HUNGARIAN
Adjunct island
wh-fronting construction

a.	*Ki-vel	vagy	dühös,	mert	találkoztál ?
	who-with	be.2SG	angry	because	meet.PAST.2SG

"Who are you angry because you met?"

wh-expletive construction

b.	MIÉRT	vagy	dühös,	mert	**ki-vel**	találkoztál ?
	FOR.WHAT	be.2SG	angry	because	who-with	meet.PAST.2SG

"Who are you angry because you met?"

(Horvath, 1997: 530-531)

Horvath (1997) cites Hungarian data in support of the indirect link analysis. In Hungarian, WHAT's case appears to be determined by the relation which the matrix predicate has with the embedded clause. It bears the case that the matrix predicate assigns to an argument with sentential meaning. It does not bear the same case as the

true wh-phrase. This cannot be ascribed to a default case value – the case borne by *mi* in the matrix clause in (25a) and (26a) is different.

(25) HUNGARIAN

a. MIT mondtál, [hogy **mire** számítanak
WHAT.ACC say.PAST.2SG.INDEF.DO that what.ALL count.PAST.3PL
a gyerekek] ?
the kids.NOM
"What did you say the kids expected?"

b. *MIRE mondtál, [hogy **mire** számítanak
WHAT.ALL say.PAST.2SG.INDEF.DO that what.ALL count.PAST.3PL
a gyerekek] ?
the kids.NOM

(Horvath, 1997: 542-543)

(26) HUNGARIAN

a. MIRE számítanasz, [hogy **mit** fognak mondani a
WHAT.ALL count.2SG that WHAT.ACC will.3PL say.INF the
gyerekek] ?
kids.NOM
"What do you expect the kids will say?"

b. *MIT számítanasz, [hogy **mit** fognak mondani a
WHAT.ACC count.2SG that WHAT.ACC will.3PL say.INF the
gyerekek] ?
kids.NOM

(Horvath, 1997: 542-543)

The non-inherited case borne by Hungarian WHAT is evidence of the indirect link between it and the true wh-phrase.

Data therefore indicate that the link between the two wh-phrases is indirect.

6.3 Wh-expletive or argument?

In most languages, the wh-word used in the matrix clause is WHAT.[9] WHAT is possible only when it is necessary to extend scope. In this sense, it seems to be the minimal specification of a wh-phrase, just as 'dummy' *do* is the minimal specification of a verbal head in English (Vikner, 2001). If WHAT is a wh-expletive, it will display properties consistent with it lacking semantic content.

Parallels can be drawn between English expletive *it* and WHAT which indicate that WHAT is an expletive. One similarity between *it* and WHAT is that they may appear in intervening clauses, forming unbounded dependencies. In addition, *it* permits a clausal but not a nominal associate. This is also true of WHAT.

[9] WHAT is not the only wh-element found. In Russian, Polish and Warlpiri HOW is used. Dayal (1994) states that WHAT and HOW are the same in that one or other is used to quantify over propositions in the languages in which they occur. This is true for Warlpiri, but in Russian and Polish WHAT and not HOW is used to quantify over propositions. Gelderen (2001) provides a possible explanation when she claims Russian is not a Type 1 language. It remains to be determined if this claim can be extended to Polish.

(27) a. I regret it [that I missed the ceremony].
b. *I regret it [my absence].

Standard tests of expletive status support the expletive analysis. Expletives cannot usually be stressed. In Hindi, it is possible to stress the wh-expletive *kyaa*, but only when the true wh-phrase in the lower clause is stressed as well. The same is true of Hungarian. An expletive analysis of WHAT cannot be rejected because the wh-expletive alone cannot be stressed in these languages.

Another characteristic of semantically empty elements is that it is not possible to passivise expletives. Hungarian does not have a regular passive voice, so Hungarian data is inconclusive with respect to passivization of WHAT. In Hindi though, passive equivalents of wh-expletive constructions do not contain *kyaa*. This is consistent with WHAT being a wh-expletive.[10]

Data also indicate that WHAT is not an interrogative quantifier. Horvath (1997) notes that *nichts* 'nothing' can be an answer to a wh-fronting but not a wh-expletive construction in German. This is also true of similar questions in Hungarian. For example, (28b) is not an acceptable answer to (28a). If WHAT were an interrogative quantifier, a negative equivalent of it should be available.

(28) HUNGARIAN
a. MIT mondott János, hogy **ki-vel** táncolt ?
WHAT.ACC say.PAST.3SG John.NOM that who-with dance.PAST.3SG
"With whom did John say that he had danced?"

b. *Semmit nem mondott, hogy ki-vel táncolt.
nothing.ACC not say.PAST.3SG that who-with dance.PAST.3SG
"He didn't say anything with whom he had danced."
(Horvath, 2000: 301)

This is the case in Hindi as well. Such data are inconsistent with Dayal's proposal that WHAT in both constructions is a quantifier over propositions. It would seem that while the form of WHAT may be consistent with that of the quantifier over propositions in a language, semantically the only effect WHAT has is the extension of scope. This indicates that WHAT is not a wh-quantifier binding a propositional variable, but an expletive in this construction.

On the basis of this evidence, it seems that WHAT is an example of an expletive and a non-pleonastic analysis is inappropriate. Dayal's ID approach is therefore rejected in favour of the MD approach.

7 Assessment of the MD approach with respect to generalisations A-H

Under the MD approach, the only link involved in a WHAT construction is a direct link between WHAT and the interrogative embedded clause. This characterisation of the relation accounts for **A**, **B** and **D**.[11]

[10] It is important to apply these tests for expletive status to other Type 1 languages in future research.
[11] Of course this is also true of the ID approach, which characterises the link in the same way.

In pre-theoretic terms, **E** holds because only interrogative clauses can be co-indexed with a wh-expletive.

8 LFG analysis of the wh-expletive construction

8.1 Functions of the interrogative embedded clause and the wh-expletive

The embedded clause containing the true wh-phrase bears the function of sentential complements: COMP.[12] Horvath (2000) cites evidence that complement noun phrases in the matrix clause can bind pronouns in the embedded clause, which would not be possible if it were an adjunct.

(29) HUNGARIAN
MIT igértél minden gyereknek$_i$ [hogy **mit**
WHAT.ACC promise.PAST.2SG every child-to that WHAT.ACC
kap *PRO*$_i$ a születésnapjára] ?
get.3SG the birthday.his.for
"What did you promise every child that he would get for his birthday?"
(Horvath, 2000: 280)

Key to the question of which function the wh-expletive bears is generalisation **C**. Fanselow (2003) claims the appropriate generalisation is that the wh-expletive occupies the same position as a direct object in a wh-in-situ language. In earlier versions of this paper, I explored the possibility that the wh-expletive was a syntactically but not semantically selected object. However, in wh-in-situ languages the position of the wh-expletive appears consistent with it being a focussed element in the matrix clause.[13] Given an analysis in which interrogative wh-words in wh-fronting languages are taken to be focussed, a generalisation can be made about the wh-expletive construction cross-linguistically, that is, that the wh-expletive is focussed. Otherwise it would be necessary to follow Fanselow (2003) in proposing that the wh-expletive behaves differently depending on whether it is used in a wh-fronting or wh-in-situ language. This is not the best generalisation that can be made if one is to provide a truly cross-linguistic analysis of the wh-expletive construction, and so I analyse the wh-expletive as bearing the discourse function (DF) FOCUS.[14]

DFs are integrated into the meaning of a sentence according to the Extended Coherence Condition:

> FOCUS and TOPIC must be linked to the semantic predicate argument structure of the sentence in which they occur, either by functionally or by anaphorically binding an argument.
> (Dalrymple, 2001: 390)

[12] For those dialects of German in which the complement clause cannot be a yes/no question, the value of the COMP attribute Q will be +WH rather than +.
[13] I have yet to identify data in a wh-in-situ language which supports the direct object analysis while disproving the focus hypothesis.
[14] Thanks are due to Joan Bresnan, Miriam Butt and Tracy Holloway King for drawing my attention to relevant data and encouraging me to pursue this analysis.

Therefore, the wh-expletive must be linked to an element bearing a grammatical function (GF). According to the analysis outlined, it is linked to the embedded interrogative clause which bears the GF COMP.[15] This means that the lexical entry of a wh-expletive embedding predicate is:

(30) $(\uparrow \text{PRED}) = \text{`}\ldots \langle \text{SUBJ, COMP} \rangle\text{'}$
$(\uparrow \text{FOC FORM}) =_c \text{WHAT}$
$(\uparrow \text{FOC}) = (\uparrow \text{COMP}^*)$
$(\rightarrow \text{Q}) = +$

The wh-expletive construction is thus characterised as involving a specific configuration of dependencies instantiated by a particular class of predicates cross-linguistically. Languages differ with respect to whether or not they have expletive wh-words. Those that do not will be languages without the wh-expletive construction.

8.2 Functional or anaphoric control?

Given the properties of functional and anaphoric control (see, for example, Falk, 2001: 142-144), the wh-expletive construction is analysed as involving functional control.[16]

When there is functional control, an f-structure is shared. This means that features such as case will be identical. It seems that the embedding predicate assigns case to its sentential argument, though case is only realised on the wh-expletive because it is a pronominal rather than a clausal element, as (25) and (26) show. This is consistent with the f-structure of COMP being shared with the matrix FOC, the only difference being the realisation of morphological case.

When control is functional, the controller must be present. This is true of the wh-expletive construction: the interrogative COMP must be present. Bresnan (1982) proposes that a controller must be a term (that is, SUBJ, OBJ or OBJ_θ), specifically the lowest available argument on the grammatical function hierarchy. While Dalrymple (2001) does not classify COMP as a term, Falk (2001) states that the term/non-term status of COMP is unclear. If COMP is classified as the fourth term, at least for the purposes of controller status, Bresnan's original generalisation holds because the grammatical function hierarchy will be $\text{SUBJ} \succ \text{OBJ} \succ \text{OBJ}_\theta \succ \text{COMP}$. While it is beyond the scope of this paper to fully assess whether COMP is a term or a non-term and what the full consequences of adding COMP to the grammatical function hierarchy would be, the observation that COMP is the controller in a wh-expletive construction contributes to the debate on its status.

Anaphoric control does not seem to be involved because the controller in a wh-expletive construction is obligatory, there is a restriction on the GF of the controller (it must bear COMP), and split controllers are not permitted.

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[15] As (24b) shows, the [+Q] complement in Hungarian may be an adjunct. Nigel Vincent (p.c.) points out that COMP and ADJ share properties, and therefore might be characterised in terms of features. Given this, a straightforward modification of the control equation in (30) would account for the Hungarian data.

[16] In earlier versions of this work, I argued for an anaphoric control analysis of the wh-expletive construction. Following discussions with Joan Bresnan, Miriam Butt, Tracy Holloway King, Louisa Sadler and Annie Zaenen, which led me to re-examine the relevant data, this is rejected in favour of a functional control analysis.

Other matters regarding the f-structure of a wh-expletive construction must also be addressed. In a regular constituent question, an f-structure's TYPE attribute is assigned the value Q when a wh-operator bearing the DF FOCUS is present. However, the wh-expletive has no PRED feature, and therefore is not a wh-operator. The matrix f-structure of a wh-expletive construction must have TYPE value Q though, or the sentence would be a non-interrogative containing an indirect question. The issue arises of how the matrix f-structure in a wh-expletive construction is assigned TYPE value Q. A straightforward addition to the original definition of TYPE value assignment resolves this matter:

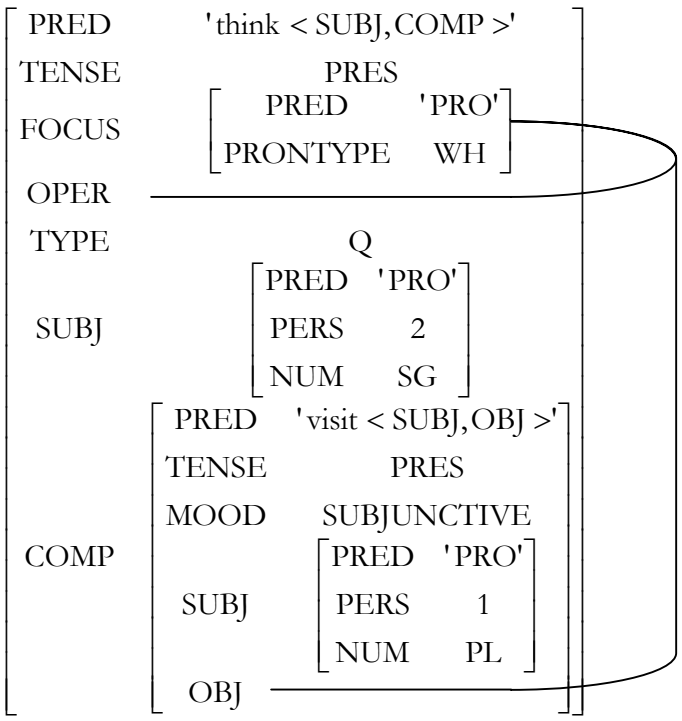
(31) TYPE can also be assigned value Q when a wh-element which itself has TYPE value Q (due to structure sharing) bears DF FOCUS.

The broader generalisation which captures all constituent question formation strategies is that a wh-element which bears FOC must be interrogative.

An important consequence of this analysis is that wh-fronting and wh-expletive constructions have distinct f-structures. These two constructions are therefore not variants of the same type of wh-dependency and cannot be compared in terms of economy within the LFG framework.

(32) HUNGARIAN
wh-fronting construction
Kit gondolsz, hogy meg-látogas-s-unk ?
who.ACC think.2SG that VM-visit-SUBJUNC-1PL
"Who do you think we should visit?"

(Kenesei, 1994: 316)

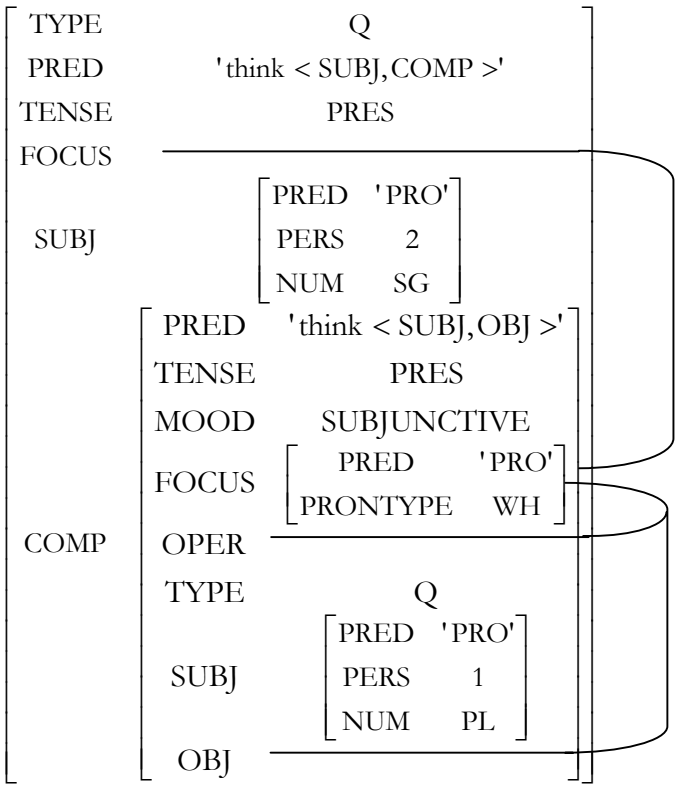


(33) HUNGARIAN
wh-expletive construction

MIT	gondolsz,	hogy	**kit**	látogas-s-unk	meg ?
WHAT.ACC	think.2SG	that	who.ACC	visit-SUBJUNC-1PL	VM

"Who do you think we should visit?"

(Kenesei, 1994: 316)



8.3 Assessment of the LFG analysis with respect to the remaining generalisations

C, which refers to the position of the wh-expletive, holds under the proposed LFG analysis because the wh-expletive consistently bears the DF FOCUS which is linked to the GF COMP. Differences in the c-structure position of this element relate to language-specific constraints on the position of wh-phrases bearing the DF FOCUS.

The availability of wh-expletives in intervening clauses, presented as generalisation **E**, can be accounted for by constraints on the path involved in the specific type of dependency that is established in a wh-expletive construction. When the wh-expletive is obligatory in every intervening clause, the lexical entry of a wh-expletive embedding predicate is that given in (30). When the wh-expletive is not obligatory in intervening clauses, the relevant off-path constraint is different.

(34) $(\uparrow \text{PRED}) = \text{`... <SUBJ, COMP>'}$
$(\uparrow \text{FOC FORM}) =_c \text{WHAT}$
$(\uparrow \text{FOC}) = (\uparrow \text{COMP}^* \quad \text{COMP})$
$(\rightarrow Q) = - \quad (\rightarrow Q) = +$

Fi and **Fii**, which along with **Fiii** are generalisations about the nature of the embedding predicate and its complement, are related to the fact that the value for the attribute TYPE

of an interrogative must be Q. **Fi** is accounted for because the TYPE value of the complement clause is not identical to that of a question. While the controller COMP in no sense loses its Q value for TYPE, its TYPE value in a wh-expletive construction cannot be identical to that of an indirect question and therefore it cannot be classified as being [+Q].

Fii holds because for the matrix f-structure to have TYPE value Q, the COMP must have TYPE value Q too. This is formally expressed as the off-path constraint in (30) or (34) which requires that a COMP or all COMPs in a wh-expletive construction be interrogative.

Fiii holds because wh-expletive embedding predicates subcategorise for a subject and for one argument with sentential meaning. This argument may be a COMP, an expletive functionally controlled by a COMP, or a pronominal semantically linked to a proposition in another sentence. The crucial property that all three share is that they have sentential meaning.

G states that sentential non-wh-expletives cannot co-occur with wh-expletives. This generalisation holds because only one expletive can be linked to the proposition expressed by the COMP for which the embedding predicate subcategorises, whether it be a wh- or non-wh-expletive.[17]

If Groenendijk and Stokhof's (1989) partition theory of semantics for questions is adopted as suggested by Staudacher (2000), the ungrammaticality of negation in a matrix clause containing a wh-expletive (generalisation **H**) can also be explained.[18] According to Staudacher, the answer to a wh-expletive construction must also be a possible answer to the [+Q] complement clause simultaneously. This fits well with the idea that the matrix question is an interrogative only because the wh-expletive has TYPE value Q as a result of structure-sharing. If one seeks to answer the matrix question, one will have to answer the embedded interrogative too, as the interrogative status of the former is dependent on the latter.

For example, the proposition *p* which constitutes an answer to (12a) (repeated as (35)) must simultaneously be a possible answer to the question in the embedded clause *Who did Ravi see?* and be something which Sita thinks is true.

(35) HINDI

Sitaa-ne	KYAA	socaa,	ki	Ravii-ne	*kis-ko*	dekhaa ?
Sita-ERG	WHAT	thinks	that	Ravi-ERG	who-DAT	see.PAST

"Who does Sita think Ravi saw?"

(Mahajan, 2000: 317)

[17] In German the non-wh-expletive *es* does not appear in a position consistent with it being focussed (that is, it is not fronted), and data suggest that the two expletives are not in complementary distribution. Fanselow and Mahajan (2000) claim that this is related to the complex factors which determine the distribution of *es* in German, rather than to a fundamental difference between non-wh and wh-expletive constructions. It is also possible that the wh-expletive construction does not have a non-wh equivalent though, either in German or perhaps cross-linguistically, in which case the two constructions should be analysed separately. See Berman (2003) for an LFG analysis of correlative *es* in German.

[18] There are some Hungarian data which do not support **H**. See footnote 8.

(36) denotes the meaning of the embedded question in (35).

(36) $\exists$ j [λk [λx [saw' (j) (ravi', x)] = λx [saw' (k) (ravi', x)]] = p]

The possible world *j* determines the truth conditions of the proposition *p*, but the world it represents is existentially bound. This is because *j* must be the actual world according to Sita. This constraint can be formalised:

(37) λwλk [$\forall$ p [think' (w) (sita', p) $\leftrightarrow$ think' (k) (sita', p)]]

When (36) and (37) are combined, they give the meaning of (35).

(38) λwλk [$\forall$ p [$\exists$ j [λk [λx [saw' (j) (ravi', x)] = λx [saw' (k) (ravi', x)]] = p]
$\rightarrow$ [think' (w) (sita', p) $\leftrightarrow$ think' (k) (sita', p)]]]

This analysis has the advantage of accounting for the contrast between (39a) and (39b) because while the meanings of long-distance wh-fronting and wh-expletive constructions will be formally equivalent, they will partition logical space in a different way.[19]

(39) GERMAN

a. *WAS glaubt Hans nicht, **wen** Karl gesehen hat ?
WHAT thinks Hans not who Karl seen has
"Who doesn't Hans think Karl has seen?"

b. Wen glaubt Hans nicht, dass Karl gesehen hat ?
who thinks Hans not that Karl seen has

The meaning of (39a) in the actual world *m* is very similar to that given in (38).

(40) λk [$\forall$ p [$\exists$ j [λk [λx [saw' (j) (karl', x)] = λx [saw' (k) (karl', x)]] = p] $\rightarrow$
[$\neg$ think' (m) (hans', p) $\leftrightarrow$ $\neg$ think' (k) (hans', p)]]]

Under the partition approach, answers to a question are exhaustively listed and this list is taken to be exhaustive. With respect to (39a), an exhaustive list would consist of all and only the possible complete answers to the embedded question which Hans does not think are true. This can be paraphrased "What is the one unique answer to the question 'Who did Karl see?' that Hans does not believe is true". That is, if Hans thinks '*a* and no one else is the one that Karl saw', what Hans does not think amounts to the contents of all the other blocks into which the logical space has been partitioned. Such a question would usually be unanswerable because it would have to be an exhaustive specification of all the possible answers to the embedded question which Hans does not think. The equivalent wh-fronting question (39b), on the other hand, can be paraphrased "Who is it true to say that Hans does not believe of that person that he/she/they were seen by Karl?" to which there is a unique answer. Therefore the contrast between a wh-expletive construction with a negative matrix clause and the equivalent wh-fronting question is predicted.

[19] See Staudacher (2000) for full details and proofs.

9 Conclusion

In conclusion, it has been shown that the MD approach accounts for generalisations **A**, **B**, **D** and **E**, while the proposed LFG analysis accounts for generalisations **C**, **E**, **Fi-iii**, **G** and **H**, given the semantics provided in Staudacher (2000) as they apply to the wh-expletive construction.

The LFG analysis I have outlined provides the basis for a unified cross-linguistic account of wh-scope marking constructions within a non-derivational framework.

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