Rethinking the distribution of finite clausal complements in English: evidence from complementiser-like *how* clauses*

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OVERVIEW

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1. Introduction: the distribution of finite clausal complements

1.1 The traditional view of finite clausal complement distribution

- **Grimshaw (1979): English finite clausal complements (FCCs) belong to different semantic types**

(1) a. John forgot [**that** Mary lived in Spain]. [proposition]
b. John forgot [**where** Mary lived]. [question]
c. John forgot [**what a** lot of time Mary had spent in Spain]. [exclamation]

- **Semantic types**: 'systematic differences in semantics between indirect questions and exclamations warrant the conclusion that they belong to two different semantic types' (Grimshaw 1979: 285)
  NB. Not intended in the sense of type theory (<t>, <e,t> etc.)
  → see section 2.2 for the semantic properties of exclamatives

- **Grimshaw (1979): the distribution of FCCs is dependent on their semantic type:**

(2) a. John thought [**that** Mary lived in Spain]. [proposition]
b. * John thought [**where** Mary lived]. [*question]
c. * John thought [**what a** lot of time Mary had spent in Spain]. [*exclamation]

(3) a. * John asked [**that** Mary lived in Spain]. [*proposition]
b. John asked [**where** Mary lived]. [question]
c. * John asked [**what a** lot of time Mary had spent in Spain]. [*exclamation]

- **Semantic selection:** 'Semantic selection expresses restrictions between predicates and the semantic type of their complement' (Grimshaw 1979: 279)
  → not discussed here is categorical selection (i.e. predicates selecting CP vs. DP complements)

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Table 1 - Summary of the types of FCC selected by different predicates

		P	Q	E
(1)	***forget*** (*learn, see*)	√	√	√
(2)	***think*** (*believe*, *claim*)	√	*	*
(3)	***ask***[1] (*wonder*)	*	√	*

❖ **Semantic types as syntactic types?**

- **Grimshaw (1979: 317):** 'treating complement selection syntactically is possible only if the relevant aspects of semantic interpretation are built into syntactic structure.'

- **Rizzi (1997: 362):** 'Complementizers express the fact that a sentence is a question, a declarative, an exclamative…and can be selected as such by a higher selector.'

→ Typically, whilst accounts differ in terms of whether or not semantic types are taken to be syntactically encoded, there is a consensus that:

- the basic empitical pattern is as represented in Table 1.
- FCCs are selected by matrix predicates on the basis of their semantic type.

1.2 Finite clausal complement distribution: the contribution of this talk

- I argue for a more fundamental rethinking of FCC distribution, which does not make reference to semantic types as primitives of the system.

- Motivated by consideration of **an additional type of English FCC - the complementiser-like *how* clause (CLHC)** (cf. López Couso & Méndez Naya (1996); Legate (2010); Nye (2012)):
  → section 2: discussion of properties of CLHCs

(4) An enthusiastic staff member explained [**how** the 1830s redbrick building had been an outmoded remand center].[2]

→ section 3, 4: consequences for the traditional picture of distribution presented above

❖ **Empirical aims:**
- situate complementiser-like *how* clauses in relation to other English finite clausal complements.
- show common distribution of complementiser-like *how* clauses and embedded exclamatives.

❖ **Theoretical claims:**
- distribution of English finite clausal complements is not conditioned by their semantic type.
- rather it depends upon their [+/-*wh*, +/-factive] syntactic specification.

[1] *ask* can in fact take *that*-clause complements, but only in the subjunctive (cf. (i) vs. (ii)). Subjunctive clauses are not discussed by Grimshaw (1979) and are similarly beyond the scope of my current research.

(i) He asked that he be excused from jury duty. [*ask* + subjunctive clause]
(ii) * He asked that he is/was excused from jury duty. [* *ask* + indicative clause]

[2] From *The Independent on Sunday*, *Travel* 27.07.2008, page 7 col. 1.

2. Complementiser-like *how* clauses and other finite clausal complements

(5) a. Jurors have heard [**how** the boy had been placed on the child protection register with Haringey social services nine months before his death].[3]
b. An enthusiastic staff member explained [**how** the 1830s redbrick building had been an outmoded remand center].[4]
c. 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].[5]

- informally: "declarative" *wh*-clauses:
  - interpretation ≈ factive *that*-clause → section 2.1
  - surface syntax = *wh*-clause → section 2.2

2.1 CLHCs and factive *that*-clauses

2.1.1 Factive and non-factive *that*-clauses

- **Factivity:** presupposition of the propositional content of a finite clausal complement.

> 'A sentence *S* logically presupposes a sentence *P* just in case *S* logically implies *P*, and the negation of *S* also logically implies *P*' (Shanon 1976).

(6) a. John thought [that Mary read this book]. ⇏ Mary read this book
b. John didn't think [that Mary read this book]. ⇏ Mary read this book

(7) a. John forgot [that Mary read this book]. ⇒ Mary read this book
b. John didn't forget [that Mary read this book]. ⇒ Mary read this book

- 2 kinds of *that*-clause (cf. Kiparsky & Kiparsky (1970), Hooper and Thompson (1973)):
  - **non-factive *that*-clause:** propositional content is not presupposed (6)
  - **factive *that*-clause:** propositional content is presupposed (7)

- Ginzburg & Sag 2000: 72-78): *that*-clauses can belong to one of two distinct semantic types:
  - **non-factive *that*-clause:** **proposition**
  - **factive *that*-clause:** **fact**

Table 2 - Summary of the types of *that*-clause complement selected by different predicates

	Grimshaw (1979)	Ginzburg & Sag (2000)	
	proposition	**proposition**	**fact**
forget (*know*, *remember*)	√	*	√
think (*believe*, *claim*)	√	√	*
ask (*wonder*)	*	*	*

[3] From *The Guardian* 31.10.2008, page 8 col. 5.
[4] From *The Independent on Sunday*, *Travel* 27.07.2008, page 7 col. 1.
[5] Arnaldur Indridason, (2005) *Silence of the Grave*. Translated by Bernard Scudder. Vintage 99.

- Corresponding **syntactic distinctions between factive and non-factive *that*-clauses**:
  - island strength (see e.g. Rooryck 1992 (and references therein), Basse 2008)
  - availability of MCP (see e.g. Hooper & Thompson 1973; Haegeman 2012)
  - complementisers distinct in form in e.g. Korean (Moulton 2009), Meiteilon (Kidwai 2010), Modern Greek (Roussou 2010), Japanese (Miyagawa 2012).

2.1.2 Factivity and CLHCs

- **CLHCs are factive** (Legate 2010):

(8) a. She forgot [how he'd never been to Spain]. ⇒ he'd never been to Spain
b. She didn't forget [how he'd never been to Spain]. ⇒ he'd never been to Spain

- **CLHCs are not just factive…**

(9) a. ?? He told me how [she was old].
b. He told me [how, despite appearances to the contrary, she was old and somewhat lonely].

- Precise characterisation of CLHCs still to be established: narrativity? elaboration? re-activation?

2.2 CLHCs and embedded exclamatives

- NB. Here CLHCs not compared to embedded interrogatives for reasons of time.

- Decision to focus here on comparison with exclamatives motivated by the fact that:
  - they have received considerably less attention in the literature than interrogatives.
  - they can be string identical to CLHCs:

(10) He told me [**how** she had longed to go home].
(i) ≈ He told me that she had longed to go home. [CLHC reading]
(ii) ≈ He told me how much she had longed to go home. [exclamative reading]

2.2.1 Formal properties of embedded exclamatives

- **Distinct *wh*-expressions** introducing unambiguous cases of embedded exclamatives:

(11) a. John forgot [**what a lot of time** Mary had spent in Spain].
b. John forgot [**how very often** Mary had been to Spain].

- cf. possible occurrence of these in matrix exclamatives (12) but not interrogatives (12)[6]:

[6] By the same logic, embedded clauses introduced by *wh*-expressions such as *who* or *where* cannot be exclamative, given the matrix patterns presented in (i) and (ii). This holds even for the cases in (iii), contra Grimshaw (1979) and Zanuttini & Portner (2003). See Huddleston (1993) and Lahiri (2002: 36-37) for further arguments that the finite clausal complements in (iii) are interrogative. Note that what is disputed is the correct characterisation of the finite clausal complements in (iii), not the ability of the predicates *can't believe* and *it's amazing* to embed exclamatives: the examples in (iv) show that this is possible. Whilst matrix interrogatives are distinguished from matrix exclamatives by the presence of SAI, word order cannot help to distinguish clause types in the embedded domain, where even interrogatives do not show SAI.

(12)a. **<u>What a</u> lot of time** Mary had spent in Spain! [exclamative]
b. * **<u>What a</u> lot of time** had Mary spent in Spain? [*interrogative]

(13)a. **<u>How very</u> often** Mary had been to Spain! [exclamative]
b. * **<u>How very</u> often** had Mary been to Spain? [*interrogative]

2.2.2 Factivity and embedded exclamatives

- **Embedded exclamatives are factive** (cf. Grimshaw (1979), Ginzburg & Sag (2000), Abels (2010)):

(14)a. She forgot [**what an idiot** he was]. ⇒ he was an idiot
b. She didn't forget [**what an idiot** he was]. ⇒ he was an idiot

- Ginzburg & Sag (2000): exclamatives, like factive *that*-clauses, are of semantic type 'fact'.

- **Embedded exclamatives are not just factive…**

- 'In addition [to factivity], the value of *wh* must be in some sense extreme…This is presumably because it is inappropriate to exclaim over the norm' (Grimshaw 1979: 284).

- Debate as to precise characterisation of exclamatives:
  - surprise (Michaelis 2001; Chernilovskaya 2009)
  - violation of speaker's expectations (Elliott 1974; Rett 2011).
  - 'the extreme end of some contextually given scale' (Zanuttini & Portner 2003: 47).

- Grimshaw (1979): exclamatives have their own distinct semantic type 'exclamation'.

2.3 Summary

- **Factivity as a property common to factive *that*-clauses, exclamatives and CLHCs.**
- **These 3 FCCs further differentiated in terms of their syntactic properties and interpretation.**

Table 3 - The semantic types of certain FCCs according to Grimshaw (1979) and Ginzburg & Sag (2000)

	Grimshaw (1979)	**Ginzburg & Sag (2000)**
non-factive *that*-clause	proposition	proposition
factive *that*-clause	proposition	fact
exclamative	exclamation	fact
CLHC	???	???

(i) a. * **Who** Mary met! [*matrix exclamative]
b. **Who** did Mary meet? [matrix interrogative]
(ii) a. * **Where** Mary has been! [*matrix exclamative]
b. **Where** has Mary been? [matrix interrogative]
(iii) a. I can't believe [**who** Mary met]. [embedded interrogative]
b. It's amazing [**where** Mary has been]. [embedded interrogative]
(iv) a. I can't believe [**what a lot of time** Mary has spent in Spain]. [embedded exclamative]
b. It's amazing [**how very often** Mary has been to Spain]. [embedded exclamative]

3. The distribution of complementiser-like *how* clauses

- **Accounts which view the distribution of FCCs as conditioned by their semantic type make different predictions for the distribution of CLHCs, depending whether they emphasise:**
  - the factivity they hold in common with *that*-clauses and exclamatives **→ hypothesis 1**
  - what is unique about the interpretation of CLHCs **→ hypothesis 2**

- **Hypothesis (i): CLHCs are 'facts', like factive *that*-clauses and exclamatives (Ginzburg & Sag: 2000)**

  Prediction: CLHCs have the same distribution as factive *that*-clauses (and exclamatives).
  Outcome: under certain predicates, the distribution of CLHCs and factive *that*-clauses diverges.

(i) Many predicates do indeed permit both CLHC and factive *that*-clause complements:

(15)a. We found out [**how** they hadn't been given the opportunity to return].
b. We found out [**that** they hadn't been given the opportunity to return].

(ii) However, certain predicates permit CLHCs but not factive *that*-clauses:

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

(iii) Conversely, other predicates permit factive *that*-clauses but not CLHCs:

(17)a. * I'm happy/glad/sorry [**how** they weren't given the opportunity to return].
b. I'm happy/glad/sorry [**that** they weren't given the opportunity to return].

- **Hypothesis (ii): CLHCs are a distinct semantic type of their own.**

  Prediction: CLHCs have a different distribution to all other types.
  Outcome: CLHCs show precisely the same distribution as embedded exclamatives.

(i) Many predicates permit both CLHC and exclamative complements:

(18)a. John forgot [**how** Mary had never been to Spain].
b. John forgot [**what a** lot of time Mary had spent in Spain].

(ii) Otherwise predicates exclude both CLHCs and exclamatives:

(19)a. * John thought [**how** Mary had never been to Spain].
b. * John thought [**what a** lot of time Mary had spent in Spain].

(20)a. * John asked [**how** Mary had never been to Spain].
b. * John asked [**what a** lot of time Mary had spent in Spain].

(iii) Note that under those predicates where the distribution of CLHCs and factive *that*-clauses diverged (16), exclamatives distribute like the former rather than the latter:

(21)a. Sandra also described/detailed/discussed [**how** they weren't given the opportunity to return].
b. Sandra also described/detailed/discussed [**what a** dreadful experience it was].

(22)a. * I'm happy/glad/sorry [**how** they weren't given the opportunity to return].
b. * I'm happy/glad/sorry [**what a** dreadful experience it was].

Table 4 - Overview of the distribution of factive *that*-clauses, CLHCs and exclamatives

- N.B. Classes of matrix predicates determined on the basis of the types of FCCs they can take (further sub-divisions made on the basis of additional kinds of FCC not considered here).

	predicate classes	**factive *that*-clause**	**CLHC**	**exclamative**
1	be glad; be surprised; be sorry	y	n	n
2	ask; wonder	n	n	n
3	think; believe; claim	n	n	n
4	forget; learn; see	y	y	y
5	realize; find out; know;	y	y	y
6	describe; detail; discuss	n	y	y
7	tell; report; communicate	n	y	y
8	complement to P	n	y	y

- **Summary of the empirical patterns:**

- **Common distribution of CLHCs and embedded exclamatives** (columns 2 and 3 in Table 4).
- No predicate permits only exclamative complements or only CLHC complements.

- **Factive *that*-clauses do not consistently pattern with CLHCs and embedded exclamatives,** although they do under certain predicates (classes 2-5).
- Certain predicates do accept only factive *that*-clause complements (see class 1).
- Factive *that*-clauses and exclamatives never pattern together to the exclusion of CLHCs.
- Factive *that*-clauses and CLHCs never pattern together to the exclusion of exclamatives.

4. Accounting for the distribution of complementiser-like *how* clauses

4.1 Properties determining the distribution of finite clausal complements

- **If clausal complements are selected by matrix predicates on the basis of semantic type:**
- CLHCs, factive *that*-clauses and exclamatives can't be of the same type[7].

[7] Nor can factive *that*-clauses and exclamatives a, as proposed by Ginzburg & Sag (2000). Note that Grimshaw (1979: 323) already observed that exclamatives cannot occur as the complement to all predicates which select factive *that*-clauses.

- CLHCs can't constitute their own distinct type, otherwise their common distribution with embedded exclamatives goes unexplained.
  → CLHCs and exclamatives are selected on the basis of a common semantic type?

- But: what semantic property do they then have in common?
- Seemingly only factivity. And this isn't sufficient to distinguish them from factive *that*-clauses.
- We need to look at other properties which differentiate FCCs.

- CLHCs and exclamatives are factive clauses, but they are not the only factive clauses (cf. factive *that*-clauses)
- CLHCs and exclamatives are *wh*-clauses, but they are not the only *wh*-clauses (cf. interrogatives).

➢ **CLHCs and exclamatives are both *wh*-factive clauses[8].**

Table 5 - Characterisation of English FCCs in terms of their distributionally-relevant properties

Type of complement clause	[+/-wh]	[+/- factive]	[+/-wh, +/- factive]
exclamative	+wh	+factive	[+wh, +factive]
CLHC	+wh	+factive	[+wh, +factive]
interrogative	+wh	-factive	[+wh, -factive]
factive *that*-clause	-wh	+factive	[-wh, +factive]
non-factive *that*-clause	-wh	-factive	[-wh, -factive]

➢ CLHCs and exclamative complements share the feature specification [+wh, +factive].

Table 6 - Characterisation of English predicate classes in terms of the properties of their FCCs

	predicate classes	properties of their FCCs
1	be glad; be surprised; be sorry	[-wh, +factive]
2	ask; wonder	[+wh, -factive]
3	think; believe; claim	[-wh, -factive]
4	forget; learn; see	[+factive]
5	realize; find out; know;	[+factive]
6	describe; detail; discuss	[+wh, +factive]
7	tell; report; communicate	[+wh, +factive]; [-wh, -factive]
8	complement to P	[+wh]

➢ Thus CLHCs and exclamative complements are able to occur under all and only those predicates which select for [+wh] and/or [+factive] complements.

[8] Note that in the context of their discussion of interrogative complements, Ginzburg & Sag (2000: 70 f.n. 19) in fact already discuss the idea that syntactic properties of FCCs, such as +/- *wh*, may also be of relevance in determining the distribution of such embedded clauses. They do not see reference to such syntactic features as incompatible with their own semantic account, but rather simply 'superfluous'. The distributional facts I have presented here show that their account as it stands cannot explain the full range of empirical facts, however, predicting as it does a common distribution for factive *that*-clauses and exclamatives. Reference to just such syntactic properties is thus required.

4.2 Encoding the properties determining the distribution of finite clausal complements

❖ **Proposal**

- **Selection by a matrix predicate isn't on the basis of semantic type at all, but on the [+/-wh, +/-factive] specification of the FCC itself.**
- **These 2 components are syntactically encoded in the FCCs thesmselves:**
  - **+/-*wh*** (cf. Watanabe 1993)
  - **+/-factive** (cf. Kiparsky & Kiparsky 1971)
- **Matrix predicates select for clausal complements on the basis of these binary features.**
- **Thus selection of FCCs takes place in the syntax.**

➢ ***wh* as formal syntactic feature contributed by *wh*-expressions**[9]

- no constant semantic correlate, contra Ramchand (1996), Simik (2008):
  - **distributionally**: CLHCs behave like other *wh*-clauses (e.g. complement to P)
  - **semantically:** CLH differs from other (left peripheral) *wh*-expressions:
    - not an operator
    - not quantificational
- cf. Suñer's (1991) distinction between syntactic [+/-wh] and semantic [+/-WH] features

❖ **If one of the components relevant for selection of an FCC is syntactic, perhaps both are?**

➢ **Factivity as a syntactic property of the relevant FCCs**[10]:

- *that*-clauses:
  - null nominal ('the fact'): Kiparsky & Kiparksy (1970).
  - presence of an operator: Melvold (1991); Watanabe (1993) a.o.
  - movement of an operator: Haegeman (2012).
- CLHCs:
  - DP-layer in syntax: Legate (2010).
- resolutives**:**
  - factive complementiser: Munsat (1986).
- exclamatives:
  - factive operator: Zanuttini & Portner (2003)[11]; Ono & Fujii (2006).

➢ **Presence of an operator is responsible for factivity in all factive FCCs?** (common denominator between accounts of factive *that*-clauses and those given for exclamatives).

➢ Full details of syntactic implementation still to be worked out.

[9] As Michal Starke [p.c] points out, it is not correct to term this a morphological feature, as not all members of the paradigm are morphologically *wh* (*how* in English, cf. also e.g. *chi* 'who', *che* 'what' vs. *dovè* 'where' in Italian).

[10] Note that there is debate in the literature about whether factivity is the correct characterisation of the property. It has alternatively been argued to be definiteness (Melvold 1991), familiarity (Hegarty 1992) and referentiality (de Cuba & Ürögdi 2009a,b; Haegeman & Ürögdi 2010a,b; Hinzen & Sheehan 2011). Nothing in my proposal hinges on this property being factivity rather than, for instance, referentiality.

[11] Note that Zanuttini & Portner's (2003) proposal is for matrix exclamatives. They suggest that the factivity of embedded exclamatives comes rather from the (factive) predicates under which they are embedded.

4.3 Consequences for semantic type

- **What is the status of semantic type** under the revised view that it is not relevant for selection?

> ❖ **Hypothesis (i):** the reason that there is no selection for type is because there is no 'type', in the sense of a semantically (or syntactically) encoded primitive.

- Zanuttini & Portner (2003); Isac (2012): independently of the question of selection, put forward the idea that 'force' (≈ semantic type) is not a primitive.

- Zanuttini & Portner (2003) - necessary syntactic components for exclamative interpretation:
  - *wh*-operator-variable configuration
  - factive operator
- Striking similarity to those which I independently concluded were relevant for selection.

> ❖ **Hypothesis (ii):** The properties of a FCC relevant for selection by a matrix predicate are (a sub-set of) those which contribute to determining the semantic type of the FCC.

- If this is the case, the distribution of FCCs is not entirely divorced from their semantic type.
- Less direct connection than is posited by Grimshaw (1979), Rizzi (1997), Ginzburg & Sag (2000).

5 <u>Conclusions and issues for further research</u>

5.1 Conclusions

- Broadening the range of FCCs to include CLHCs reveals new distributional patterns.
- These challenge the traditional view that selection is for the semantic type of the complement.
- Distribution rather determined by syntactic properties of the FCCs: [+/-*wh*; +/-factive].
- These same components also contribute to the composition of 'semantic type' (i.e. clausal force)?

5.2 Issues for further research

- **Refining the proposal for the distribution of FCCs:**

- Given that CLHCs and embedded exclamatives have been claimed to share the selectionally-relevant specification [+*wh*, +factive]:
  - which syntactic features differentiate CLHCs and embedded exclamative?
  - how are these encoded?

- More generally:
  - how are the [+/-*wh*] and [+/-factive] specifications encoded such that both are accessible for (local) selection by a higher predicate?
  - do all the distributional patterns really need to be accounted for in terms of selection, or is the absence of some combinations predictable (Grimshaw 1979: 318-325)?
  - why are particular combinations of features selected (by particular classes of predicates), and not others?

- **Finite complement clause selection: the broader picture**

- Focus here on **selectee**. In order to fully understand the selection of FCCs, we also need to ask:
    - **What is the nature of the selector?** Here I have made the simplifying assumption that it is the matrix predicate, but already observed that additional properties of the matrix clause also have an influence on the kinds of FCC permitted: negation, interrogation, modals, differences in tense/aspect… (McCloskey (2006), Turnbull-Sailor (2007)).

(23)a. * I believe what an idiot he is. [*exclamative]
b. I can't believe what an idiot he is. [exclamative]

    - **What is the relation between the selector and the selectee?** What is the precise mechanism for selection? Agree? Subcategorisation?

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