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- 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].⁴
- 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'].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.
 (ii) complementiser-like *how* (CL*how*): what I remember is the fact my dad took me to school.

❖ **Aside:** Spanish *cómo* vs. *como* - orthographic and prosodic distinction [Evelyn Gandón p.c]:

- (i) a. Recuerdo **cómo** mi padre me llevaba a la escuela cuando era pequeña.
 remember-PRS.1SG how my dad me took to the school when be-IMPF.1SG little-F.SG
 'I remember how my dad would take me to school when I was little.' [= e.g. by bus, not by car]
 b. Recuerdo **como** mi padre me llevaba a la escuela cuando era pequeña.
 remember-PRS.1SG how my dad me took to the school when be-IMPF.1SG little-F.SG
 'I remember how my dad would take me to school when I was little.' [= i.e. the fact that he did this]

- Complementiser-like *how* clauses (CLHCs) occur in a variety of typologically unrelated languages: Germanic (Dutch, German, Afrikaans), Romance (French, Spanish, Italian, Romanian), Slavic (Czech, Polish, Bulgarian, Serbo-Croat), Finno-Ugric (Estonian), Basque...

- Syntactically distinct from other *how*-clauses:

(i) Finiteness restriction:

- (5) a. He told me how to make the cake. [non-finite manner *how* - ok, CL*how* - *]
 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. [*matrix 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. [*matrix *that*-clause]
 e. * How Sam ate!⁶ [*matrix FR]

❖ **Aside:** As observed by Defrancq (2009: 89), a CLHC is able to occur as a newspaper headline or book (chapter) title without an (overt) embedding clause:

- (ii) a. Experience is King (Or, **How No One Cares Where You Went to School After Your First Job**)
 (From <http://www.ericpender.com/blog/experience-is-king>. Last accessed 28.03.2012).
 b. Monetizing the debt.. or **how no one loves the dollar**.
 (From <http://www.sodahead.com/united-states/monetizing-the-debt-or-how-no-one-loves-the-dollar-thanks-to-obama-and-his-minions-the-fed/question-1718011/>. Last accessed 28.03.2012).
 c. NATIONALS SEEDING: OR **HOW NO ONE CAN AGREE**
 (From <http://skydmagazine.com/2011/05/nationals-seeding-agree/>. Last accessed 28.03.2012).

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

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

⁶ (5e) (*How Sam ate!*) may be acceptable as an exclamation for some speakers.

- Previous literature which discusses CLH
 - **Warner (1982)**: distribution and interpretation of CLHCs in Middle English.
 - Melvold (1991: 116 f.n. 17): notes existence of CLH.
 - **López Couso & Méndez Naya (1996)**: historical perspective on CLHCs in English.
 - Uriagereka (1999) touches on the existence of CL*how* in Basque as well as English.
 - **Legate (2002, 2010)**: focuses on the syntax of such clauses synchronically.
 - **Defrancq (2005, 2009)**: discusses the complementiser-like use of French *comment* 'how', with a particular emphasis on its narrative function.
 - Caponigro and Polinsky (2008) make brief reference to the pattern in English.
 - Willis (2007), van Gelderen (2009): both cite complementiser-like *how* as a case of grammaticalization in the CP domain - phrase in spec-CP reanalysed as a C head.
 - **Nye (2012)**: distribution of CLHCs in English and Dutch.
- Legate (2010):
 - (i) discusses the particular syntactic and semantic properties of CLHCs (to be discussed below).
 - (ii) proposes an analysis in which 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.
(i.e. CLHCs have the structure of free relatives (Groos and Van Riemsdijk (1981), Grosu (1994))).
- I share with Legate the view that CLHCs have their own particular syntactic and semantic behaviour, and that this should be captured in terms of the derivation proposed. However:

My claim:

- DP analysis is not necessary to explain the internal syntactic properties and interpretation of CLHCs, nor sufficient to capture their distribution.
- CLHCs are *wh*-CPs (like embedded interrogatives and exclamatives), CLH is a *wh*-phrase.
- The particular behaviour of CLHCs fall out from:
 - properties of the lexical item *how* itself.
 - the position where CLH is merged.
 - the degree of integration of the CLHC into the matrix clause.
- PART 1: The external syntax of CLHCs
- PART 2: The internal syntax of CLHCs

- **NB. *wh* ≠ interrogative/question (Q)** (CLHCs, (embedded) interrogatives and exclamatives all = *wh*)

PART 1: THE EXTERNAL SYNTAX OF CLHCs

2. The case for a DP analysis of CLHCs: factivity, island status, NPI licensing

- Legate presents 4 main arguments for analysing CLHCs as DPs:
 - (i) factivity → see section 2.1
 - (ii) island status → see section 2.2
 - (iii) licensing of NPIs → see section 2.3
 - (iv) distribution → see section 3
- First I recap Legate's case, then present some counter-evidence to the DP analysis:
 - (i) when CLHCs do behave like DPs, other CPs do too. [i.e. CLHCs are not necessarily DPs]
 - (ii) not all of the behaviour of CLHCs is DP-like. [i.e. CLHCs can't be DPs]

2.1 Factivity

- **the propositional content of CLHCs is invariably presupposed** (Legate 2010:126):
- that-clause embedded under a factive predicate
 - (7) a. I forgot [**that** he'd never been to Spain]. ⇒ he'd never been to Spain.
 - b. I didn't forget [**that** he'd never been to Spain]. ⇒ he'd never been to Spain.
 - c. Did you forget [**that**he'd never been to Spain]? ⇒ he'd never been to Spain
- CLHC embedded under a factive predicate
 - (8) a. I forgot [**how** he'd never been to Spain]. ⇒ he'd never been to Spain.
 - b. I didn't forget [**how**he'd never been to Spain]. ⇒ he'd never been to Spain.
 - c. Did you forget [**how**he'd never been to Spain]? ⇒ he'd never been to Spain
- that-clause embedded under a non-factive predicate
 - (9) 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.
- CLHC embedded under a non-factive predicate
 - (10) 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.
- Presupposition associated with a CLHC thus seems to be an inherent part of the complement clause.
- For this reason, explicitly denying the content of a CLHC is always infelicitous:
 - (11) 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.
- Legate draws a parallel with the existential presupposition show by a definite DP.

2.2 Island status

- **CLHCs are strong islands** (Legate (2010: 126)):
- (12) a. They tell me [**how** he buys junk food every day]. [CLHC]
- b. They tell me [**that**he buys junk food every day]. [that-clause]
- (13) a. * Why did they tell you [**how**he buys junk food *t*]? [*adjunct extraction: CLHC]
- b. Why did they tell you [**that**he buys junk food *t*]? [adjunct extraction: *that*-clause]
- (14) a. * Which food did they tell you [**how**he buys *t* every day]? [*object extraction: CLHC]
- b. Which food did they tell you [**that**he buys *t* every day]? [object extraction: *that*-clause]
- (modelled on Legate (2010: 126), ex. (13))

- Legate (2010: 126) - strong island status follows if CLHCs are definite DPs:

- (15) a. They told me [**the news** that she buys junk food everyday].
 b. * Why did they tell you [**the news** that she buys junk food *t* everyday]?
 [*adjunct extraction: definite DP]
 c. * Which food did they tell you [**the news** that she buys *t* everyday]?
 [*argument extraction: definite DP]
 (modelled on Legate (2010: 126), ex. (14))

2.3 Licensing of NPIs

- **CLHCs do not serve to license NPIs** (cf. 16), unlike interrogative *how*-clauses (cf. 17) (Legate 2010: 127):

- (16) a. * They told me [**how** she believes anyone].⁷ [* NPI licensed by CLHC]
 b. * She told me [**how** any animals exist here]. [* NPI licensed by CLHC]
 (Legate (2010: 127), ex. (20a, b))
- (17) a. I wonder [**how** she believes anyone]. [* NPI licensed by interrogative *how* clause]
 b. I wonder [**how** any animals exist here]. [* NPI licensed by interrogative *how* clause]
 (Legate (2010: 127), ex. (19c, d))

- **Nor can an NPI contained within a CLHC be licensed by negation outside the clause (cf. 18):**

- (18) a. *Nobody told me [**how** she believes anyone]. [* NPI licensed in CLHC]
 b. *Nobody told me [**how** any fairies exist]. [* NPI licensed in CLHC]
 (Legate (2010: 127), ex. (20c, d))

- NPIs within definite DPs show same behaviour, in contrast to within *that*-clauses :

- (19) a. *Nobody told me [**the story** about anyone]. [* NPI licensed in DP]
 b. Nobody told me [**that** you believe anyone]. [NPI licensed in *that*-clause]
(Legate (2010: 127), ex. (18a, c))

3. The case for a DP analysis of CLHCs: distribution (Nye 2012)

- Legate (2010: 122): ‘the *how*-clause has the external distribution of a DP rather than a CP’

- (i) CLHCs can be coordinated with DPs → see section 3.1.
- (ii) CLHCs may occur as the complement to a preposition → see section 3.2.
- (iii) CLHCs cannot appear in positions not assigned case → see section 3.3.⁸

- Properties (i) and (ii) seem to be empirically accurate, but do not distinguish CLHCs from other *wh*-clauses (for which the accepted analysis is as a CP).
- Property (iii) does not appear to capture the empirical facts for CLHCs.

⁷ Grammaticality judgements apply to the NPI reading.

⁸ Legate in fact identifies five arguments, but I consider the argument that CLHCs ‘may appear coordinated under the empty case-marking preposition *of*’ to be subsumed under (ii), and the argument that CLHCs occur in the PP complement of a predicate which can take either CP or PP complements to be related to (iii).

3.1 CLHCs can be coordinated with DPs

- DP & CLHC

- (20) a. In Portsmouth, Francis King remembers [**the time** Olivia Manning's ashes were buried in Mike and Parvin's garden on the Isle of Wight] and [**how** afterwards Neville Braybrooke, who wrote Olivia's biography, recited a poem which I've never forgotten].⁹
 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].¹⁰

However: strict categorial identity is not a precondition for coordination (see Huddleston and Pullum 2006¹¹).

- DP & *that*-clause

- (21) Given [**Sartre's other liaisons**], and [**that** this was the height of the women's movement], it seems to fly in the face of common sense.¹²

- embedded resolute CP & DP & embedded exclamation & CLHC

- (22) They had been talking about [**what** their menfolk were up to] ("I hope mine is painting the kitchen," said Hughes) and [**the quality** of bras from Primark], but also, of course, about [**what a lovely girl** Kate seemed to be], and [**what a good King** William would make], and [**how** this was a little slice of history in the making].¹³

- CLHC & *that*-clause

- (23) And so, in his Scottish island croft in August, Darling, 55, did tell her (the Guardian's Decca Aitkenhead) everything about [**how** he hates public kissing and Cherie Blair's memoirs], [**how** other people want his job and reshuffles are a rotten idea]; [**how** he realised quite how bad the economic crisis was when he picked up the FT in a supermarket in Majorca], and er, [**that** he reckoned that crisis was the worst for 60 years].¹⁴

3.2. CLHCs may occur as the complement to a preposition

- (24) a. They told me about [**how** the tooth fairy doesn't really exist]. [P + CLHC]
 b. They told me about [**the tooth fairy's non-existence**]. [P + DP]
 c. * They told me about [**that** the tooth fairy doesn't really exist]. [* P + *that*-clause¹⁵]
 (Legate 2010: 122, ex. (2a-c))

- P + CLHC

- (25) a. Even if we had to suffer to the end of the bloody thing, that would be poignantly emblematic of **how** women have historically suffered, wouldn't it?¹⁶

⁹ From *The Observer*, 06.07.2008, p.32 col.5.

¹⁰ From *Larry's Party*, Carol Shields (2006), London: Harper Perennial, p.244.

¹¹ Huddleston and Pullum (2006: 201) express the restriction on coordination as follows: 'A coordination of α and β is admissible at a given place in sentence structure if and only if each of α and β is individually admissible at that place with the same function.' Thus if DPs and CPs are both able to be selected as the complement of a given matrix predicate or preposition, the fact that they can be coordinated should not be surprising.

¹² From *The Guardian*, G2, 10.06.2005, p.8, col. 1-2.

¹³ From *The Guardian*, 30.04.2011 p. 6 col 2.

¹⁴ From *The Guardian*, 29.12.2008, p.8 col.3/p.9 col.1.

¹⁵ It has been claimed that the restriction on a *that*-clause CP occurring as complement to a preposition is not absolute. Yamabe (1993:119) argues that 'a *that*-clause is a legitimate object of prepositions', but that morphological constraints rule out the sequence 'P *that*', where a syntactic relation holds between P and *that*.

- b. There is a real backward trend in **how** women are increasingly objectified in magazines, and obsession with image and the perfect female form has reached an absolute frenzy.¹⁷

However:

- P + *wh*-clause

- (26) a. He asked me about [**how** I was feeling]. [P + interrogative-*how* clause]
 b. He told me about [**how** she was feeling]. [P + resolute-*how* clause]
 c. She boasted about [**how fast** she could run]. [P + degree-*how* clause]
 d. I'm concerned about [**whether** we'll make it on time]. [P + *whether*-clause]

3.3. CLHCs cannot appear in positions not assigned case

- With predicates which can take a CP or PP complement, CLHCs must occur within the PP complement:

- (27) a. I fretted about [**how** the tooth fairy doesn't exist]. [*fret* + P + CLHC]
 b. I fretted [**that** the tooth fairy doesn't exist]. [*fret* + *that*-clause]
 c. * I fretted [**how** the tooth fairy doesn't exist]. [* *fret* + CLHC]
 (Legate 2010: 124, ex. (6a)-(c)).
- (28) a. I'm embarrassed of [**how** I changed seats because he appeared while sleeping to be dangerous]. [*be embarrassed* + P + CLHC]
 b. I'm embarrassed [**that** I changed seats because he appeared while sleeping to be dangerous]. [*be embarrassed* + declarative CP]
 c. * I'm embarrassed [**how** I changed seats because he appeared while sleeping to be dangerous]. [* *be embarrassed* + CLHC]
 (Legate 2010: 124, ex. (6a)-(c)).

However:

- (29) a. I used to be really embarrassed [**how** I didn't know much about cooking].¹⁸
 b. Today Captain Chris will be the first to admit that he is embarrassed [**how** he thought of himself as a true "tough guy" at the time, and even considered getting involved in the hot new martial arts craze back then: Ultimate Fighting and Mixed Martial Arts].¹⁹ [*be embarrassed* + CLHC]
- (30) a. Meanwhile, passengers who made it back to the UK yesterday told of [**how** they learnt of the airline's collapse via text messages from home, or saw the news on TV].²⁰ [*tell of* + CLHC]
 b. A former dancer has told [**how** she almost broke sleazy Italian Prime Minister Silvio Berlusconi's wrist when he tried to fondle her at one of his infamous parties].²¹ [*tell* + CLHC]
- (31) a. A reminder of what you ask? A reminder of **how** the stock market can be divorced from economic realities for a period of time.²² [*a reminder of* + CLHC]
 b. A reminder **how** our lives can change in the blink of an eye²³ [*a reminder* + CLHC]

¹⁶ From <http://www.guardian.co.uk/stage/theatreblog/2011/oct/04/walk-out-top-girls-caryl-churchill>, 04.10.2011.

¹⁷ From *The Observer* 21.12.2008, p.2 col. 3.

¹⁸ From <http://startcooking.com/blog/88/Chicken-Stir-Fry-with-Scallions>. Accessed on 16/08/2010.

¹⁹ From <http://www.closecombattraining.com/captainchris.php>. Accessed on 16/08/2010.

²⁰ From *The Observer* 14.09.2008, p.7 col.3.

²¹ From <http://www.dailymail.co.uk/news/worldnews/article-1200736/I-nearly-broke-Berlusconis-wrist-Former-dancer-complains-Italian-PMs-wandering-hands.html>. Last accessed on 12.03.2012.

²² <http://www.zerohedge.com/news/david-rosenberg-its-gas-gas-gas>. Last accessed 16.04.2012.

²³ <http://members.boardhost.com/inthepink/msg/1334501387.html>. Last accessed 16.04.2012.

- CLHCs are excluded from other positions to which no case is assigned:

- (32) a. * It was conceded [**how** the tooth fairy doesn't exist]. [* CLHC in non-case position]
 b. * It was conceded [**the tooth fairy's non-existence**]. [* DP in non-case position]
 c. It was conceded [**that** the tooth fairy doesn't exist]. [declarative CP in non-case position]
 (Legate 2010: 124 ex. (7))

However:

- (33) a. It's funny [**how** the tooth fairy doesn't exist]. [CLHC in non-case position]
 b. * It's funny [**the tooth fairy's non-existence**]. [* DP in non-case position]
 c. It's funny [**that** the tooth fairy doesn't exist]. [declarative CP in non-case position]
- (34) a. It's interesting [**how** all these bankers have been writing in detailing their experiences and woes after being laid off.].²⁴
 b. It's strange [**how** good can come out of tragedy].²⁵
 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'].²⁶

Table 1 - Summary of the behaviour of complement types on Legate's (2010) distributional tests

	Distributional test	<i>that</i> -clause	<i>wh</i> -clause	CLHC	DP
3.1	can be coordinated with DPs	✓	✓	✓	✓
3.2	may occur as the complement to P	*	✓	✓	✓
3.3	can occur in the PP complement of a predicate which can take either CP or PP complements	*	✓	✓	✓
	must occur in the PP complement of a predicate which can take either CP or PP complements	n/a	*	*	✓
	cannot occur in non-case position in <i>it</i> -passive	*	✓	✓	✓
	occur extraposed with <i>be funny/strange/interesting</i>	✓	%✓	✓	*

❖ **Conclusion section 3:**

- Diagnostics (i) and (ii): behaviour of CLHCs is compatible with a DP analysis, but other *wh*-clauses, standardly analysed as CPs, also show the same behaviour.
- Diagnostic (iii): CLHCs are shown not to pattern consistently like DPs, but sometimes rather to pattern like *that*-clause or *wh*-CPs.

²⁴ From *The Observer*, 25.05.2008 p.6 col.1.

²⁵ From *The Observer*, 16.03.2008 p.9 col.5.

²⁶ From *The Independent*, 29.07.2008, p.25 col.3.

4. The case for a CP analysis of CLHCs: distributional evidence from Dutch

4.1. CLHCs and the middlefield

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

- (35) a. Ik zal [**dat verhaal**] nooit vergeten. [DP]
 I will that story never forget
 'I will never forget that story.'
- b. Ik zal [**het feit dat hij me toen niet geholpen heeft**] nooit vergeten. [heavy 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, are excluded from this position²⁷:

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

4.2. CLHCs and extraposition

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

- (37) a. *Ik zal nooit vergeten [**dat** verhaal]. [DP]
 I will never forget that story
 'I will never forget that story.'
- b. *Ik zal nooit vergeten [**het feit dat hij me toen niet geholpen heeft**]. [heavy 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, are perfectly grammatical in 'extraposed' position:

- (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]. [*wh*-CP]
 I will never forget why he me not helped has
 'I will never forget why he didn't help me.'

²⁷ Barbiers (2000) claims that factive *dat*-clauses are permitted to occupy the middlefield position in Dutch. The judgements given above are those given by speakers completing the informal questionnaire survey I conducted.

❖ **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, as. 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

4.3. The position of CLHCs in relation to PP complements

- o Dutch 'DP complements must precede PP complements' (Barbiers 2000:189).
- o Dutch 'CP complements must follow PP complements' (Barbiers 2000:189).

- (39)a. Ik vertelde [**dat verhaal**] aan Marie. [DP>PP]
 I told that story to Marie
 b. ??/*Ik vertelde aan Marie [**dat verhaal**]. [??/*PP>DP]
 I told to Marie that story
 'I told that story to Marie.'
- (40) a. ?? Ik vertelde [**dat hij me nooit geholpen had**]aan Marie. [??CP>PP]
 I told that he me never helped had to Marie
 b. Ik vertelde aan Marie [**dat hij me nooit geholpen had**]. [PP>CP]
 I told to Marie that he me never helped had
 'I told Marie that he had never helped me.'
- (41) a. ?? Ik vertelde [**hoe hij me in al die jaren nooit geholpen had**] aan Marie.
 I told how he me in all these years never helped had to Marie [??CLHC>PP]
 b. Ik vertelde aan Marie [**hoe hij me in al die jaren nooit geholpen had**].
 I told to Marie how he me in all these years never helped had [PP>CLHC]
 'I told Mary how in all these years he had never helped me.'

Table 2 - Summary of the distributional behaviour of complement types in Dutch

	Distributional test	<i>that</i> -clause	<i>wh</i> -clause	CLHC	FR	DP
4.1	middlefield position	*	*	*	?√	√
4.2	extraposed position	√	√	√	√	*
4.3	preferred order PP>XP	√	√	√	n/a	*

Generalisation → CLHCs distribute like CPs, not DPs

5. The case for a CP analysis of CLHCs: CLHCs as *wh*-CPs➤ CLHC/*that*-clause

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

➤ resolutive interrogative²⁸

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

➤ embedded exclamative

- (44) 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.

➤ *CLHC/+ *that*-clause

- (45) 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.

➤ * resolutive interrogative

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

➤ * embedded exclamative

- (47) 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

²⁸ See Ohlander (1986), McCloskey (2006) on the difference between 'true' and 'resolutive' ("answer-to-question") embedded interrogatives. Predicates such as *ask/wonder/want to know* embed only 'true' interrogatives, thus do not permit CLHC (Legate 2010: 124) or exclamative complements. This is taken to be the result of semantically incompatibility (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.
 c. * She asked/wondered/wanted to know **what a great footballer** he had been.

- Note that although *wh*-clauses and factive *that*-clauses to a large extent occur under the same range of predicates (Egré 2008), the distribution of CLHCs is conditioned by *wh*, not by factivity:

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

- (48) 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]
 c. *I'm happy/glad/sorry **why** he had left. [*embedded exclamative]
 d. *I'm happy/glad/sorry **what a great footballer** he is. [*resolutive interrogative]

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

- (49) 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]
 c. Sandra also described/detailed/discussed **why** he had left. [embedded exclamative]
 d. Sandra also described/detailed/discussed **what a great footballer** he had been. [resolutive interrogative]

➤ Complement to a preposition (Legate 2010: 122, cf. section 3.2 above)

- (50) 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]

Table 3 - The distribution of CLHC, resolutive, exclamative and factive *that* complement clauses²⁹

		CLHC	resolutive	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	✓	✓	✓	*

→ **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.

²⁹ Huddleston (1993) notes a correlation between the distribution of exclamatives and embedded interrogatives.

6. Properties particular to CLHCs

- **Distributional puzzle:** the exclusion of CLHCs from the following contexts:
- preposed → section 6.1.1
 - as clausal subjects → section 6.1.2
 - as fragment answers → section 6.1.3
 - as focus of an *it*-cleft → section 6.1.4

6.1.1. Preposing

- that-clause

(51) a. [**That** he had never been interested in travelling], he told me a long time ago.
 b. He told me a long time ago [**that** he had never been interested in travelling].
- DP

(52) a. [**The tales from his travels**], he told me a long time ago.
 b. He told me [**the tales from his travels**] a long time ago.
- wh-clauses

(53) a. [**How** exactly he had made his fortune], he told me a long time ago.
 b. He told me [**how** exactly he had made his fortune] a long time ago.

(54) a. [**How very difficult** it was to get my first job], I will never forget.
 b. I will never forget [**how very difficult** it was to get my first job].
- CLHC

(55) a. * [**How** he had never been interested in travelling], he told me a long time ago.
 b. He told me a long time ago [**how** he had never been interested in travelling].

6.1.2. Clausal subjects

- that-clause

(56) a. [**That** he's never here on time] is funny/interesting.
 b. It's funny/interesting [**that** he's never here on time].
- DP

(57) a. [**His repeated lack of punctuality**] is funny/interesting.
 b. * It's funny/interesting [**his repeated lack of punctuality**].
- wh-clauses

(58) a. [**How** exactly he had made his fortune] was unclear to us all.
 b. It was unclear to us all [**how** exactly he had made his fortune]

(59) a. [**How very difficult** it was to get my first job] was surprising to me at the time.
 b. It was surprising to me at the time [**how very difficult** it was to get my first job].
- CLHC

(60) a. * [**How** he's never here on time] is funny/interesting.
 b. It's funny/interesting [**how** he's never here on time]

- Clausal subjects as topics? (Koster 1978, Alrenga 2005, Takahashi 2010)
→ exclusion of CLHCs as clausal subjects subsumed under their exclusion from preposed position.
- Moved clauses must be dominated by a (null) D-layer (Dubinsky and Davies 1999, Takahashi 2010)? If CLHCs are DPs, their inability to be preposed is particularly surprising.

6.1.3. Fragment answers

- that-clause
(61) A: What did you learn about the earthquake?
B: **That** the rescue team had arrived too late to help those buried in the debris.
- DP and wh-clauses
(62) A: What did you learn from him?
B: **The recipe** for that wonderful cake of his.
B': **How** he had made that wonderful cake of his.
B'': **How** quickly one can change one's mind.
- CLHC
(63) A: What did you learn about the earthquake?
B: * **How** the rescue team had arrived too late to help those buried in the debris.
B': We learnt [**how** the rescue team had arrived too late to help those buried in the debris].
(64) A: What do you remember most about him?
B: * **How** he never complained about his lot in life.
B': I remember [**how** he never complained about his lot in life].
- If fragment answers are derived by fronting of the fragment prior to ellipsis of the rest of the clause (Merchant 2005), then the impossibility of CLHCs occurring as fragment answers may reduce to the same restriction on CLHCs being preposed.

6.1.4. Focus of an *it*-cleft

- (65) a. It's [**her tardiness**] that is frustrating. [DP]
b. It's [**how frequently** she is late] that is frustrating. [wh-clause]
c. It's [**that** he never even lets us know he'll be late] that is frustrating. [that-clause]
d. * It's [**how** he never even lets us know he'll be late] that is frustrating. [CLHC]
- (66) It's frustrating [**how** he never even lets us know he'll be late].
- Whether the cleft involves *that*, or whether it involves *which* (cf. De Cuba and Ürögdi 2009), a CLHC in focus position of a cleft remains ungrammatical³⁰:

³⁰ CLHCs are acceptable in pseudo-clefts, showing that they are compatible with being focussed:

(i) What is funny is [**how** he is never around when there's work to be done].

From <http://forum.prisonplanet.com/index.php?topic=222717.0>. Accessed on 30.03.2012.

(ii) what we talked about is [**how** in their communities of practice perhaps the most important thing that's happened is that people have learned they are not alone]

From <http://berkanacollaborative.org/category/strenght-based/>. Accessed on 30.03.2012.

- (67) a. I resent [**that/how** he never even offers to help].
 b. It's [**that** he never even offers to help that/which I resent].
 c. * It's [**how** he never even offers to help that/which I resent].

Table 4 - Summary of the behaviour of complement types on additional distributional tests

	Distributional test	CLHC	DP	<i>that</i> -clause	<i>wh</i> -clause
6.1.1	clausal subjects				
	a) "subject position"	*	✓	✓	✓
	b) can be extraposed with expletive <i>it</i> as subject	✓	*	✓	%✓
6.1.2	preposing	*	✓	✓	✓
6.1.3	use as fragment answers	*	✓	✓	✓
6.1.4	focus of an <i>it</i> -cleft	*	✓	✓	✓

Hypothesis: CLHCs are excluded from positions derived by movement.

6.2 Accounting for the restricted distribution of CLHCs: clausal integration

- In their apparent immobility, CLHCs appear to differ from all other complement types in English³¹.
- However: cross-linguistically, other clauses show similar behaviour.

6.2.1 Wurmbrand 2012: Degrees of integration of German clause-clause combinations

- Syntactic mobility as evidence for degree of syntactic integration.
- German embedded V2 and free *dass* clauses - **partially integrated clauses**.

Table 5 - Properties of German clauses with different degrees of integration

	Syntactically mobile	Bound variable interpretation	(German) example
Fully-integrated clause	✓	✓	<i>dass</i> -complement clause
Partially integrated clause	*	✓	embedded V2, 'free'- <i>dass</i> clause
Non-integrated clause	*	*	<i>weshalb</i> clause

➤ **Fully integrated clauses:** complement *dass*-clauses³²

- (68) a. Ich kann ihr erzählen, [**dass** Peter in Paris ist].
 I can her tell.INF that Peter in Paris is
 'I can tell her that Peter is in Paris.'
 b. [**Dass** Peter in Paris ist], kann ich ihr erzählen.
 That Peter in Paris is can I her tell.INF
 'That Peter is in Paris, I can tell her.'
 c. Jeder_i möchte gern glauben, [**dass** er_i unheimlich beliebt sei].
 Everyone would like gladly believe.INF that he immensely popular is.SUBJ
 'Everyone_i would like to believe that he_i is immensely popular.'

³¹ With the possible exception of complementiser-less embedded declaratives. This requires investigation.

³² Examples in this section are modelled on those which Wurmbrand (2012) quotes from Reis (1997).

➤ **Non-integrated clauses:** *weshalb* clauses

- (69) a. Tom hat sich auch beworben, [**weshalb** ich hiermit zurücktrete].
 Tom has REFL also applied for-which-reason I hereby withdraw
 'Tom has also applied, so I hereby withdraw.'
- b. * [**Weshalb** ich (hiermit) zurücktrete], hat Tom sich auch beworben.
 for-which-reason I (hereby) withdraw has Tom REFL also applied
- c. * Jeder_i plant einen Urlaub, [**weshalb** er_i schon jetzt vergnügt ist].
 Everyone_i plans a holiday for-which-reason he already now happy is
 Intended: 'Everyone_i is planning a holiday, which is why he_i is already happy.'

➤ **Partially integrated clauses:** embedded V2 and 'free' *dass*-clauses- **Embedded V2 clauses**

- (70) a. Jeder_i möchte gern glauben, [**er_i sei** unheimlich beliebt].
 Everyone would like gladly believe.INF he is.SUBJ immensely popular
 'Everyone_i would like to believe that he_i is immensely popular.'
- b. * [**Er_i sei** unheimlich beliebt], möchte jeder_i gern glauben.
 He is.SUBJ immensely popular would like everyone gladly believe.INF
- c. * Er sei zur Tatzeit in Paris gewesen, wurde ihm geglaubt.
 He is.SUBJ at.the time-of-the-crime in Paris been was him believed
 Intended: 'He was believed to have been in Paris at the time of the crime.'

- (71) A: Was würdest du in diesem Fall glauben?
 What would you in this case believe
 'What would you believe in this case?'
- B: * Fritz hätte gelogen.
 Fritz had.SUBJ lied
 Intended: '(That) Fritz had lied.'

- **Free *dass* clauses**

- (72) a. Jeder_i war blöd, [**dass** er_i darauf eingegangen ist].
 Everyone was stupid that he there.to responded is
 'Everyone was stupid to have responded to it.'
- b. * [**Dass** du nicht kommst], bist du blöd.
 that you not come are you stupid
 Intended: 'You're stupid not to come.'

Contrast with complement *dass* clause:

- (73) [**Dass** du nicht kommst], ist blöd.
 that you not come is stupid
 'That you're not coming is stupid.'

- (74) A: Warum ist Fritz blöd?
 Why is Fritz stupid
 'Why is Fritz stupid?'
- B: * Dass er Erna's Nerzmantel bezahlt.
 that he Erna's mink-coat pays-for
 Intended: '(He's stupid) to pay for Erna's mink coat.'

- **CLHCs as partially integrated clauses?**

- (75) a. He told me a long time ago [**how** he had never been interested in travelling].
 b. * [**How** he had never been interested in travelling], he told me a long time ago.

- (76) A: What do you remember most about him?
 B: * **How** he never complained about his lot in life.

- (77) a. Every scout_i told me [**how** he_i had always been interested in travelling].
 b. Every girl_i told me [**how** she_i wanted to become a professor].

6.2.2 Accounting for degrees of integration (Wurmbrand 2012)

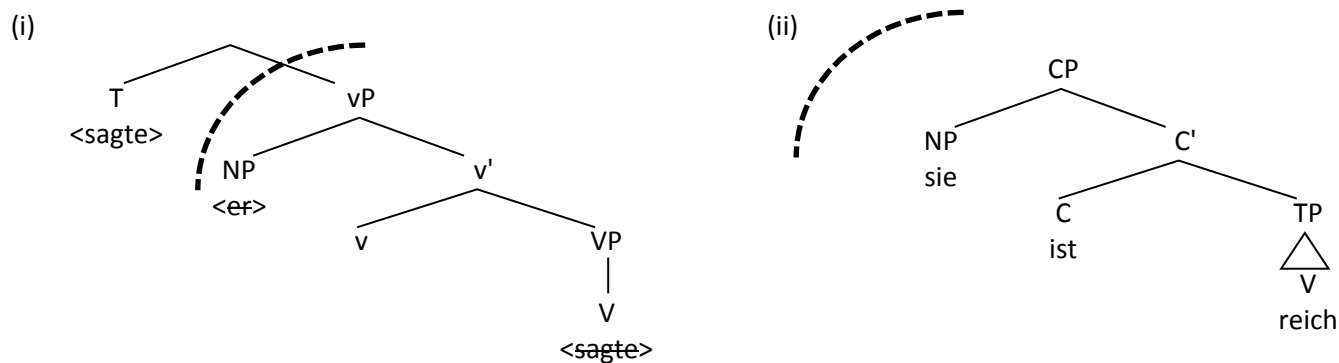
- Fully integrated clauses: Merge in Syntax
- Partially integrated clauses: Merge at Transfer

➤ Preliminaries:

- Highest projection in a cyclic domain is a phase:
 - aspect domain: theta domain + event structure/Aktionsart dependent aspect (progressive, perfective, imperfective).
 - T+C domain: discourse domain, mood, tense, modal domain.
- Spell-out of complement of phase head.
- Spelled-out domains are visible for further computation, but 'untouchable' for syntax:
 - no movement out of a spelled-out domain.
 - no syntactic Agree into a spelled-out domain.
 - LF/semantic relations e.g. variable binding are possible.
- CP_{IL} projected at Transfer if nothing merges with CP in syntax.
- Counter-cyclic merge of CP_{IL} with V, satisfying selectional properties of matrix predicate.

- (78) Er sagte, sie ist reich.³³
 He said she is rich.

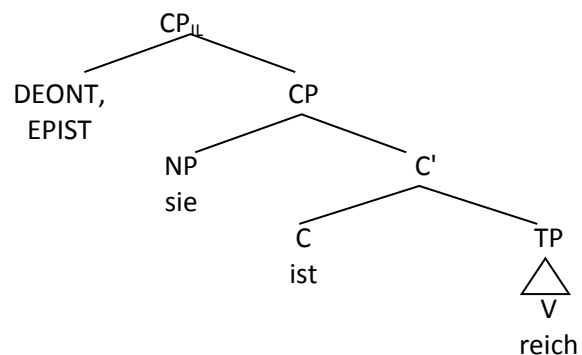
- a) Syntax: matrix vP and embedded CP built in two workspaces



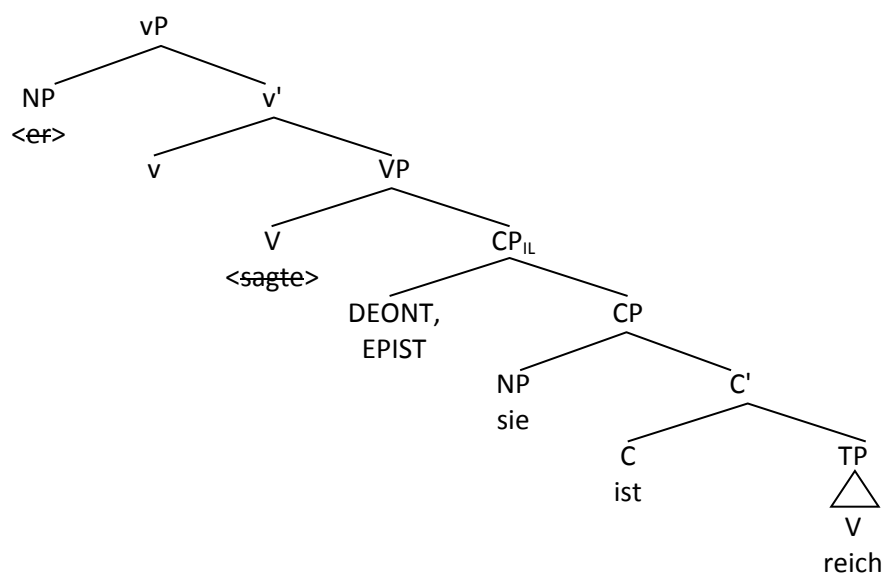
³³ All discussion and illustration in this section is taken from Wurmbrand (2012). The derivation given in (78) is her (15).

b) Transfer:

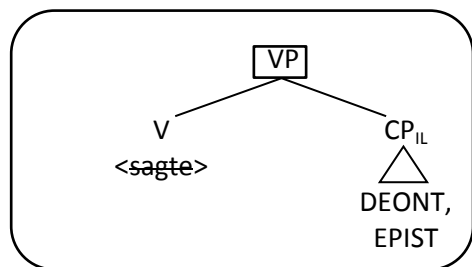
(i) Project CP_{IL}



(ii) Merge



c) Spell-out



→ CLHCs as partially integrated clauses merged at Transfer?

6.4 What such an account could explain

- partially-integrated behaviour of CLHCs:
 - variable binding from matrix clause into CLHC possible.
 - CLHC is syntactically immobile (can't be fronted, clausal subject, fragment answer, focus of an *it*-cleft).
- strong island status of CLHCs: if CLHCs are merged at transfer, then not only are they immobile in syntax, but nothing can be extracted from them either.
- exclusion of 'long-distance' CLH: also accounts for the fact that CLH itself can't raise into the matrix clause.
- particular interpretation of CLHCs (see section 8): precise content of CP_{IL} determined by structure and feature of lower CP.

6.5. Potential difficulties with such an approach

- NPIs: recall that NPIs in CLHCs can't be licensed by negation in the matrix clause:
- (79) a. *Nobody told me [**how** she believes anyone]. [* NPI licensed in CLHC]
b. *Nobody told me [**how** any fairies exist]. [* NPI licensed in CLHC]
(Legate (2010: 127), ex. (20c, d))
- Why isn't the c-command from matrix clause into embedded clause which is required for NPI licensing possible at LF, as the c-command relation required for binding is?
- Note however: factive *that*-clauses are syntactically mobile, yet still NPIs in the embedded clause cannot be licensed by matrix negation:
- (80) a. [**That** she told the police about the robbery] is surprising.
b. [**That** she told the police about the robbery], nobody resents.
c. A: What does John resent?
B: **That** she told the police about the robbery.
- (81) a. *Nobody resents [**that** she told anyone about the robbery].
b. *Nobody was pleased [**that** she told anyone about the robbery].
- OP in LP of factive clause blocks long-distance relation between negative operator and NPI? (De Cuba 2010).
- expletives (correlates): indicate syntactic movement ("extraposition")
- (82) a. Ich kann (**es**) ihr erzählen, [**dass** Peter in Paris ist]. [German fully-integrated clause]
I can (it) her tell.INF that Peter in Paris is
'I can tell her that Peter is in Paris.'
b. Hans hat (***es**) geglaubt, [**Peter geht** dahin zu Fuss]. [German partially-integrated clause]
Hans has (*it) believed, Peter goes there to foot
'Hans believed that Peter is going there on foot.'

- (83) a. Ik zal nooit vergeten [**dat** hij me toen niet geholpen heeft]. [Dutch *dat*-clause]
 I will never forget that he me then not helped has
 'I'll never forget that he didn't help me then.'
 b. Ik zal nooit vergeten [**hoe** hij me toen niet geholpen heeft]. [Dutch CLHC]
 I will never forget how he me then not helped has
 'I'll never forget how he didn't help me then.'

- (84) a. Ik zal **het** nooit vergeten [**dat** hij me toen niet geholpen heeft]. [Dutch *dat*-clause]
 I will it never forget that he me then not helped has
 'I'll never forget it that he didn't help me then.'
 b. ?? Ik zal **het** nooit vergeten [**hoe** hij me toen niet geholpen heeft]. [Dutch CLHC]
 I will it never forget how he me then not helped has

- But:

- (85) a. I love **it** [**how** Rob Schneider is in every film with Adam Sandler].³⁴
 b. I can't stand **it** [**how** people are becoming fans of EVERYTHING!]³⁵

➤ Non-complement contexts where CLHCs can occur:

(i) small clause subjects

(86) I found [**how** in all those years he never took time off] quite amazing.

(ii) post-verbal subjects

(87) Also disappointing was [**how** she never contacted me again after the incident].

(iii) 'extraposed' subjects

(88) It's amazing/interesting [**how** John's never around when there's work to be done].

- Does the derivation of such clauses involve movement of the CLHC? (How) can such clauses be accounted for using Wurmbrand's approach?

Summary Part 1:

- CLHCs are CPs not DPs (distributional arguments).
- CLHCs appear to be selected as *wh*-CPs (complement to particular matrix predicates, prepositions).
- Common distribution to resolutives, embedded exclamatives in terms of predicates they occur under.
- In lack of syntactic mobility, distribution of CLHCs differs from DPs, *that*-clauses, other *wh*-CPs in English → CLHCs as partially-integrated clauses.

³⁴ From <http://www.facebook.com/pages/i-love-it-how-Rob-Schneider-is-in-every-film-with-Adam-Sandler/198749844894>. Last accessed 23.04.2012.

³⁵ <http://www.facebook.com/pages/i-cant-stand-it-how-people-are-becoming-fans-of-everything/264775254394>. Last accessed 23.04.2012.

PART 2: THE INTERNAL SYNTAX OF CLHCs

7. Complementiser-like properties of CLH

- Willis (2007), Van Gelderen (2009): CLH as declarative complementiser - C head in the syntax.

- (a) Finiteness restriction³⁶ → 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)

- (89) 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. [CLHC - \forall , embedded interrogative - *]
- (90) 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]
- (91) 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].³⁷
 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].'³⁸

(d) No scope interactions

- (92) 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)
- (93) 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):

- (94) 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... [$\forall > wh$]
- (95) 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*-phrases³⁹, but only the latter is associated with a trace.

³⁶ Note that Kayne (1991: 665) attributes the following contrast to *whether* being a *wh*-phrase whilst *if* is a complementiser.

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

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

³⁷ From *Silence of the Grave*, Arnaldur Indridason, translated by Bernard Scudder (2005), Vintage 99.

³⁸ From *Larry's Party*, Carol Shields (2006), (first published UK 1997), London: Harper Perennial, p.244.

(e) Main Clause Phenomena (MCP)➤ Negative preposing in CLHCs

- (96) a. He discovered [**how at no point** in the recruitment exercise was she asked about his private interests and shareholdings.
 b. We were talking about [**how under no circumstances** would we ever want to hang out with Dr. Phil]⁴⁰
 c. they told me [**how never in their lives** have they ever climbed a tree].⁴¹

➤ Argument fronting in CLHCs

- (97) a. when I think [**how what they earned in 40 years** I could earn in a few months]...⁴²
 b. John told me [**how this book**, he hadn't read until last weekend] (but *that one* he had already read last summer).
 c. Kate remembered [**how chocolate**, he had always liked] (but never sweets).
- (98) a. * He told me [**how the cake** he had made ~~the cake~~]. [resolutive interrogative]
 b. * Kate remembered [**how the guitar** he had played ~~the guitar~~]. [resolutive interrogative]
- (99) a. I believe **that** [this book, John has read ~~this book~~]. [non-factive *that*-clause]
 b. * I regret **that** [this book, John has read ~~this book~~]. [factive *that*-clause]

❖ **Aside: MCP in CLHCs**

- Occurrence of MCP in CLHCs is particularly intriguing given their factivity (see section 2.1).
- Standard claim in the literature is that MCP are excluded from factive (*that*-)clauses, either because of:
 - o semantic incompatibility (Hooper and Thompson 1973, and much subsequent literature): MCP rely on assertion, hence can't occur in presupposed clauses.
 - o syntactic incompatibility (Emonds 1970, and much subsequent literature): the necessary structure to host MCP is not available in non-root(-like) clauses.
- The propositional content of a CLHCs is presupposed, yet such clauses nevertheless seem to permit MCP. How can this be accounted for?
- Possible leads - factivity doesn't rule out all MCP:
 - (i) Hooper and Thompson (1973) already note that some speakers permit (certain) MCP in factive clauses (although this issue has received next to no attention in the subsequent literature).
 - (ii) Bianchi & Frascarelli (2012): English contrastive topicalisation can occur in factive clauses.

³⁹ 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))

⁴⁰ Example from http://www.posh24.com/hulk_hogan/1. Last accessed 17.03.2012.

⁴¹ Example from <http://brighteyezx01.livejournal.com/>. Last accessed 01.04.2012.

⁴² Example from

<http://www.thefreelibrary.com/Interview+Michael+Greco%3A+I%27m+guttled+at+being+axed+..+I%27ve+such+a+lot...-a082951821>. Last accessed 17.03.2012.

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

- external syntax (distribution): shared with other *wh*-clauses and partially integrated 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*)

- **However: CLH as *wh*-phrase not, complementiser:**

➤ **Basque**⁴³

(100) 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.'

(101) 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.'

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

(103) 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.'

➤ **Dutch**⁴⁴

(104) 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.'

(105) 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.'

(106) Ik bewonder [**hoe(dat)** ze zingt].⁴⁵ [free relative]
 I admire how that she sings
 'I admire how she sings.'

- No such direct evidence available from English, although:

(107) I know [**how that** what people valued and believed during different times in history affects how they wrote stories and informational articles].⁴⁶

⁴³ 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).

⁴⁴ 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.

⁴⁵ Thanks to Karen De Clercq for providing this example.

8. 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.
- 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 or from MCP (Haegeman 2012), no scope effects
- CLH must be merged high in the left periphery
 - precedes MCP

8.1 The site of Merge of CLH

- If CLH is merged in the specifier of a projection high in the clausal LP, which projection is this?
- To determine this, need to have establish what the interpretive import of CLH is.

➤ **Factivity** (see section 2.1)

- For Legate, the factivity of CLHCs is an argument in favour of their DP status.
- However, other accounts have been offered of CLHCs as CPs:
 - factivity is the result of operator movement: Aboh (2005), Haegeman and Ürögdi (2010).
 - factivity (degree of presuppositionality) is the result of feature content: Baunaz (2012)

- (108) (i) *que* [- presuppositional], (non-quantificational)
 (ii) *que* [+presuppositional, + partitive], (quantificational)
 (iii) *que* [+presuppositional, + partitive,+ specific], (quantificational)

➤ **Narrativity**

- Factivity is an important ingredient in characterising interpretive import of CLHCs, but not the only one.
- 'this use of *how* is by no means straightforwardly equivalent to *that*' (Warner 1982: 181).

- (109) a. It's funny [**that** he's never here when there's work to be done].
 b. It's funny [**how** he's never here when there's work to be done].

- Intuition that CLHCs add 'something extra'. But what? And how to capture it?

- (110) a. Paul told me that he was in love with Mary.
 b. Paul told me how he was in love with Mary. ((Warner 1982: 182, ex (22), (23))

⁴⁶ From <http://www.manatee.k12.fl.us/sites/elementary/samoset/Grade4readcolor.pdf>. Last accessed on 22/10/2009.

- 'In (b) the speaker can hardly be reporting Paul's use of just the words *I am in love with Mary*, as they can in (a): some further comment to Paul's statement is suggested, and the speaker merely reports the gist of it' (Warner 1982: 182).
- *how* preferred to *that* when the complement clause:
 - o contains a narrative or part of a narrative
 - o is a summary of a statement or a narrative
 - o conveys the meaning or interpretation of something (Warner 1982: 181)
- CLHCs denote 'une série d'événements successifs qui composent ensemble un récit auquel réfère la proposition introduite par *comment*' (Defrancq 2002 : 194).

- (111) a. She told me **how** he had suddenly got up *(and left without saying a word).
 b. She told me **how** the bomb had exploded *(and killed dozens of people)

9. Conclusions and directions for further research

9.1 Conclusions

- Internal syntax: CLH as *wh*-phrase first merged in a projection high in the clausal left periphery
- External syntax: CLHCs as partially integrated *wh*-CPs?
- Many open questions for future research...

Table 6 - Overview of the properties of CLHCs and how they might be accounted for

	Property of CLHC	Potential explanation
1	finite only	CL _{how} base-generated high in LP
1	non-root only	?
2.1	factivity	feature content of CL _{how}
2.2	strong island	partially integrated clause
2.3	NPIs not licensed	?
3.1	coordination with DPs	<i>wh</i> -CP
3.2	complement of P	<i>wh</i> -CP
4.1	excluded from middlefield position (NL)	(<i>wh</i> -)CP
4.2	possible in extraposed position (NL)	(<i>wh</i> -)CP
4.3	PP > XP (NL)	(<i>wh</i> -)CP
5	complement of (particular) predicates	<i>wh</i> -CP
6.1	inability to be preposed	partially integrated clause
6.2	inability to occur as clausal subject	partially integrated clause
6.3	inability to be used as fragment answer	partially integrated clause
6.4	inability to occur as focus of an <i>it</i> -cleft	partially integrated clause
6.5	no 'long distance' CLH	partially integrated clause
7	no intervention effect from negation	CL _{how} base-generated in LP
7	no scope interactions	CL _{how} base-generated in LP
7	MCP permitted	CL _{how} base-generated high in LP
7	co-occurrence with a complementiser (NL, EU)	CL _{how} is a <i>wh</i> -phrase
8	particular interpretation of CLH	feature content of CL _{how} ; host projection high in LP

9.2 Directions for further research

- Other languages:
 - French: *comme* vs. *comment* (vs. *comme quoi*)
 - Italian: subjunctive? occurrence under negated matrix predicates?
 - Languages without CLH: Japanese, Norwegian, Swedish, Danish. Why?
- Other hows:
 - (i) feature content of interrogative and exclamative (\approx manner and degree) *how*.
 - (ii) how many *hows*? (Starke 2011)
- Other times:
 - CLHCs are attested as far back as Old English (López Couso & Méndez Naya 1996), so CLH isn't a recent development. Can we nevertheless see changes over time e.g. in contexts where CLHCs can occur?
 - CLH becoming less *wh*? Note the fact that some speakers appear to accept e.g. *the fact how*, *claimed how* - i.e. in contexts where DPs/FRs/*wh*-CPs are excluded, but *that*-clauses can occur. CLHCs as complements to P are still grammatical for such speakers, however.

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