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].
   b. He told me [*how* he’d longed to go home].
   c. Lily loathes [*how* all thieves work].

   (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].
   b. He told me [*that* he’d never been to Spain].

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

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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.
- 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]

→ 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 English

- 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 never 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**
  - **believel/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

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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.
Evidence that factive and non-factive that-clauses are syntactically as well as semantically distinct:

- Main Clause Phenomena (topicalisation, negative inversion etc.) claimed to be permitted in non-factive, but not factive, that-clauses (Hooper and Thompson 1973, and much subsequent work).
- Factive and non-factive complement clauses are introduced by distinct complementisers in certain languages e.g. Japanese koto/no vs. to (Hiraiwa 2010, Miyagawa 2012).

(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

→ CLHCs are also factive

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.

Distribution of CLHCs conditioned (solely) by their factivity? No, because:

(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).

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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 + resolutive interrogative**

(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 + 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. [*resolutive 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. [*resolutive 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, resolutive interrogatives and embedded exclamatives show a common distribution.
- Non-*wh* factive complement clauses frequently - but not always - show the same distribution.

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9 See McCloskey (2006) on the difference between ‘true’ and ‘resolutive’ embedded interrogatives.
Table 1 - The distribution of CLHC, resolutive, exclamative and factive *that* complement clauses\textsuperscript{10}

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

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

\begin{itemize}
  \item (i) a. She asked/wondered/wanted to know \textit{whether/why} he’d left.
  \item b. * She asked/wondered/wanted to know \textit{how} he’d never been to Spain.
\end{itemize}

- Neither do they embed exclamatives:

\begin{itemize}
  \item (ii) * She asked/wondered/wanted to know \textit{what a great footballer} he had been.
\end{itemize}

- 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).

2.1.2. The non-*wh* distribution of Hungarian declarative *hogy*-clauses\textsuperscript{11}

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

\begin{itemize}
  \item (24) a. Mondta, *hogy* meg soha nem volt Spanyolorszagban. [embedded declarative]
    said.3Sg that yet never not was.3Sg Spain.in
    ‘He told me that he’d never been to Spain.’
  \item b. Mondta, (hogy) *hogy* csinalta a sutemenyt. [embedded (resolutive) interrogative]
    said.3Sg that how made.3Sg the cake.ACC
    ‘He told me how he’d made the cake.’
  \item c. Mondta, (hogy) *hogy* vagyott haza. [embedded exclamative]
    said.3Sg. that how longed.3Sg home
    ‘He told me how he longed to go home.’
\end{itemize}

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

\textsuperscript{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) Kételkedett 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.

➢ Basque

(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 janzten 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.’

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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

(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]. [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].

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 position:

(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.’

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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.


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.].
   b. It’s strange [how good can come out of tragedy].
   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’].

(43) a. [How he made the cake] is funny.
   (i) * The fact that he made the cake is funny. [*CLHC]
   (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 restriction → 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].
   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].

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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 that 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.
(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-phrases, 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

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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.

(51)

![Diagram](image)

- **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, resolutive embedded interrogatives\(^{25}\), embedded exclamatives, CLHCs).

- Predicates which require a complement clause with Force specify the particular Force required:
  - *believe, suppose, claim:* [+Force\(_{\text{ASSERT}}\)]
  - *ask, wonder, want to know:* [+Force\(_{\text{Q}}\)]

- [Force\(_{\text{ASSERT}}\)] always selects for [Type\(_{\text{STD}}\)]
- [Force\(_{\text{Q}}\)] always selects for [Type\(_{\text{WH}}\)]
- 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:* [+Type\(_{\text{STD}}\)]
  - *describe/detail/discuss:* [+Type\(_{\text{WH}}\)]

- 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 predicates\(^{26}\)

<table>
<thead>
<tr>
<th></th>
<th>[Force_ASSERT]</th>
<th>[Force_Q]</th>
<th>[TypeP_STD]</th>
<th>[TypeP_WH]</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>√</td>
<td>*</td>
<td>*</td>
<td>√</td>
</tr>
<tr>
<td>b</td>
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<tr>
<td>c</td>
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<td>i</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>√</td>
</tr>
</tbody>
</table>

\(^{26}\) Particular thanks to Richard Zimmermann for extensive discussion of this material.
5.2 Proposal part 2: differentiating \textit{wh}-CPs

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

\textbf{Aim:} to capture the interpretive and internal syntactic differences displayed by different \textit{wh}-clauses.

\begin{itemize}
  \item \textbf{Site of first Merge}
  \begin{itemize}
    \item Only in CLHCs is \textit{wh}-phrase merged directly into spec,\text{Type}_{\text{[WH]}}P. This explains:
      \begin{itemize}
        \item no intervention effect from negation.
        \item no scope effects.
        \item no non-finite CLHCs? Both ForceP and TypeP absent in a non-finite \textit{wh}-clause. An interrogative \textit{wh}-phrase can remain in the specifier of a lower projection through which it has raised. This option unavailable for CLHC, generated in spec,\text{TypeP} (why then no non-finite exclamatives?).
      \end{itemize}
  \end{itemize}

  \item \textbf{Feature content of \textit{wh}-phrase} (Starke 2011, Baunaz 2012)
  \begin{itemize}
    \item Various lexical items \textit{how} involving different numbers of features/different amounts of structure.
    \item This accounts for:
      \begin{itemize}
        \item distinct interpretation of various \textit{wh}-CPs.
        \item factivity of CLHCs (and of exclamatives)
        \item non-root restriction:
          \begin{itemize}
            \item Matrix clauses always involve ForceP. The feature content of CLHCs precludes it from ever occupying spec,\text{Force}_{\{WH, Q\}}.
            \item Similarly, resolutive \textit{how} will be excluded from matrix contexts, meaning no matrix ‘answer-to-question’ interrogatives.
            \item Exclamatives? Different feature content for exclamative \textit{wh}-phrase in embedded and matrix exclamatives: only in the latter case involves (speaker) evaluation (only matrix exclamatives involve Force).
          \end{itemize}
      \end{itemize}
    \end{itemize}

\end{itemize}

\begin{table}
\begin{tabular}{|l|l|}
\hline
\textbf{\textit{wh}-phrase} & \textbf{feature content} \\
\hline
Embedded \textit{wh}-clauses & \\
‘resolutive’ interrogative \textit{how} & \textit{wh} \\
complementiser-like \textit{how} & \textit{wh}, presuppositional \\
embedded exclamative \textit{how} & \textit{wh}, presuppositional, degree \\
\hline
\text{Matrix(-like) \textit{wh}-clauses} & \\
‘true’ interrogative \textit{how} & \textit{wh}, Q \\
matrix exclamative \textit{how} & \textit{wh}, presuppositional, degree, (speaker) evaluative \\
\hline
\end{tabular}
\end{table}

5.3 Open issues

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


Starke, Michal (2011). Class notes from Nanosyntax seminar, Ghent University, 7th-10th November.
