

Complementiser-like *how* as *wh*-phrase: evidence from its cross-linguistic syntax*

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1. Introduction

- Embedded clauses introduced by *how*: interrogative, exclamative, free relative (see Grimshaw 1979, Huddleston 1993, Caponigro and Pearl 2009):

- | | |
|---|---|
| (1) a. He told me [how he'd made the cake]. | [embedded interrogative <i>how</i> -clause] |
| b. He told me [how he'd longed to go home]. | [embedded exclamative <i>how</i> -clause] |
| c. Lily loathes [how all thieves work]. | [embedded free relative <i>how</i> -clause] |
- (Caponigro and Pearl 2009: 156, (3a))

- *how* also introduces what appears to be an embedded declarative clause (no manner, no degree):

- | | |
|---|--|
| (2) a. He told me [how he'd never been to Spain]. | [embedded declarative <i>how</i> -clause] |
| b. He told me [that he'd never been to Spain]. | [embedded declarative <i>that</i> -clause] |
-
- | | |
|---|--|
| (3) a. A lot of people have <u>told me</u> [how I am more happy and outgoing as a person compared to back then]. ¹ | |
| b. Jurors have <u>heard</u> [how the boy had been placed on the child protection register with Haringey social services nine months before his death]. ² | |
| c. An enthusiastic staff member <u>explained</u> [how the 1830s redbrick building had been an outmoded remand center]. ³ | |
| d. As an Irishman, I never grew up with the traditional grandfather-in-the-war stories but this made me <u>realize</u> [how a whole generation made the ultimate sacrifice]. ⁴ | |
| e. Yesterday Daniel Guest <u>recalled</u> [how his father had spoken of the risk of sharks and how he had 'loved and respected the ocean environment']. ⁵ | |

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¹ From *The Observer* 27.07.2008, page 11 col. 2. Thanks to Liliane Haegeman for providing this and many of the other attested examples cited throughout.

² From *The Guardian* 31.10.2008, page 8 col. 5.

³ From *The Independent on Sunday, Travel* 27.07.2008, page 7 col. 1.

⁴ From *The Independent, Magazine* 28.07.2002, page 7 col. 3.

⁵ From *The Guardian* 29.12.2008, page 8 cols. 3-5.

- Interpretively distinct from manner *how*-clauses:

(4) I remember [**how** my dad took me to school when I was little].

(i) manner *how*: what I remember is the means by which my dad took me to school e.g. by bus, not car.

(ii) complementiser-like *how* (CLH): what I remember is the fact that my dad took me to school.

- NB. Spanish *cómo* vs. *como*.

- Syntactically distinct from other *how*-clauses:

(i) Finiteness restriction:

- (5) a. He told me how to make the cake. [non-finite manner *how* - ok, CLH - *]
 b. * He told me that to make the cake. [*non-finite *that*-clause]
 c. * I ate/like how to eat. [*non-finite free relative]

(ii) Non-root restriction:

- (6) a. * How he didn't made the cake. [*root CLHC]
 b. How did he make the cake? [root manner *how* interrogative]
 c. How he longed to go home! [root degree *how* exclamative]
 d. * That he didn't made the cake. [*root *that*-clause]
 e. * How Sam ate.⁶ [*root FR]

→ Willis (2007), van Gelderen (2009): complementiser like *how* as C head. CLH 'is not a *wh*-element, but rather a complementiser' (Willis 2007: 434).

→ Legate (2010): clauses introduced by CLH (CLHCs) involve a CP, the specifier position of which is occupied by *how*, dominated by a DP layer, the head of which is realized by a null definite D.

This talk:

- ❖ CLH is a *wh*-phrase in spec,CP, not a C head [contra Willis 2007, van Gelderen 2009].
 - distribution of CLHCs (vs. Hungarian *hogy*-clauses)
 - co-occurrence with a complementiser (Basque, Dutch)
- ❖ CLHCs are *wh*-CPs, not DPs [contra Legate 2010].
 - distribution of CLHCs (vs. DPs: English, Dutch)
- ❖ differences CLHCs show to other *wh*-clauses explained in terms of:
 - (a) layers of structure present within CP
 - (b) lexical content of *how*

- NB. *wh* ≠ interrogative/question (Q) (CLHCs, (embedded) interrogatives and exclamatives all = *wh*)
 - **descriptively** refers to morphological form of a lexical item (introducing a clause).
 - **theoretically** will be identified as a syntactic feature shared by the above clause types.

⁶ (6e) (*How Sam ate!*) may be acceptable as an exclamation for some speakers.

2. CLH as *wh*-phrase

2.1 Distribution of CLHCs: English vs. Hungarian

- If, as Willis (2007) suggests, CLH has been reanalysed from *wh*-element to declarative complementiser, then this should be reflected in the distribution of the clauses it introduces.

2.1.1. The restricted distribution of CLHCs in English⁷

- Despite also constituting 'declarative' complement clauses, CLHCs are considerably more restricted than English *that*-clauses are in terms of the range of predicates to which they can occur as complements:

➤ Predicate + CLHC/+ *that*-clause

- (7) a. She told me/explained **how/that** he'd never been to Spain.
b. She was aware/remembered/learnt **how/that** he'd never been to Spain
c. She forgot/understood **how/that** he'd never been to Spain.

➤ Predicate + *CLHC/+ *that*-clause

- (8) a. She believed/supposed/claimed ***how/that** he'd never been to Spain.
b. She doubted/denied ***how/that** he'd been to Spain.
c. She wished ***how/that** he'd never been to Spain.

→ Preliminary generalisation (to be refined):

- *believe/doubt/wish/tell/be aware/forget* + *that*-clause
- *tell/be aware/forget* + CLHC
- * *believe/doubt/wish* + CLHC

➤ **Factive vs. non-factive complement clauses**

- (9) a. She forgot that he'd never been to Spain. ⇒ he'd never been to Spain
b. She didn't forget that he'd never been to Spain. ⇒ he'd never been to Spain
c. Did she forget that he'd never been to Spain? ⇒ he'd never been to Spain

→ a *that*-clause under *forget* is factive

- (10) a. She claimed that he'd never been to Spain. ⇒ he'd never been to Spain
b. She didn't claim that he'd never been to Spain. ⇒ he'd never been to Spain
c. Did she claim that he'd never been to Spain? ⇒ he'd never been to Spain

→ a *that*-clause under *claim* is non-factive

⁷ The judgements given here reflect my intuitions, and the patterns which emerge from an informal corpus of attested examples. It seems that some speakers may accept CLHCs in a broader range of contexts. Speaker variation is a topic I hope to pursue in future research, but is beyond the scope of this presentation.

- (11) a. She forgot how he'd never been to Spain. ⇒ he'd never been to Spain
b. She didn't forget how he'd never been to Spain. ⇒ he'd never been to Spain
c. Did she forget how he'd never been to Spain? ⇒ he'd never been to Spain

- Note that what is special about CLHCs is that they always seem to be factive, even under a predicate such as *tell* where a *that*-clause complement is not (necessarily) factive:

- (12) a. He told me [**that** he'd never been to Spain]. ⇒ he'd never been to Spain.
b. He didn't tell me [**that**he'd never been to Spain]. ⇒ he'd never been to Spain.
c. Did he tell you [**that**he'd never been to Spain]? ⇒ he'd never been to Spain.
- (13) a. He told me [**how**he'd never been to Spain]. ⇒ he'd never been to Spain.
b. He didn't tell me [**how**he'd never been to Spain]. ⇒ he'd never been to Spain.
c. Did he tell you [**how**he'd never been to Spain]? ⇒ he'd never been to Spain.

- For this reason, explicitly denying the content of a CLHC is always infelicitous:

- (14) a. He told me [**that** he'd never been to Spain]...
 ...but I know really that he used to live in Madrid.
 b. He told me [**how** he'd never been to Spain]...
 #...but I know really that he used to live in Madrid.

(i) Predicates which take factive *that*-clause but not CLHC complements:

- (15) a. I'm happy/glad/sorry **that** he's never been to Spain. [factive *that*-clause]
 b. *I'm happy/glad/sorry **how** he's never been to Spain. [*CLHC]

(ii) Predicates which take CLHC but not *that*-clause complements:

- (16) a. *Sandra also described/detailed/discussed **that** they weren't given the opportunity to return.
[*factive *that*-clause]
b. Sandra also described/detailed/discussed **how** they weren't given the opportunity to return.
[CLHC]

- Note that factive *that*-clauses generally occur under the same range of predicates as *wh*-clauses.
- i.e. as a general rule (not without exceptions⁸), a predicate which takes *wh*-clause complements also takes *that*-clauses, and these will receive a factive interpretation (Egré 2008).

⁸ Notably *tell*, which takes *wh*-clause complements and yet whose *that*-clause complement receives a non-factive interpretation. However Munsat (1986) argues that, at least on one reading, a *that*-clause complement to *tell* is factive.

➤ **Distribution of CLHCs conditioned by *wh*?**

➤ Predicate + resolute interrogative⁹

- (17) a. She told me/explained **why** he had left.
 b. She was aware/remembered/learnt **why** he had left.
 c. She forgot/understood **why**he had left.

➤ * Predicate + resolute interrogative

- (18) a. * She believed/supposed/claimed **why** he had left.
 b. * She doubted/denied **why** he had left.
 c. * She wished **why** he had left.

➤ Predicate + embedded exclamative

- (19) a. She told me/explained **what a great footballer** he had been.
 b. She was aware/remembered/learnt **what a great footballer** he had been.
 c. She forgot/understood **what a great footballer** he had been.

➤ * Predicate + embedded exclamative

- (20) a. * She believed/supposed/claimed **what a great footballer** he had been.
 b. * She doubted/denied **what a great footballer** he had been.
 c. * She wished **what a great footballer** he had been.

→ **Generalisation:**

- ***tell/be aware/forget* + *wh*-complement**
- *** *believe/doubt/wish* + *wh*-complement**

- Note further:

- (21) a. * I'm happy/glad/sorry **why** he had left. [**embedded exclamative*]
 b. * I'm happy/glad/sorry **what a great footballer** he is. [**resolute interrogative*]

- (22) a. Sandra also described/detailed/discussed **why** he had left. [*embedded exclamative*]
 b. Sandra also described/detailed/discussed **what a great footballer** he had been.
 [*resolute interrogative*]

➤ Complement to a preposition (Legate 2010: 122)

- (23) a. * I'm sorry about **that** we made a mess. [**factive *that*-clause*]
 b. I'm sorry about **what a mess** we made. [*embedded exclamative*]
 c. I'm sorry about **how** we didn't get chance to tidy up. [*CLHC*]

→ **Generalisation:**

- CLHCs occur only with predicates which independently select for *wh*-clause complements.
- CLHCs, resolute interrogatives and embedded exclamatives show a common distribution.
- Non-*wh* factive complement clauses frequently - but not always - show the same distribution.

⁹ See McCloskey (2006) on the difference between 'true' and 'resolute' embedded interrogatives.

Table 1 - The distribution of CLHC, resolute, exclamative and factive *that* complement clauses¹⁰

		CLHC	resolute	exclamative	factive <i>that</i> -clause
a	tell/explain	✓	✓	✓	*
b	be aware/remember/learn	✓	✓	✓	✓
c	forget/grasp	✓	✓	✓	✓
d	believe/suppose/claim	*	*	*	*
e	doubt/deny	*	*	*	*
f	wish	*	*	*	*
g	ask/wonder/want to know	*	*	*	*
h	be happy/glad/sorry	*	*	*	✓
i	describe/detail/discuss	✓	✓	✓	*
j	complement to preposition	✓	✓	✓	*

❖ **Aside:**

- *ask/wonder/want to know* also take *wh*-clause complements, yet do not embed CLHCs (Legate 2010: 124):

- (i) a. She asked/wondered/wanted to know **whether/why** he'd left.
 b. * She asked/wondered/wanted to know **how** he'd never been to Spain.

- Neither do they embed exclamatives:

- (ii) * She asked/wondered/wanted to know **what a great footballer** he had been.

- The interrogative complement clauses they embed are taken to be 'true interrogatives', not resolutives.
- CLHCs (and embedded exclamatives, and resolutives) cannot occur under *ask/wonder/want to know* despite being *wh*-clauses, because they are not semantically compatible (Legate 2010: 124).
- See Ohlander (1986), McCloskey (2006) on distinguishing different types of embedded interrogative complement clause in (Irish) English.

2.1.2. The non-*wh* distribution of Hungarian declarative *hogy*-clauses¹¹

- Hungarian is a good candidate for a language where the declarative complementiser *hogy* 'that' results from reanalysis of the *wh*-expression *how*:

- (24) a. Mondta, **hogy** megsoha nem volt Spanyolországban. [embedded declarative]
 said.3Sg that yet never not was.3Sg Spain.in
 'He told me that he'd never been to Spain.'
- b. Mondta, (hogy) **hogy** csinálta a süteményt. [embedded (resolute) interrogative]
 said.3Sg that how made.3Sg the cake.ACC
 'He told me how he'd made the cake.'
- c. Mondta, (hogy) **hogy** vágyott háza. [embedded exclamative]
 said.3Sg. that how longed.3Sg home
 'He told me how he longed to go home.'

¹⁰ Huddleston (1993) notes a correlation between the distribution of exclamatives and embedded interrogatives.

¹¹ I am extremely grateful to Adrienn Jánosi for her patient and thorough responses to my queries regarding Hungarian.

- Superficial similarity to English patterns, yet Hungarian *hogy* declarative complement clauses are not restricted to occurring in contexts where *wh*-clauses are acceptable ((25), (26) vs. (8a), (8b) above).

(25) Azt hitte/feltételezte/állította **hogy** soha nem volt Spanyolországban.
 expl.ACC believed/supposed/claimed.3SG that never not was Spain.IN
 '(S)he believed/supposed/claimed that (s)he'd never been to Spain.'

(26) Kétkedett benne/ tagadta, **hogy** valaha is volt Spanyolországban.
 doubted.3SG in.it/ denied.3SG that ever even was.3SG Spain.IN
 '(S)he doubted/denied that (s)he had ever been to Spain.'

- We might expect similar behaviour if English *how* has undergone reanalysis from *wh*-element to C head.

2.2 Co-occurrence of CLH with a complementiser

- If CLHCs distribute like other *wh*-clauses, CLH must be a *wh*-item, syntactically as well as in surface form.
- Recall Willis (2007: 434): CLH 'is not a *wh*-element, but rather a complementiser'.
 → presented as a dichotomy: *wh*-element or complementiser
- CLH is a *wh*-element, therefore isn't a complementiser?
- But:
 - (i) *whether* (e.g. Ackema 2001, although Kayne 1991: *whether* = *wh*-phrase, *if* = complementiser)
 - (ii) *how come* (Collins 1991, although Shlonsky & Soare 2011: *how come* as *wh*-phrase)
 - (iii) 'small' *wh*-expressions as C heads even in embedded interrogatives (Bayer & Brandner 2008)
 i.e. demonstrating that CLH is a *wh*-element does not prove it is not a complementiser.
 → this section: not only is CLHC a *wh*-element, it is also not a C head.

➤ Basque¹²

(27) Esan zidan [**nola** ez d-en inoiz Espainia-n izan]. [CLHC]
 tell aux how not aux-C ever Spain-in be
 'He told me how he'd never been to Spain.'

(28) Esan zidan [**nola** egin duen pasatel-a] [embedded (resolutive) interrogative]
 tell aux how do aux-C cake-the
 'He told me how he had made the cake.'

(29) Anek [**nola** janzen du-en] gustatzen zait [free relative]
 Ane how dress aux-C like aux
 'I like how Anek dresses.'

(30) Esan zidan [ez d-**ela** inoiz Espainia-n izan]. [*that*-clause]
 tell aux not aux-C ever Spain-in be
 'He told me that he had never been to Spain.'

¹² I am indebted to Arantzazu Elordieta Alcibar and Xabier Artiagoitia for their patient, detailed and insightful responses to my questions about complementation in Basque, and to the latter for drawing to my attention Uriagereka (1999).

➤ **Dutch**¹³

- (31) Ik heb haar nooit verteld [**hoe (dat)** hij me toen niet geholpen heeft]. [CLHC]
I have her never told how (that) he me then not helped has
'I have never told her how he didn't help me then.'
- (32) Ik heb haar nooit verteld [**hoe (dat)** hij de taart gebakken heeft]. [resolutive]
I have her never told how (that) he the cake baked has
'I have never told her how he baked the cake.'
- (33) Ik bewonder [**hoe(dat)** ze zingt].¹⁴ [free relative]
I admire how that she sings
'I admire how she sings.'

- No such direct evidence available from English, although:

- (34) I know [**how that** what people valued and believed during different times in history affects how they wrote stories and informational articles].¹⁵

3. CLHCs as CPs (Nye 2012)

- Section 2: CLH = *wh*-phrase → so far, not necessarily incompatible with Legate (2010).
- This section: key evidence against viewing CLHCs as DPs, in favour of viewing them as *wh*-CPs.

3.1 Evidence from Dutch

➤ Occurrence in the middlefield

- DPs, even when heavy, can sit in the middlefield in Dutch:

- (35) Ik zal [**het feit dat** hij me toen niet geholpen heeft] nooit vergeten. [DP]
I will the fact that he me then not helped has never forget
'I will never forget the fact that he didn't help me then.'
- CLHCs, like *that*-clauses, and embedded interrogatives, are excluded from this position¹⁶:
- (36) a. *Ik zal [**dat** hij me toen niet geholpen heeft] nooit vergeten. [**that*-clause]
I will that he me then not helped has never forget
'I will never forget that he didn't help me then.'
- b. *Ik zal [**hoe** hij me toen niet geholpen heeft] nooit vergeten. [*CLHC]
I will how he me then not helped has never forget
'I will never forget how he didn't help me then.'

¹³ Many thanks to Liliane Haegeman for her assistance in creating the questionnaire from which this data is taken, and to the native Dutch-speaking respondents for taking the time to complete it. Thanks also to my Flemish colleagues for their willingness to provide additional judgements, often at short notice.

¹⁴ Thanks to Karen De Clercq for providing this example.

¹⁵ From <http://www.manatee.k12.fl.us/sites/elementary/samoset/Grade4readcolor.pdf>. Last accessed on 22/10/2009.

¹⁶ Barbiers (2000) claims that factive *dat*-clauses are permitted to occupy the middlefield position in Dutch. The judgements given above are those of the speakers who completed the informal questionnaire survey I conducted.

- c. *Ik zal [**waarom** hij me niet geholpen heeft] nooit vergeten. [*resolutive *wh*-CP]
 I will why he me not helped has never forget
 'I will never forget why he didn't help me.'

➤ Occurrence in extraposed position

- DPs, even when heavy, cannot be 'extraposed' in Dutch:

- (37) *Ik zal nooit vergeten [**het feit dat** hij me toen niet geholpen heeft]. [*DP]
 I will never forget the fact that he me then not helped has
 'I will never forget the fact that he didn't help me then.'

- CLHCs, like *that*-clauses, and embedded interrogatives are perfectly grammatical when 'extraposed':

- (38) a. Ik zal nooit vergeten [**dat** hij me toen niet geholpen heeft]. [*that*-clause]
 I will never forget that he me then not helped has
 'I will never forget that he didn't help me then.'
 b. Ik zal nooit vergeten [**hoe** hij me toen niet geholpen heeft]. [CLHC]
 I will never forget how he me then not helped has
 'I will never forget how he didn't help me then.'
 c. Ik zal nooit vergeten [**waarom** hij me niet geholpen heeft]. [resolutive *wh*-CP]
 I will never forget why he me not helped has
 'I will never forget why he didn't help me'.

❖ **Aside**

- CLHC 'extraposition' not incompatible with DP analysis: null D head in middlefield, CP extraposed.
 - This is one proposal for 'extraposed' free relatives in Dutch (see Groos and van Riemsdijk 1981).
 - However, then the impossibility of the entire CLHC remaining in the middlefield is mysterious.
 Dutch free relatives are deemed only marginally degraded in the middlefield.
 -
 (i) a. Ik heb gegeten [**wat je klaargemaakt had**]. [extraposed FR]
 I have eaten what you prepared had
 b. ?Ik heb [**wat je klaargemaakt had**]gegeten. [FR in the middlefield]
 I have what you prepared had eaten

3.2 Evidence from English

➤ *be funny/interesting/surprising etc...*

- (39) a. It's funny [**that** he made the cake]. [declarative CP]
 b. *It's funny [**the recipe** he used for the cake]/[**the cake**]. [*DP]
 (40) a. [**That** he made the cake] is funny. [declarative CP]
 b. [**The recipe** he used for the cake]/[**the cake**] is funny. [DP]
 (41) It's funny [**how** he made the cake].
 (i) The fact that he made the cake is funny. [CLHC]
 (ii) *The way in which he made the cake is funny. [*FR]

- (42) a. It's interesting [**how** all these bankers have been writing in detailing their experiences and woes after being laid off.].¹⁷
 b. It's strange [**how** good can come out of tragedy].¹⁸
 c. It's remarkable [**how** New Labour MPs who once spoke nobly about being 'the servants of the people' now complain to journalists that 'if we don't get rid of Gordon we could be out of power for a generation'].¹⁹
- (43) a. [**How** he made the cake] is funny.
 (i) * The fact that he made the cake is funny. [*CLHC]²⁰
 (ii) The way in which he made the cake is funny. [FR]

→ **Generalisation:** CLHCs show the distribution of CPs, not DPs (contra Legate 2010).

→ **OVERALL GENERALISATION:** CLHCs distribute like *wh*-CPs.

4. Complementiser-like properties of CLH

- Nevertheless, there are reasons why CLH has been taken to be a complementiser:

- (a) Finiteness restriction²¹ → see section 1, ex. (5)
 (b) Non-root restriction → see section 1, ex. (6)
 (c) No intervention effect from negation (noted by Legate 2010: 130)

- (44) a. He told me that he hadn't made the cake. [*that*-clause CP]
 b. He told me how he hadn't made the cake...
 (i) ...but he had made the fruit salad. [CLHC]
 (ii) #...but he wouldn't tell me the recipe he had actually used. [*embedded interrogative]
- (45) a. * He told me how he hadn't longed to go home. [*embedded exclamative]
 b. * I'll never forget how very difficult the test wasn't. [*embedded exclamative]
- (46) a. When Erlendur arrived at the office, Elinborg and Sigurdur Oli sat down with him and told him [**how** they had learned nothing more from the present owners of Robert's chalet].²²
 b. 'His folks hated his long hair though. His father, especially, grumped about hair in the bathroom and [**how** he couldn't tell if his son was a boy or a girl from behind].'²³

¹⁷ From *The Observer*, 25.05.2008 p.6 col.1.

¹⁸ From *The Observer*, 16.03.2008 p.9 col.5.

¹⁹ From *The Independent*, 29.07.2008, p.25 col.3.

²⁰ The exclusion of CLHCs from occurring as clausal subjects (also as topics, focus of an *it*-cleft and fragment answers) deserves more attention than I can give it here. See Haegeman and Nye (2012) for exemplification and some discussion.

²¹ Note that Kayne (1991: 665) attributes the following contrast to *whether* being a *wh*-phrase whilst *if* is a complementiser.

(i) a. He doesn't know whether to go to the movies. (Kayne 1991: 665, ex. (51), (52))
 b. * He doesn't know if to go to the movies.

I refer to his paper for further discussion and an analysis.

²² From *Silence of the Grave*, Arnaldur Indridason, translated by Bernard Scudder (2005), Vintage 99.

²³ From *Larry's Party*, Carol Shields (2006), (first published UK 1997), London: Harper Perennial, p.244.

(d) No scope interactions

(47) He reported [**how** everyone had sung the song ~~how~~]. [embedded interrogative]

(i) $wh > \forall$ [everyone had sung well]

(ii) $\forall > wh$ [John sang quietly, Tina sang in punk style...] (pair-list reading)

(48) He reported [**how** everyone had sung the song]. [CLHC]

(i) \approx he reported that everyone had sung the song. [$wh > \forall$, $*\forall > wh$]

- Questions with *how come* - in contrast to *why* - lack pair-list readings (Collins 1991, Fitzpatrick 2005):

(49) Why did everyone sing the song?

(i) Because the teacher made them. [$wh > \forall$]

(ii) John sang the song because he wanted to impress Tina, Susan sang the song in the hope of being talent-spotted... [$\forall > wh$]

(50) How come everyone sang the song?

(i) Because the teacher made them. [$wh > \forall$]

(ii) * John sang the song because he wanted to impress Tina, Susan sang the song in the hope of being talent-spotted... [$*\forall > wh$]

- Shlonsky & Soare (2011: 666): both *how come* and *why* are *wh*-phrases²⁴, but only the latter is associated with a trace.

❖ **CLHCs: wolves in sheep's clothing**

→ external syntax (distribution): shared with other *wh*-clauses

→ internal syntax: doesn't show typical properties of a *wh*-clause; more closely resembles that of a *that*-clause (some properties shared with clauses introduced by 'atypical' interrogative *wh*-expression *how come*)

5. Towards an analysis of CLHCs

❖ **The ingredients for an analysis**

➤ CLHCs are CPs (contra Legate 2010)

○ distribution in Dutch and English (vs. DPs/FRs)

➤ CLHCs are *wh*-CPs

○ can occur as complement to P

○ only occur as complement to predicates independently shown to select for *wh*-clauses

○ distribution vs. Hungarian declarative *hogy*-clauses

➤ CLH is a *wh*-phrase, not a complementiser (contra Willis 2007, van Gelderen 2009)

○ co-occurrence with a complementiser in Basque, Dutch

➤ CLH is base-generated in the position it occupies in the left periphery (as per Legate 2010)

○ no evidence of movement: no 'gap', no intervention effect from negation, no scope effects

²⁴ Contra Collins (1991), for whom *how come* is a C head. One piece of evidence Shlonsky and Soare (2011) present in favour of their view is that *how come*, like *why*, permits sluicing of its complement, unlike *whether* and *if* which they take to be interrogative heads. It is not possible to sluice the complement of CLH. Thus whilst CLH patterns with *how come* in terms of the absence of scope interactions, it differs with respect to the possibility of sluicing.

(i) They thought John left early, but they didn't tell me *why/how come/*whether/*if*.

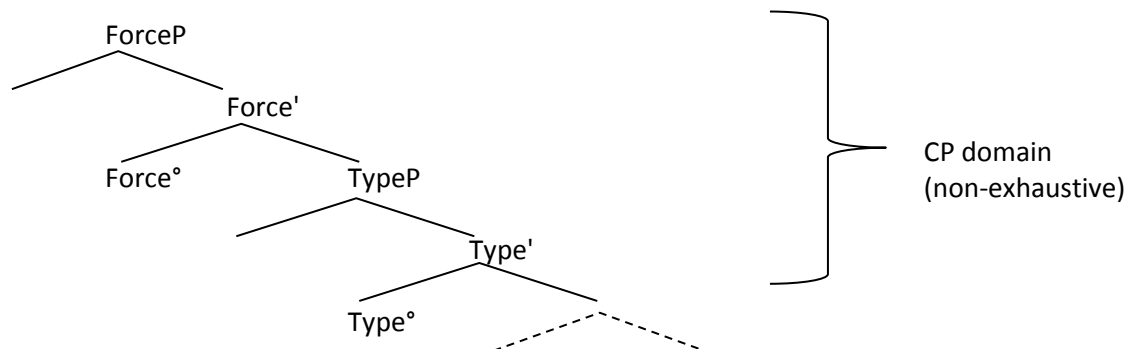
(Shlonsky and Soare 2011: 665 ex. (41))

5.1 Proposal part 1: splitting up CP

Aim: to capture the common distribution of *wh*-CPs (CLHCs, embedded exclamatives, resolutives)

- Articulated clausal left periphery, à la Rizzi (1997).
- Rizzi's (1997) ForceP split further, into (at least) higher (Illocutionary)ForceP and lower (Clause)TypeP. (cf. Bhatt & Yoon 1992, Rizzi 1997: f.n. 6, Roussou 2000, Haegeman 2006, Coniglio and Zegrean 2012).

(51)



- Matrix clauses: always involve both ForceP and TypeP.
- Embedded clauses:
 - involve ForceP when have matrix-like properties (asserted *that*-clauses, 'true' embedded interrogatives).
 - otherwise truncated at TypeP (factive *that*-clauses, resolute embedded interrogatives²⁵, embedded exclamatives, CLHCs).
- Predicates which require a complement clause with Force specify the particular Force required:
 - *believe, suppose, claim*: [+Force_{ASSERT}]
 - *ask, wonder, want to know*: [+Force_Q]
- [Force_{ASSERT}] always selects for [Type_{STD}]
- [Force_Q] [always selects for [TypeP_{WH}]
- Predicates which require a complement clause without Force specify only a general type, thus accounting for the common distribution of *wh*-CPs.
 - *be happy/glad/sorry*: [+TypeP_{STD}]
 - *describe/detail/discuss*: [+TypeP_{WH}]
- Possible to select for a predicate to be compatible with more than one type of complement clause.
- Provisional feature content of *wh*-expressions (to be revised):
 - True interrogative *wh*-expressions: *wh*, Q
 - Other *wh*-expressions: *wh*

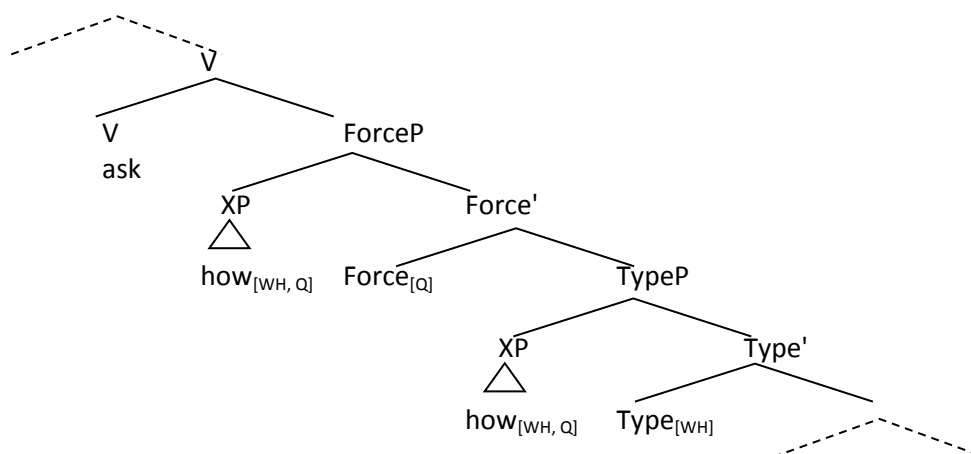
²⁵ McCloskey (2006) analyses true interrogatives as involving a recursive CP structure, whilst resolutives involve a single CP.

Table 3 - Types of CP complement accepted by various (classes of) matrix predicates²⁶

		[Force _{ASSERT}]	[Force _Q]	[TypeP _{STD}]	[TypeP _{WH}]
a	tell/explain	✓	*	*	✓
b	be aware/remember/learn	✓	*	✓	✓
c	forget/grasp	*	*	✓	✓
d	believe/suppose/claim	✓	*	*	*
e	doubt/deny	✓	*	*	*
f	wish	✓	*	*	*
g	ask/wonder/want to know	*	✓	*	*
h	be happy/glad/sorry	*	*	✓	*
i	describe/detail/discuss	*	*	*	✓

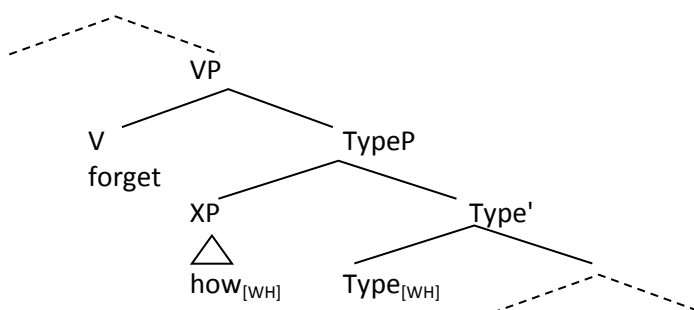
(52) *ask* + [Force_Q]

→ no CLHCs under *ask* [CLH has no Q feature]



(53) *forget* + [TypeP_{WH}]

→ CLHCs under *forget*



²⁶ Particular thanks to Richard Zimmermann for extensive discussion of this material.

5.2 Proposal part 2: differentiating *wh*-CPs

- This captures the common distribution of CLHCs, embedded exclamatives and resolutes, but how can their distinct interpretations and internal syntactic differences be explained?

Aim: to capture the interpretive and internal syntactic differences displayed by different *wh*-clauses.

➤ Site of first Merge

- Only in CLHCs is *wh*-phrase merged directly into spec,Type_[WH]P. This explains:
 - no intervention effect from negation.
 - no scope effects.
 - no non-finite CLHCs? Both ForceP and TypeP absent in a non-finite *wh*-clause. An interrogative *wh*-phrase can remain in the specifier of a lower projection through which it has raised. This option unavailable for CLHC, generated in spec,TypeP (why then no non-finite exclamatives?).

➤ Feature content of *wh*-phrase (Starke 2011, Baunaz 2012)

- Various lexical items *how* involving different numbers of features/different amounts of structure.
- This accounts for:
 - distinct interpretation of various *wh*-CPs.
 - factivity of CLHCs (and of exclamatives)
 - non-root restriction:
 - Matrix clauses always involve ForceP. The feature content of CLHCs precludes it from ever occupying spec,Force_[WH, Q].
 - Similarly, resolute *how* will be excluded from matrix contexts, meaning no matrix 'answer-to-question' interrogatives.
 - Exclamatives? Different feature content for exclamative *wh*-phrase in embedded and matrix exclamatives: only in the latter case involves (speaker) evaluation (only matrix exclamatives involve Force).
 - differences in island strength: CLHCs - strong islands, interrogatives - weak islands, see Haegeman and Nye (2012). Feature-based relativized minimality: Starke (2001), Rizzi (2004), Baunaz (2012), Haegeman (2010, 2011, 2012).

Table 4 - Proposal for the feature content of *how*

<i>wh</i> -phrase	feature content
Embedded <i>wh</i>-clauses	
'resolutive' interrogative <i>how</i>	<i>wh</i>
complementiser-like <i>how</i>	<i>wh</i> , presuppositional
embedded exclamative <i>how</i>	<i>wh</i> , presuppositional, degree
Matrix(-like) <i>wh</i>-clauses	
'true' interrogative <i>how</i>	<i>wh</i> , Q
matrix exclamative <i>how</i>	<i>wh</i> , presuppositional, degree, (speaker) evaluative

5.3 Open issues

- Is differentiation by feature content alone enough, or do we need to differentiate different (criterial?) positions in the left periphery for the different *wh*-expressions? How do we do so whilst maintaining the generalisation concerning the predicates under which CLHCs, resolutes and embedded exclamatives occur (i.e. without requiring predicates to independently select for each of the three types)?

- What is the precise mechanism for selection by matrix predicate? Under the proposal sketched here, all selection is syntactic. This seems to be on the right track for the common distribution of *wh*-clauses, but do predicates really select for (a particular) Force, or does it fall out of semantic compatibility?
- Particular interpretation of CLHCs: CLHCs seem to contribute something more than simply factivity. Firstly, how precisely can the interpretive effect of CLHCs be characterised? (narrativity? Defrancq 2009) Secondly, how can this be encoded (which features are involved)?
- Main Clause Phenomena (MCP): CLHCs seem to permit MCP such as topicalisation, negative inversion. MCP are frequently claimed to be impossible in factive (*that*-)clauses, either because of semantic incompatibility (starting from Hooper and Thompson 1973): MCP rely on assertion, hence can't occur in presupposed clauses, or because of syntactic incompatibility (starting from Emonds 1970): the necessary structure to host them is not available. The propositional content of a CLHCs is presupposed, yet such clauses nevertheless seem to permit MCP. How can this be accounted for?

6. Conclusions

- CLH shares with complementisers the fact that it is first merged in the clausal left periphery.
- However, unlike a complementiser, it is a *wh*-phrase in a specifier position, something it shares with the *wh*-phrases introducing (resolutive) interrogatives and embedded exclamatives.
- [*wh*] is a syntactically relevant feature which conditions the common distribution of CLHCs, (resolutive) interrogatives and embedded exclamatives.
- CLHCs, (resolutive) interrogatives and embedded exclamatives differ from 'true' embedded interrogatives in terms of which projection hosts the *wh*-phrase.
- CLHCs, (resolutive) interrogatives and embedded exclamatives are differentiated by the feature content of the *wh*-phrase which introduces them.

References

- Ackema, Peter (2001). 'Colliding Complementizers in Dutch: Another Syntactic OCP Effect'. *Linguistic Inquiry* 32: 4, 717-727.
- Barbiers, Sjef (2000). 'The right periphery in SOV languages: English and Dutch'. In Peter Svenonius, (ed.) *The Derivation of VO and OV*. Amsterdam: John Benjamins. 181-218.
- Baunaz, Lena (2012). 'The French complementiser *que* under scrutiny'. Ms, University of Geneva.
- Bayer, Josef and Ellen Brandner (2008). 'On Wh-Head-Movement and the Doubly-Filled-Comp Filter'. In Charles B. Chang and Hannah J. Haynie (eds.) *Proceedings of the 26th West Coast Conference on Formal Linguistics*, Somerville, MA: Cascadilla Proceedings Project, 87-95.
- Bhatt, Rajesh & James Yoon (1992). 'On the composition of Comp and parameters of V-2'. *West Coast Conference on Formal linguistics* 10, 41-53.
- Caponigro, Ivano and Lisa S. Pearl (2009). 'The nominal nature of *Where*, *When*, and *How*: Evidence from Free Relatives'. *Linguistic Inquiry*, 40(1), 155-164.
- Collins, Chris (1991). 'Why and How Come'. In Lisa Cheng and Hamida Demirdache (eds.), *More Papers on Wh-Movement: MIT Working Papers in Linguistics* 15, 31-45.
- Coniglio, Marco. & Iulia Zegrean (2012). 'Splitting up Force: Evidence from discourse particles'. In Lobke Aelbrecht, Liliane Haegeman & Rachel Nye (eds.) *Main Clause Phenomena: New Horizons*, 229-255.
- Defrancq, Bart. 2009. 'Comment narratif'. *Travaux de linguistique*. 58: 1, 89-106.
- Egré, Paul (2008). 'Question-embedding and factivity'. In Franck Lhoreau (ed.) *Grazer Philosophische Studien, Knowledge and Questions*. 85-125.
- Emonds, Joseph (1970) *Root and structure-preserving transformations*. Doctoral dissertation, MIT.
- Fitzpatrick, Justin (2005). 'The whys and how comes of presupposition and NPI licensing in questions. In John Alderete et al (eds.) *Proceedings of the 24th West Coast Conference on Formal Linguistics*, Somerville, MA: Cascadilla Proceedings Project, 138-145.

- Gelderen, Elly van (2009). 'Renewal in the Left Periphery: Economy and the Complementiser Layer'. *Transactions of the Philological Society* 107: 2, 131-195.
- Grimshaw, Jane (1979). 'Complement selection and the lexicon'. *Linguistic Inquiry* 10:2, 279-326.
- Groos, Anneke and Henk van Riemsdijk (1981). 'Matching effects in free relatives: a parameter of core grammar'. In Adriana Belletti, Luciana Brandi, and Luigi Rizzi (eds.) *Theory of Markedness in Generative Grammar*. Pisa: Scuola Normale Superiore, 171-216.
- Haegeman, Liliane (2006). 'Conditionals, factives and the left periphery'. *Lingua* 116: 10, 1651-1669.
- Haegeman, Liliane. (2010). 'The internal syntax of adverbial clauses. In Kleanthes Grohmann and Ianthi Tsimpli (eds.) *Exploring the Left Periphery*, *Lingua* 120, 628-648.
- Haegeman, Liliane. (2011). 'The movement derivation of conditional clauses'. *Linguistic Inquiry* 41: 595-621.
- Haegeman, Liliane (2012). 'The syntax of MCP: Deriving the truncation account'. In Lobke Aelbrecht, Liliane Haegeman & Rachel Nye (eds.) *Main Clause Phenomena: New Horizons*, 114-134..
- Haegeman, Liliane and Rachel Nye (2012). 'Declarative *how*: factivity, referentiality and D-linking'. Talk given at *Mismatches in Clause Linkage*, ZAS, Berlin, 13th-14th April 2012.
- Hiraiwa, Ken (2010). 'Complement types and the CP/DP parallelism - A case of Japanese'. *Theoretical Linguistics* 36:2/3, 189-198
- Hooper, Joan & Sandra Thompson (1973). 'On the applicability of Root Transformations'. *Linguistic Inquiry* 4: 465-491.
- Huddleston, Rodney (1993). 'Remarks on the construction 'You won't believe who Ed has married''. *Lingua* 91:2-3, 175-184.
- Kayne, Richard S. (1991). 'Romance Clitics, Verb Movement, and PRO'. *Linguistic Inquiry* 22:4, 647-686.
- Legate, Julie Anne (2010) 'On how *how* is used instead of *that*'. *Natural Language and Linguistic Theory* 28, 121-134.
- McCloskey, Jim (2006). 'Questions and questioning in a local English'. In Raffaella Zanuttini, Héctor Campos, Elena Herburger & Paul H. Portner (eds.) *Crosslinguistic Research in Syntax and Semantics: Negation, Tense and Clausal Architecture*. Georgetown: Georgetown University Press, 87-126.
- Miyagawa, Shigeru (2012). 'Agreements that occur mainly in the main clause'. In Lobke Aelbrecht, Liliane Haegeman & Rachel Nye (eds.) *Main Clause Phenomena: New Horizons*, 79-111.
- Munsat, Stanley (1986). 'Wh-complementizers'. *Linguistics and Philosophy* 9, 191-217.
- Nye, Rachel (2012). 'The categorical status of Dutch and English declarative *hoe*-/*how*-complement clauses'. *Salford Working Papers in Linguistics and Applied Linguistics* 2, 28-47.
- Ohlander, Sölve (1986). 'Question-orientation versus answer-orientation in English interrogative clauses'. In Dieter Kastovsky & Aleksander Szwedek (eds.). *Linguistics across Historical and Geographical Boundaries : in Honour of Jacek Fisiak on the occasion of his 50th birthday*, Vol. 2. Berlin : Mouton de Gruyter, 963-982.
- Rizzi, Luigi. (1997). 'The fine structure of the left periphery'. In Liliane Haegeman (ed.) *Elements of Grammar*. Dordrecht: Kluwer, 281-337.
- Rizzi, Luigi (2004). Locality and left periphery. In Adriana Belletti (ed.) *Structures and Beyond. The Cartography of Syntactic Structures*, Oxford: Oxford University Press, 223-251.
- Roussou, Anna (2000). 'On the left periphery: Modal particles and complementisers'. *Journal of Greek Linguistics* 1, 65-94.
- Shlonsky, Uri & Gabriela Soare (2011). 'Where's *why*?'. *Linguistic Inquiry* 42.4, 651-669.
- Starke, Michal. (2001). *Move Dissolves into Merge*. Doctoral Dissertation, University of Geneva. Available to download from <http://ling.auf.net/lingBuzz/000002>.
- Starke, Michal (2011). Class notes from Nanosyntax seminar, Ghent University, 7th-10th November.
- Uriagereka, J. (1999) 'Minimal restrictions on Basque movements'. *Natural Language and Linguistic Theory* 17: 2, 403-444.
- Willis, David (2007) 'Specifier-to-head reanalysis in the complementizer domain: evidence from Welsh'. *Transactions of the Philological Society* 105: 3, 432-480.