The categorial status of Dutch and English declarative *hoe-/how*-complement clauses [*] [+]

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1. Introducing complementiser-like *how*

OBSERVATION: in English, there is a use of *how* whereby it seems to be able to replace *that* as a declarative complementiser – complementiser-like *how* (CLH)

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(1) a. I've never told her **that** he didn't help me.   *that*-clause complement
     b. I've never told her **how** he didn't help me.   CLHC complement
     c. I asked her **how** she'd travelled to the conference ~~how~~. embedded interrogative
                                                               how-clause complement

- There is no obvious gap in complementiser-like *how* clauses CLHCs (López Couso and Méndez Naya (1996)) – syntactically and semantically complete.

- Legate (2010): CLHCs as DPs with a null D head, which take CP complements. Evidence: factivity, distribution.

- Focus here is upon the distribution of CLHCs, in English and in Dutch.

AIM: to assess the claim that a DP analysis is the most appropriate one for CLHCs.

- <u>Two stages to this assessment</u>:

(i) reassessment of the arguments that Legate (2010) puts forward for a DP analysis of CLHCs in English.
     <u>Conclusion</u>: the tests do not point clearly to a DP analysis – all the 'DP' properties CLHCs demonstrate are also shown by *wh*-CPs.

(ii) data from a pilot study of native speakers of Dutch used to determine the categorial status of CLHCs in this language.
     <u>Conclusion</u>: CLHCs show more characteristics of CPs than of DPs.

Overview of the presentation:
    1. Introducing complementiser-like *how*
    2. Complementiser-like *how* clauses in English
    3. Complementiser-like *how* clauses in Dutch
    4. Towards an analysis of complementiser-like *how* clauses
    5. Conclusions
    6. Open questions for further research

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2. Complementiser-like *how* clauses in English

- Despite the superficial similarities English CLHCs show to *that*-clauses, Legate argues for their status as DPs.

LEGATE'S CLAIM: 'the *how*-clause behaves as a definite DP with presupposed propositional content' (Legate (2010: 122))

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

Argument (i): 'Like a DP, but unlike a CP, the *how*-clause may be the complement of a preposition' (Legate (2010: 122))

(2) 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*-clause

However:
(3) a. He asked me about [how I was feeling].   P+interrogative-*how* clause
    b. I'll find out about [how much money we'd need for that].   P+'answer to question'-*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

Evaluation of argument (i):

- In being able to occur as the complement of a preposition, CLHCs and DPs do pattern together to the exclusion of declarative CPs. But this is not the full picture – non-declarative CPs introduced by *wh*-words can also occur as the complement of prepositions.

Argument (ii): 'Coordination of the *how*-clause itself with a DP is also possible' (Legate (2010: 123))

(4) a. He regretted [his poor decisions] and [how he hadn't thought about the consequences for those close to him].   DP and CLHC
    b. I've never actually told her [the truth about my feelings] or [how I've never really got over what happened].   DP and CLHC

(5) a. He regretted [his poor decisions] and [the consequences of his actions for those close to him].   DP and DP
    b. I've never actually told her [the truth about my feelings] or [the fact that I've never really got over what happened].   DP and DP

- However, it is well-known that there are numerous counter-examples to the claim that coordination can only occur between constituents of the same type (see for instance, Huddleston and Pullum (2006)), as illustrated in (6) and (7)[1]:

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[1] Guardian, G2, 10/06/2005 p. 8, col. 1-2. Thanks to Liliane Haegeman for providing this example.

(6) a. He regretted [his poor decisions] and [that he hadn't thought about the consequences for those close to him].   DP and *that*-clause
b. I've never actually told her [the truth about my feelings] or [that I've never really got over what happened].   DP and *that*-clause

(7) 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.   DP and *that*-clause

Evaluation of argument (ii):

- CLHCs can indeed coordinate with DPs. Although this aspect of their behaviour makes CLHCs compatible with being analysed as DPs, as declarative CPs show the same behaviour, it does not make a strong case for this view.

> Argument (iii): 'the *how*-clause may appear coordinated under the empty case-marking preposition *of*' (Legate (2010: 123))

(8) Not to mention I don't approve of how you fib about how many horses you have or how much money you have, or how you constantly beg for more horses or more money.[2]

(9) a. They approved of [how Pat apologized contritely for being late]. *of* + CLHC
b. They approved of [Pat's contrite apology].   *of* + DP
c. *They approved of [that Pat apologized contritely for being late].* *of* + declarative CP

However:
(10) a. He was unsure of [how I was feeling].   P+interrogative-*how* clause
b. I am aware of [how much money we'd need for that].   P+'answer to question'-*how* clause
c. She boasted of [how fast she could run].   P+degree-*how* clause

(11) Fry often seems unsure of [whether he wants to stress satire or drama], and while a good film can be both, this film is neither.[3]   P+*whether*-clause

Evaluation of argument (iii):

Argument (iii) appears to hold. CLHCs, like DPs, and unlike *that*-clauses, can indeed follow *of*. However, once again, other clauses introduced by *wh*-words and typically considered to be CPs can also follow the empty case-marking preposition *of*.

> Argument (iv): 'For predicates that allow either a CP complement or a PP complement, the *how*-clause occurs in the PP' (Legate (2010: 123))

(12) 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* + declarative CP
c. * I fretted how the tooth fairy doesn't exist.   * *fret* + CLHC

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[2] Legate cites this example as attested from:
www.equination.net/forum/viewtopic.php?p=262880&sid=5c0d83311595420d4d6a959fae5e813c
[3] From http://www.popmatters.com/film/reviews/b/bright-young-things.shtml. Accessed on 17/08/2010.

(13)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

However:
        (14)a. I used to be really embarrassed how I didn't know much about cooking.[4]
                                                      be embarrassed + CLHC

        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.[5]
                                                      be embarrassed + CLHC

Evaluation of argument (iv):

-   Whilst for some predicates which are able to take either a PP or a CP complement (e.g. *fret*),
    CLHCs pattern like DPs in indeed only occurring in the PP, for other predicates (e.g. *be
    embarrassed*) CLHCs can either occur in the PP or replace the CP, thus exhibiting more
    clause-like behaviour.

Argument (v): 'the *how*-clause cannot appear in positions not assigned case' (Legate (2010: 124))

-   i.e. CLHCs <u>must</u> occur in case-marked positions:

    (15)a. * It was conceded how the tooth fairy doesn't exist.   * CLHC in non case-marked
                                                                       position
        b. * It was conceded the tooth fairy's non-existence.   * DP in non case-marked
                                                                       position
        c. It was conceded that the tooth fairy doesn't exist.   declarative CP in non case-
                                                                       marked position

-   However:
    (16) a. It's funny how the tooth fairy doesn't exist.   CLHC in non case-marked position
         b. * It's funny the tooth fairy's non-existence.   * DP in non case-marked position
         c. It's funny that the tooth fairy doesn't exist.   declarative CP in non case-marked
                                                                   position

Evaluation of argument (v):

-   With some predicates which do not assign case to their complement position (*be conceded*),
    CLHCs, like DPs, are excluded. However with other predicates (*be funny*) whilst DPs are still
    unable as complements, either a CLHC or a *that*-clause complement is possible. This suggests
    that perhaps it is not in fact absence of case-making which excludes examples such as (15a),
    for otherwise (16a) would be expected to be similarly ungrammatical.

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[4] From http://startcooking.com/blog/88/Chicken-Stir-Fry-with-Scallions. Accessed on 16/08/2010.
[5] From http://www.closecombattraining.com/captainchris.php. Accessed on 16/08/2010.

CLHCs in English: summary

Table 1: Summary of the behaviour of English CLHCs, DPs, declarative CPs and *wh*-CPs

	Argument	CLHC	DP	declarative CP (*that*-clause)	*wh*-CP	**Behaviour of CLHC**
(i)	can be the complement of a preposition	yes	yes	no	yes	**DP, *wh*-CP**
(ii)	can coordinate with a DP	yes	yes	yes	yes	**DP, declarative CP, *wh*-CP**
(iii)	can follow *of*	yes	yes	no	yes	**DP, *wh*-CP**
(iv)	occur in PP complement only of verbs which take a PP and a CP complement	not consistently	yes	no	no	**CLHC**
(v)	cannot appear in positions not assigned case	not consistently	yes	no	no	**CLHC**

- 2/5 of the distributional properties English CLHCs show are distinct to CLHCs.

- 3/5 are shared with DPs, all of which are also shared with *wh*-CPs, and one of which is also shared with declarative CPs.

CLHCs in English: conclusions

- In conclusion, it is indeed the case that English CLHCs perform more like DPs on the tests used by Legate than *that*-clauses do. However, when *wh*-CPs are also taken into consideration, these also pattern like DPs and CLHCs. There is therefore little concrete evidence in favour of the view that CLHCs themselves must necessarily be DPs.

3. **Complementiser-like *how* clauses in Dutch**

- CLHCs are not restricted to English – Legate gives examples from French, Greek and Hebrew, but they occur in many more languages besides. I will now turn my attention to Dutch CLHCs.

- Dutch is a verb-final language with clear distributional differences between CPs and DPs, which allows additional tests not available for English to be used to investigate further the hypothesis that CLHCs are DPs.

(17)a. *Ik heb haar nooit verteld **dat** hij me niet geholpen heeft.*
    I have her never told that he me not helped has
     'I've never told her that he didn't help me.'
  b. *Ik heb haar nooit verteld **hoe** hij me niet geholpen heeft.*
    I have her never told how he me not helped has
     'I've never told her how he didn't help me.'

(18)a. I've never told her **that** he didn't help me.
  b. I've never told her **how** he didn't help me.

- In the absence of any apparent interpretive differences between English and Dutch CLHCs, I will start from the assumption that a unified analysis for CLHCs in both languages is desirable.[6]

> HYPOTHESIS 1: CLHCs are definite DPs

- The data presented here is from a pilot questionnaire study of 15 native speakers of Dutch[7]. The sample includes speakers of both Southern and Northern Dutch.

- Once again, CLHCs do not pattern clearly and consistently as either CPs or DPs. However, overall, the outcome is that Dutch CLHCs in fact pattern more like the former than the latter.

Test A: verbs which select CP but not DP complements

- 'Epistemic verbs such as *denken* 'think' and *hopen* 'hope'...normally select a clausal or prepositional but not a nominal complement' (Barbiers (2000: 193)), as illustrated by (19a) and (19b)[8]:

    (19) a. *Ik denk/hoop dat niemand dat nog zal weten.*   CP complement
            I think/hope that nobody that still will know
            'I think/hope that nobody will remember that.'
    b. **Ik denk/hoop de waarheid.*   *DP complement
            I think/hope the truth.

- Such verbs cannot take CLHC complements either:

    (20) **Ik denk/hoop hoe niemand dat nog zal weten.*   *CLHC complement
            I think/hope that nobody that still will know

- The problem cannot be that CLHCs are factive, whilst *denken* and *hopen* are verbs which take only non-factive complements, as CLHCs can occur as the complement to both non-factive verbs (e.g. *vertellen*) (21) and factive verbs (e.g. *vergeten*) (22)[9]:

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[6] There appears to be a stylistic difference between CLHCs in Dutch and those in English. In Dutch, many speakers consider CLHCs to be a feature of formal, written language, whereas in English the opposite appears to hold, as indicated by the fact that their use is frowned upon by prescriptive grammars, as Legate (2010:221) observes. The issue of register is beyond the scope of this talk, where my concern is the grammaticality of CLHCs in English and Dutch, regardless of the register in which they occur.

[7] The questionnaires were constructed and the data collected together with Liliane Haegeman.

[8] That the restriction on these verbs taking a DP complement is not absolute is shown by the fact that strings such as (i) and (ii) are well-formed:

    (i)   *Ik denk het wel.*
            I   think it PRT
            'I think so.'
    (ii)   *Wat denk je?*
            What think you
            'What do you think?'

[9] Negation is used in the following examples in order to coerce a complementiser-like *how* rather than a manner *how* reading.

(21)a. *Ik zal haar nooit vertellen dat hij me toen niet geholpen heeft.*   CP complement
    I will her never   tell   that he me then not   helped   has
    'I will never tell her that he didn't help me then.'
    b. *Ik zal haar dat verhaal nooit vertellen.*   DP complement
    I will that story   never   tell
    'I will never tell her that story'.
    c. *Ik zal haar nooit vertellen hoe hij me toen niet geholpen heeft.*   CLHC complement
    I will her never   tell   how he me then not helped has
    'I will never tell her how he didn't help me then.'

(22)a. *Ik zal nooit vergeten dat hij me toen niet geholpen heeft.*   CP complement
    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 dat verhaal nooit vergeten.*   DP complement
    I will that story   never   forget
    'I will never forget that story'.
    c. *Ik zal nooit vergeten hoe hij me toen niet geholpen heeft.*   CLHC complement
    I will never forget   how he me then not helped has
    'I will never forget how he didn't help me then.'

<u>Result</u>: CLHCs pattern like DPs in being unable to occur as the complement to epistemic verbs such as *hopen* and *denken*.

<u>TEST B: occurrence after prepositions</u>

- For most speakers, whilst DPs can occur after prepositions (23a), declarative CP *dat* 'that'-clauses cannot (23b).

    (23)a. *Hij heeft over het ongeval verteld.*   P+DP
       He has about the accident told.
       'He told about the accident'.
      b. **Ik heb verteld over dat hij me na al die jaren nooit geholpen heeft.*   *P+*dat*-clause
        I have told about that he me after all these years never helped has.

- For all speakers, CLHCs can occur after prepositions:

    (24)*Ik heb verteld over hoe hij me in al die jaren nooit geholpen heeft.*   P+CLHC
      I have told about how he me in all these years never helped has.
       'I've told about how he in all these years he has never helped me.'

- Note however that a minority of speakers <u>do</u> accept *dat*-clauses after prepositions (see footnote 11 for a further comment on the behaviour of such speakers), and that other *wh*-clauses can also follow prepositions[10]:

    (25)*Hij heeft me verteld over hoe snel hij kan lopen.*   P+degree-*how* clause
      he has   me told   about how fast he can run
       'He told me about how fast he can run'.

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[10] It is not possible to test whether interrogative *wh*-CPs can occur as the complements of prepositions in Dutch because of the absence of interrogative verb + preposition combinations in the language.

<u>Result</u>: CLHCs pattern like DPs in being able to occur after a preposition, unlike declarative CPs. However, so do other *wh*-clauses, and *dat* -clauses for some speakers.

<u>TEST C</u>: occurrence in the middlefield

- Dutch DP complements can occupy the middlefield, even when they are heavy:

  (26)a. *Ik zal [dat verhaal] nooit vergeten.*   DP in middlefield
    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.*   DP in middlefield
    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'.

- For most speakers, declarative CPs cannot occur in the middlefield (27a) – and for almost all speakers this was the case even for *dat*-clauses with factive verbs (27b), contrary to what has been claimed in the literature (Barbiers (2000: 192))[11]:

  (27)a. **Ik zal haar [dat hij me niet geholpen heeft] nooit vertellen.*   *CP in middlefield
    I will her that he me not   helped   has   never tell
   b. **Ik zal haar [dat hij me niet geholpen heeft] nooit vergeten*.   *CP in middlefield
    I will her that he me not   helped   has   never forget

- Similarly, for the majority of speakers, CLHCs cannot occur in the middlefield, regardless of the factivity of the verb:

  (28) a. **Ik zal [hoe hij me toen niet geholpen heeft] nooit vertellen.*   *CLHC in middlefield
    I will how he me then not   helped   has   never tell
   b. **Ik zal [hoe hij me toen niet geholpen heeft] nooit vergeten.*   *CLHC in middlefield
    I will how he me then not   helped   has   never forget

<u>Result</u>: CLHCs pattern like CPs in not being able to occupy the middlefield position.

<u>TEST D</u>: extraposition

- Groos and van Riemsdijk (1981: 184) summarise the extraposition possibilities for Dutch as 'Essentially, PP and S may follow the verb, but NP and AP may not':

- And indeed, the results from the pilot study show that speakers reject extraposed DPs, even when these are heavy[12] :

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[11] The speakers who deem *dat*-clauses in the middlefield to be marginally degraded but not altogether ungrammatical do so regardless of the factivity of the clause, and also give the same judgments for *hoe*-clauses in the middlefield. Thus, overall, speakers either accept both *dat*-clauses and *hoe*-clauses in the middlefield, or reject both. Here I focus on the majority who reject both - but the crucial point is that for all speakers *hoe*-clauses behave in the same way as *dat*-clauses with respect to extraposition – and this is differently to DPs. The speakers who don't outright reject *dat*-clauses in the middlefield are the same speakers who accept *dat*-clauses after prepositions, so for this group, *dat*-clauses seem to show a considerably more DP-like distribution. For now I will put aside the behaviour of these speakers for investigation in future work.

(29) a. **Ik zal nooit vergeten [dat verhaal].*   * extraposed DP
    I will never forget   that story
    b. **Ik zal nooit vergeten [het feit dat hij me toen niet geholpen heeft].*   * extraposed DP
    I will never forget   the fact that he me then not helped   has

- Declarative CPs (*dat*-clauses), on the other hand, are accepted by all speakers in extraposed position:

(30)a. *Ik zal haar nooit vertellen [dat hij me toen niet geholpen heeft].*   extraposed CP
    I will her never tell   that he me then not helped   has
    'I'll never tell her that he didn't help me then.'
    b. *Ik zal nooit vergeten [dat hij me toen niet geholpen heeft].*   extraposed CP
    I will never forget   that he me then not helped   has
    'I'll never forget that he didn't help me then.'

- Similarly CLHCs are accepted in extraposed position:

(31)a. *Ik zal haar nooit vertellen [hoe hij me toen niet geholpen heeft].*   extraposed CLHC
    I will her never tell   how he me then not   helped   has
    'I'll never tell her how he didn't help me then.'
    b. *Ik zal nooit vergeten [hoe hij me toen niet geholpen heeft].*   extraposed CLHC
    I will never forget   how he me then not   helped   has
    'I'll never forget how he didn't help me then.'

Result: CLHCs pattern like *dat*-clause CPs, and unlike DPs, in being accepted in extraposed position.

TEST E: position in relation to PP complement of verb

- It has been observed that for verbs which select both DP and PP complements, 'DP complements must precede PP complements' (Barbiers (2000: 189)):

(32)a. *Ik vertelde dat verhaal aan Marie.*   DP $\succ$ PP
    I told   that story to Marie
    'I told that story to Marie.'
    b. *??/* Ik vertelde aan Marie dat verhaal.*   ??/* PP $\succ$ DP

- When a verb selects both a CP and a PP complement, the reverse is claimed to be true – 'CP complements must follow PP complements' (Barbiers (2000: 189)):

(33) a. *?? Ik vertelde dat hij me nooit geholpen had aan Marie*.   ?? CP $\succ$ PP
    I told   that he me never helped   had to Marie
    b*. Ik vertelde aan Marie dat hij me nooit geholpen had*.   PP $\succ$ CP
    I told   to Marie that he me never helped had
    'I told Marie that he had never helped me.'

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[12] It is frequently claimed that 'In Dutch, HNPS [Heavy Noun Phrase Shift] with regular noun phrases is very marginal' (Kluck and de Vries: to appear) and 'mostly limited to jargons, in particular the jargon of law and administration' (Groos and van Riemsdijk (1981)).

- With a CLHC complement and a PP complement, the contrast between the two orders is not so clear. For some speakers there is no difference in grammaticality between the two. However, overall, the variant with the CLHC preceding the PP (34a) is judged to be degraded to a greater extent that the variant in which the CLHCs follows the PP complement (34b):

    (34) a. ?? *Ik vertelde hoe hij me nooit geholpen had aan Marie*.   ?? CLHC ≻ PP
       I told how he me never helped had to Marie

      b. ? *Ik vertelde aan Marie hoe hij me nooit geholpen had*.   ? PP ≻ CLHC
       I told to Mary how he me never helped had
       'I told Marie how he had never helped me.'

- Interestingly, when an additional adverbial such as *in al die jaren* is added to the CLHC, the variant with the CLHC following the PP improves to full grammaticality for many speakers (35b). There is little alteration to judgments for the variant with the CLHC preceding the PP (35a), however. These judgements then replicate those for verbs with both CP and PP complements[13].

    (35)a. ?? *Ik vertelde hoe hij me in al die jaren nooit geholpen had aan Marie*.   ?? CLHC ≻ PP
       I told how he me in all these years never helped had to Marie

      b. *Ik vertelde aan Marie hoe hij me in al die jaren nooit geholpen had*.   PP ≻ CLHC
       I told to Marie how he me in al these years never helped me
       'I told Mary how in all these years he had never helped me.'

<u>Result</u>: Whilst their behaviour is not altogether clear, CLHCs seem to pattern more like CPs than DPs as far as ordering possibilities in relation to a PP complement are concerned.

<u>TEST F: occurrence as clausal subject</u>

- Both DPs and CPs are able to occur as clausal subjects[14]:

    (36) a. *Dat verhaal is vreemd.*   DP as clausal subject
       that story is strange
       'That story is strange.'

      b. *Dat niemand dat nog weet is vreemd.*   declarative CP as clausal subject
       that nobody that still knows is strange
       'That nobody remembers that is strange.'

- CLHCs appear unable to do so[15]:

    (37) ??/**Hoe niemand dat nog weet is vreemd.*   * CLHC as clausal subject
       how nobody that still knows is strange

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[13] As noted previously (footnote 12), it is claimed that Dutch does not have Heavy-NP shift, and so such an explanation for the data cannot be appealed to under an account in which CLHCs are assumed to be DPs,

[14] Here I do not take a stance on whether or not clausal subjects occupy the usual subject position (see Koster (1978) for arguments that they do not in fact do so).

[15] Note that CLHCs can occur with the predicate *vreemd zijn* when they are extraposed, so the ungrammaticality of (37) cannot be due to the choice of predicate.

(i) (?) *Het is vreemd hoe niemand dat nog weet.*

Result: In their exclusion from subject position, CLHCs differ from both DPs and CPs.

Dutch CLHCs - summary:

Table 2: Summary of the behaviour of Dutch CLHCs, DPs, declarative CPs and *wh*-CPs

	Test	CLHC	DP	declarative CP *(dat*-clause)	*wh*-CP	**Behaviour of CLHC?**
A	can be the complement to *hopen* 'hope' and *denken* 'think'	no	no	yes	no	**DP/ *wh*-CP**
B	can be the complement to a preposition	yes	yes	no	yes	**DP /*wh*-CP**
C	can occur in the middle field	no	yes	no	no	**declarative CP/*wh*-CP**
D	able to extrapose	yes	no	yes	yes	**declarative CP/ *wh*-CP**
E	preferred position is following PP complement of verb	yes	no	yes	yes	**declarative CP/*wh*-CP**
F	unable to occur as clausal subject	yes	no	no	no	**CLHC**

- 1/6 of the distributional properties Dutch CLHCs show are distinct to CLHCs.

- 5/6 of the distributional properties Dutch CLHCs show are shared with *wh*-CPs, of which two are also shared with DPs, and three with declarative CPs.

Dutch CLHCs - evaluation:

- When comparing their distribution to DPs and declarative CPs alone, Dutch CLHCs show mixed behaviour, patterning like DPs on two tests and like declarative CPs on three.

- However, as was the case for English CLHCs, the picture changes when *wh*-CPs are also taken into consideration, as all the 'DP-like' properties of CLHCs are also shown by this clause type.

- Furthermore, the fact that CLHCs are excluded from the complement position of *hopen* 'hope' and *denken* 'think' is not necessarily a reflection of their categorial status, given that they also seem to be excluded from the complement position of other verbs e.g. *betwijfelen* 'doubt*'* which can take both declarative CP and DP complements[16].

QUESTION: If CLHCs in both English and Dutch do not have the same distribution as either standard DPs or CP complement clauses, then what <u>is</u> their status?

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[16] Establishing precisely which factors are responsible for determining whether or not a CLHC can be the complement of a given predicate is something to be pursued in future work.

Table 3: Summary of the distribution of the clause types discussed

		CLHC	DP	declarative CP (*that*/*dat*-clause)	*wh*-CP[17]	FR[18]	Behaviour of CLHC?
1	can be the complement to a preposition	yes	yes	no	yes	yes	DP/*wh*-CP/FR
2	can coordinate with a DP	yes	yes	yes	yes	yes	DP/decl-CP/*wh*-CP/FR
3	can follow *of* (E)/*van* (N)[19]	yes	yes	no	yes	yes	DP/ *wh*-CP/FR
4	occur in PP complement of verbs which take a PP and a CP complement (N)	not consistently	yes	no	no	yes	CLHC
5	cannot appear in positions not assigned case	not consistently	yes	no	no	no	CLHC
6	can be the complement to *hopen*/*hope* and *denken*/*think*	no	no	yes	no	no	DP/*wh*-CP/FR
7	can occur in the middle field (N)	no	yes	no	no	yes	decl-CP/ *wh*-CP
8	can extrapose (N)	yes	no	yes	yes	yes	decl-CP/ *wh*-CP/FR
9	must extrapose (N)	yes	no	yes	yes	no	decl-CP/ *wh*-CP
10	preferred position is following PP complement of verb (N)	yes	no	yes	yes	n/a	decl-CP/*wh*-CP
11	unable to occur as clausal subject	yes	no	no	no	no	CLHC
12	can be extraposed with *strange, bizarre, odd*	yes	no	yes	n/a	no	decl-CP

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[17] This is of course a very general category. Focussing on the individual behaviour of the different types of *wh*-complement is beyond the scope of this paper, and so I do not take a stance on issues such as whether/how *wh*-clause complements to verbs such as *discover* should be differentiated from those to verbs such as *wonder* (see McCloskey (2006)), for instance. Obviously there are differences in the syntactic behaviour of different kinds of *wh*-clause, but they behave remarkably similarly on the tests used here.

[18] FR = free relative. Although Legate (2010) explicitly draws a comparison between CLHCs and FRs, as is clear from the table above the they show several differences in their syntactic behaviour, the majority of which involve FRs showing DP-like behaviour not demonstrated by CLHCs e.g. ability to occur in the middlefield, or as clausal subject.
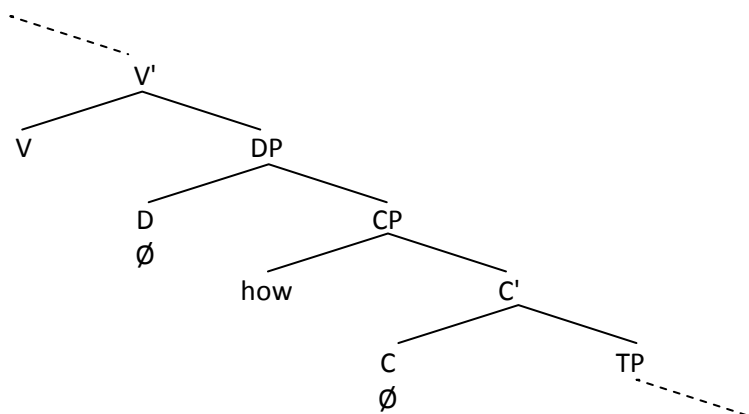
[19] In this table (N) marks tests or results which apply only to Dutch, (E) marks those which apply only to English.

- 1/12 of the distributional properties CLHCs show is shared with declarative CPs alone.[20]

- 3/12 are distinct to CLHCs.

- 8/12 of are shared with *wh*-CPs. Of these:

  ➢ 4/12 are also shared with DPs
  ➢ 5/12 are shared with FRs
  ➢ 5/12 are shared with declarative CPs.

- Note that the 4/12 properties CLHCs share with *wh*-CPs but not DPs are the results of tests which apply to Dutch alone i.e. on all the tests where English CLHCs pattern with *wh*-CPs, DPs show the same behaviour.

- Note also that for both English and Dutch CLHCs there are no distributional properties shared with DPs which are not also displayed by other *wh*-clauses.

4. Towards an analysis of complementiser-like *how* clauses

- <u>Previous analysis of CLHCs: Legate (2010)</u>. CLHCs as free relative-like DPs – a CP with a null C head and *how* base-generated in spec-CP is topped by a DP headed by a null D, as represented below in (38) (Legate's (2010: 131) (27)):

(38)

- In analysing CLHCs, I will follow Legate in assuming that *how* occupies spec-CP[21], like the *wh*-words which introduce embedded interrogatives, and not the C head position like *that*, because of the possibility of co-occurrence of *how* and *that*, illustrated in (39a) for Dutch and (39b)[22] for English[23].

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[20] Note that these figures are not intended to have any statistical significance, but merely to indicate the trends in distributional behaviour of CLHCs.
[21] I will not take a stance here on whether *how* is base-generated in the CP layer, or whether rather it raises as a case of operator movement from lower in the structure e.g. from within the TP layer.
[22] From http://www.manatee.k12.fl.us/sites/elementary/samoset/Grade4readcolor.pdf. Accessed on 22/10/2009.
[23] Here I remain agnostic with regard to the number of CP projections/functional projections within the CP layer which are necessary, although the possible co-occurrence of *how* and *that* suggests that perhaps more

(39)a. *Ik heb haar nooit verteld **hoe dat** hij me toen niet geholpen heeft*.
      I have her never told how that he me then not helped have
      'I've never told her how he didn't help me then.'
   b. I know **how that** what people valued and believed during different times in
     history affects how they wrote stories and informational articles.

- The aspect of (38) which seems controversial in the light of the data presented here is the DP layer above the CP, headed by the null D head[24].

- Null constituents should only be considered in cases where there is strong evidence supporting their presence, and the distribution of CLHCs in English and Dutch does not necessarily seem to provide this.

- In the course of this talk it has been demonstrated that whilst CLHCs distribute with DPs in several regards, and in a way which is distinct to the patterning of *that*-clauses, this DP-like distribution is always shared by other *wh*-clauses, many of which are not usually considered to be DPs e.g. interrogative *wh*-clauses[25].

- There are three broad possibilities for the interpretation of these findings:

EITHER   (i) CLHCs are DPs (as Legate claims), in which case the categorial status of the other *wh*-clauses they frequently pattern with should also be reassessed.
OR   (ii) CLHCs are CPs, just as the other *wh*-clauses they pattern with are commonly assumed to be.
OR   (iii) CLHCs can be both DPs and CPs.

(i) CLHCs are DPs?

<u>In support of this view</u> :

- Legate (2010: 126) suggests that in positing a DP layer for CLHCs, other syntactic properties besides their distribution can be accounted for:

     ➢ CLHCs are invariably factive:

- The fact that the content of CLHCs is invariably presupposed can be related to their status as definite DPs.

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than one is required to avoid doubly-filled COMP violations. See however Boef (2010) for evidence from Dutch dialects that this may not be necessary.

[24] In placing *how* in spec-CP and positing a null D head the structure Legate (2010) proposes for CLHCs (see (49) above) thus tacitly reflects the position known in the literature on free relatives as the COMP Hypothesis. Alternative accounts of free relatives have been proposed whereby the *wh*-word itself realises the D head, an approach known as the Head Hypothesis, See Groos and van Riemsdijk (1981) for a clear explanation of the differences between these two positions, and arguments in favour of the former.

[25] It is clear that CLHCs are not themselves interrogative CPs. Legate (2010: 124) herself shows with the data in (i) (her (8a)-(c)) that CLHCs are not able to occur 'with predicates that only select for a question, even those that allow DP complements'.

(i)   a. It depends on whether the tooth fairy really exists.   *depend on* + interrogative CP
       b. It depends on the tooth fairy's existence.   *depend on* + DP
       c. *It depends on how the tooth fairy really exists.   * *depend on* + CLHC

(40)a. Did they tell you how the tooth fairy doesn't exist? → entails that the tooth fairy
doesn't really exist.
b. Did they tell you that the tooth fairy doesn't exist? → does not entail that the tooth
fairy doesn't really exist.   (examples are Legate's (2010: 127) (17a) and (17c))

> CLHCs are strong islands, factive CPs and interrogative *wh*-clauses are not

- This is shown by the fact that 'object extraction is weakly ungrammatical for the embedded interrogatives...but strongly ungrammatical for the *how*-clause' (Legate (2010: 126):

(41)a. * It was the teacher that they told me how she believes *t*.
b. ?? It was the teacher that they asked me whether she believes *t*.
c. ?? It was the teacher that they asked me how thoroughly she believes *t*.

- If CLHCs are definite DPs, then the strong island violation in (41a) can be attributed to the Complex NP Constraint, with any sub-extraction from within the CLHC-DP resulting in ungrammaticality.

<u>Still to be explored:</u>

- CLHCs in neither English nor Dutch never show definitively DP-like distribution (i.e. patterning with DPs to the exclusion of all other clause types) – *wh*-CPs perform alike, making it tempting to view this 'DP-like' distribution as a sub-instance of *wh*-CP-like behaviour.

- However, if the tests Legate applies to CLHCs really are tests for DP status, then it would seem to follow that other *wh*-clauses which show the same behaviour (e.g. English interrogative *wh*-clauses) should also be analysed as DPs, contrary to their usual analysis as CPs. Is this desirable?

- Not all of the consequences seem to be so. For instance, if interrogative *wh*-clauses are DPs, then they may also be expected to act as strong islands, leading to outright ungrammaticality when an object is extracted, counter to the judgements Legate gives in (41b) and (41c).

- Note however that these judgements are not shared by all native speakers, some of whom find object extraction from (41b) and (41c) (almost) as degraded as object extraction from (41a). A DP analysis of interrogative *wh*-clauses therefore looks more promising for these speakers than for those who share Legate's (2010: 126) judgements. Further research into the extraction possibilities from CLHCs is required however.

(ii) CLHCs are CPs?

<u>In support of this view :</u>

- An alternative interpretation of the fact that DPs, *wh*-CPs and CLHCs all pattern alike on Legate's distributional tests is that the tests are not fine-grained enough to separate out DPs from CPs.

- Given that CLHCs show no independent DP-like properties which are not shared with *wh*-CPs, at least on distributional grounds alone there would seem to be insufficient evidence to posit the presence of a null D head for CLHCs.

- If CLHCs are then in fact CPs without a DP layer, the similarities in distribution which they show to other CPs are unsurprising. For instance, the obligatory occurrence of CLHCs in extraposed position in Dutch can then be seen as a property shared by all and only CPs – declarative CPs, interrogative CPs and CLHCs.

- Note, furthermore, that even for FRs, which seem to show more DP-like characteristics than CLHCs do, a DP analysis is not uncontroversial – a CP analysis for FRs is advocated by e.g. Rooryck (1994) on the basis of similarities between FRs and interrogative CPs[26].

Still to be explored:

- Whilst a CP analysis seems advantageous in accounting for the distribution of CLHCs, as discussed above, positing a DP layer for CLHCs accounts for other syntactic properties they show. If CLHCs are actually CPs, then these properties require an alternative explanation.

    ➢ CLHCs are invariably factive:

- A DP layer is not necessarily crucial in accounting for the property of factivity. Accounts have been given of factive clauses as CPs e.g. Aboh (2005), Haegeman and Ürögdi (2010).

    ➢ CLHCs are strong islands, factive CPs and interrogative *wh*-clauses are not

- If CLHCs are in fact CPs, then sub-extraction from a complex NP cannot be appealed to as the explanation for the strong ungrammaticality of object extraction. One possibility to explore is an intervention account in terms of features, as proposed for referential clauses by Haegeman and Ürögdi (2010).

- Note also that for the speakers who judge extraction from the interrogative clauses (41b) and (41c) to be as ungrammatical as extraction from the CLHC in (41a), an explanation for this sharp ungrammaticality is required independently.

(iii) CLHCs are both DPs and CPs?

- Up until now, the question of the categorial status of CLHCs has been phrased in terms of determining whether CLHCs should be considered as DPs or as *wh*-CPs, given that all three clause types pattern alike on several distributional tests.

- However, it is also possible that CLHCs could be both DPs and CPs. Here I will consider one instantiation of this, where the categorial status of CLHCs differs between languages[27].

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[26] Here I do not take a stance on whether in general a DP analysis for FRs (Groos and van Riemsdijk (1981), Caponigro (2002)) should be favoured over a CP analysis (Rooryck (1994)) in Dutch and English. This is an independent issue to determining the structure of CLHCs, and I see no contradiction should it turn out to be the case that one analysis is appropriate for one clause type, and another for the other.

[27] That the categorial status of CLHCs differs within a single language is also a logical possibility, but not one which I will pursue here. See Cecchetto and Donati (2010) for an account of 'labelling conflict', where within a single language the same *wh*-structure e.g. *what you read* sometimes ends up labelled as D and sometimes as C. However, for Cecchetto and Donati (2010) these labelling possibilities correlate with differences in interpretation, as indicated in (i). CLHCs, on the other hand, seem to consistently receive the same interpretation, regardless of whether they show D-like behaviour, occurring as the complement of a preposition as in (iia) or C-like behaviour, occurring as the direct complement of the matrix predicate as in (iib).

(i)   a. I read $_D$[what you read].   labelled D → interpreted as a free relative

<u>In support of this view</u>:

- Whilst in English <u>all</u> the distributional similarities which CLHCs show to *wh*-CPs are also shared by DPs, on certain additional tests not available for English, Dutch CLHCs pattern with declarative CPs and *wh*-CPs to the exclusion of DPs.

- Therefore Dutch provides stronger evidence in favour of a CP analysis of CLHCs than English does.

- If one assumes a common structure for CLHCs cross-linguistically, then this can be interpreted as strengthening the case for a CP analysis for CLHCs overall.

- However for FRs Caponigro (2002) hypothesises:

   'if a language allows FRs to occur in positions where DPs can not occur or do not need to...those FRs would no longer need a covert D, they would be plain *wh*-CPs...Since the covert D is an expletive, it is semantically empty and we would expect those FRs to receive the same interpretation as the FRs with a covert D'.

- Applying the same logic to CLHCs, perhaps English CLHCs could be DPs, and Dutch CLHCs CPs?

<u>Still to be explored</u>:

- Note however that in English there appears to be no more positive distributional evidence in favour of a DP analysis than in support of a CP analysis.

- Secondly, Dutch and English CLHCs do share many syntactic similarities, so it is far from clear that distinct analyses are justified.

- Furthermore, it is not uncontroversial to assume that no interpretive differences would result from these different structures. There is currently no evidence to suggest that CLHCs in Dutch and English show semantic differences.

<u>Towards an analysis of complementiser-like *how* clauses: conclusions</u>

- None of these approaches seem able to explain all of the properties of CLHCs – whichever analysis is ultimately found to be appropriate for CLHCs, it is still necessary to account for the ways in which CLHCs differ in behaviour from both prototypical DPs and CPs.

- It seems undesirable to abandon the attempt to find a unified analysis for CLHCs in English and those in Dutch without clear syntactic/semantic evidence that this is strictly necessary.

- If the conclusion reached by applying distributional tests à la Legate is that CLHCs are DPs, this seems to involve rethinking the categorial status of many other *wh*-clauses, which also seem to qualify as DPs on such tests. Investigating whether a DP analysis can in fact account for the behaviour of such clauses, and for instance whether the predictions made about their status as islands is a strength or a weakness is a goal for future research.

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         b. I wonder $_c$[what you read].   labelled C $\rightarrow$ interpreted as an indirect interrogative
(ii)   a. I told them about how we'd never been able to do anything like this when we were young.
         b. I told them how we'd never been able to do anything like this when we were young.

- If instead it is found that the CP analysis typically assumed for such clauses is correct, then the distributional evidence for a DP analysis of CLHCs is weak, as these classes show numerous similarities in behaviour. The task is then to account for the other syntactic and semantic properties of CLHCs which Legate attributes to the DP layer.

5. Conclusions

- Reassessing the results of the distributional tests applied by Legate in determining the categorial status of English CLHCs, and applying these and similar tests to Dutch has shown that the categorial status of CLHCs is not so clearly revealed by their distribution.

- Whilst CLHCs indeed show certain behavioural similarities to DPs rather than declarative CPs, when *wh*-CPs are also considered the distinction between CP-like and DP-like behaviour becomes less sharp.

- Whether CLHCs should be viewed as CPs, as the *wh*-clauses they pattern with usually are, or whether the range of clauses considered to be DPs should be extended is an open question, which requires a detailed consideration of further syntactic and semantic properties of CLHCs, and comparison with those of other types of complement clause.

- What has already been achieved here is a broadening of the database upon which the categorial status of CLHCs is assessed to include Dutch, and a raising of awareness of the fact that CLHCs cannot be considered in isolation from other *wh*-clauses, with which they show many similarities in distribution.

6. Open questions for further research

- A main goal for further research is to investigate further the CP and DP lines of analysis for CLHCs, as outlined at the end of section 4.

- Doing so will involve investigating a greater range of syntactic properties of CLHCs than just their distribution, for instance a thorough assessment of extraction possibilities, determining whether CLHCs are an environment for Main Clause Phenomena, ascertaining what determines which predicates can take CLHCs as their complement and which cannot.

- Further research is also needed into the semantic and pragmatic properties of CLHCs e.g. to assess whether it is really the case that in all instances they are factive, to ascertain the discourse status of their content (new vs. given information), to determine whether or not they can serve as the Main Point of Utterance (Simons (2007), Bentzen (2009)).

- Another direction for further investigation into CLHCs is to expand the investigation cross-linguistically, to include languages which are closely related to those considered here (e.g. German) and those which are not (e.g. Czech, Romanian, Slovenian) which also permit CLHCs.

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