Syntactic features, overtness, and functional left peripheries

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1 Introduction

DFG research project "The syntax of functional left peripheries and its relation to information structure" (start: February 2015, PI: Julia Bacskai-Atkari)

website: http://www.ling.uni-potsdam.de/~bacskai-atkari/dfg.html

main goals: flexible model for the syntactic marking in functional left peripheries

- functional left peripheries and clause-typing

- functional left peripheries and information structure

- functional left peripheries and ellipsis

Phase 1: functional left peripheries and clause-typing – hypotheses:

- Left-peripheral functional heads are syntactic cues.

- Operators moving to the left periphery are also syntactic cues.

- Functional left peripheries are defined by economy and overtness requirements.

providing an alternative to rigid cartographic approaches

- the size of the CP-domain (and the functional vP-domain) is flexible

- determining factors: features, the (un)interpretability of features, lexical properties

- overtness as a key factor: interface requirements taken into consideration

languages: West Germanic (English, German, Dutch, also dialects)
  lesser extent: Scandinavian languages, Yiddish, Hungarian, Romance languages

2 Approaches to the CP-periphery

CP-domain: responsible for clause-typing and marking finiteness

Rizzi (1997; 2004)

(1)   ForceP (TopP) (FocP) (TopP) FinP

IntP in interrogatives may appear between ForceP and FinP

ForceP and FinP: may be headed by complementisers, hence true CP layers

suggests a one-to-one relationship between function and position – problematic

especially for information structural movement (Fanselow & Lenertová 2011, SFB-632)

- IS-related movement: [topic] or [focus] are not lexical features

- if TopP or FocP are designated layers, ForceP does not select FinP (Sobin 2002)

also: a given C head may be associated with various functions
    e.g. *that* encodes declarative Force and finiteness

→ collapse of CP layer in Rizzi (1997; 2004) – often just a single C-element
    no multiple complementisers in Standard Italian

complementiser combinations do not always follow a Force + Fin pattern
    hypothetical or irreal comparatives: *as if* – rather two Force heads in German

German patterns (Jäger 2010: 469, ex. 4):

(2)   a.   Tilla läuft, **als liefe**   sie um ihr   Leben.
            Tilla runs   than run.SBJV.3SG she for her.N life
            'Tilla is running, as if she were running for her life.'

       b.   Tilla läuft, **als   ob** sie um ihr   Leben liefe.
            Tilla runs   than if   she for her.N life   run.SBJV.3SG
            'Tilla is running, as if she were running for her life.'

       c.   Tilla läuft, **als   wenn** sie um ihr   Leben liefe.
            Tilla runs   than if   she for her.N life   run.SBJV.3SG
            'Tilla is running, as if she were running for her life.'

       d.   Tilla läuft, **wie wenn** sie um ihr   Leben liefe.
            Tilla runs   as   if   she for her.N life   run.SBJV.3SG
            'Tilla is running, as if she were running for her life.'

availability of *als* and *ob*: cannot be combination of *as*-clause and *if*-clause (that is *wie wenn*), cf. also Jäger (2010)

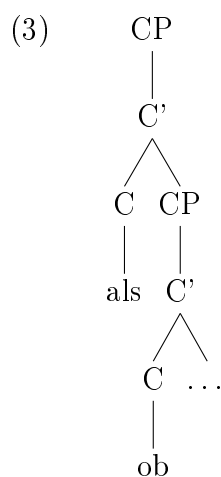$\rightarrow$ grammaticalised form, one single left periphery

two C heads encoding [conditional] and [comparative] each

- lower C position: overt complementiser or verb movement

- higher C selects the lower one – no *wie liefe*, *wie ob*

lower C available for movement
$\quad$ $\rightarrow$ no violation of the Minimal Link Condition (Chomsky 1995)

structure:

(3)
```
        CP
        |
        C'
        /\
      C   CP
      |    |
     als   C'
          /\
         C  ...
         |
         ob
```

dialectal variation in German comparative *than*-clauses
$\quad$ cf. Jäger (2010), Eggs (2006), Lipold (1983), Weise (1918)

(4) a. Romy ist größer **als**   Peter.
$\qquad$ Romy is   taller than Peter
$\qquad$ 'Romy is taller than Peter.'

$\qquad$ b. %Romy ist größer **als**   **wie** Peter.
$\qquad$ Romy is   taller than as   Peter
$\qquad$ 'Romy is taller than Peter.'

$\qquad$ c. %Romy ist größer **wie** Peter.
$\qquad$ Romy is   taller as   Peter
$\qquad$ 'Romy is taller than Peter.'

independent evidence that both *als* and *wie* are heads in (4)
$\quad$ see Jäger (2010), Bacskai-Atkari (2014a;c)

$\rightarrow$ two C heads in (4b), again not Force+Fin distinction

structure similar to (3):

(5)
```
        CP
        |
        C'
       /\
      C  CP
      |   |
     als  C'
         /\
        C  …
        |
       wie
```
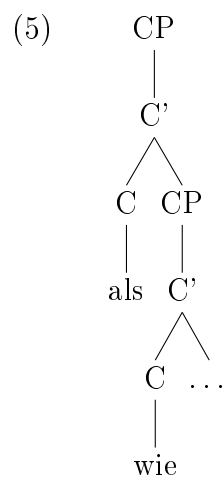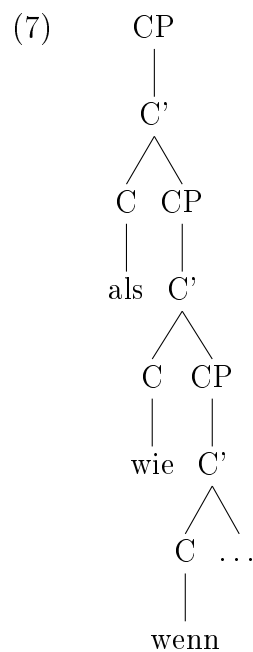
dialects that have *als wie* may use *als wie* in structures like (2), cf. (Thurmair 2001: 62)

(6) %Er schreit, **als   wie wenn** er beim   Zahnarzt wäre.
     he shouts   than as   if   he by.DAT.M dentist   is.SBJV
     'He is shouting as if he were at the dentist's.'

structure on the basis of (3) and (5) should involve 3 heads, where the middle head is
     not even Int

(7)
```
        CP
        |
        C'
       /\
      C  CP
      |   |
     als  C'
         /\
        C  CP
        |   |
       wie  C'
           /\
          C  …
          |
        wenn
```

so: a rigid cartographic approach is untenable even for clause-typing,
    hence without IS-related movement

proposal: size of the CP defined purely by features and the availability of lexical elements
    specified for these features

key assumption: overtness

clause-typing operators (hence: C-operators): overtly encoding clause-typing features

C-operators categorially distinct from C heads, but both take part in overt encoding – feature of a head can be checked off either by inserting an element into the head or a phrase into the specifier

3 Embedded interrogatives

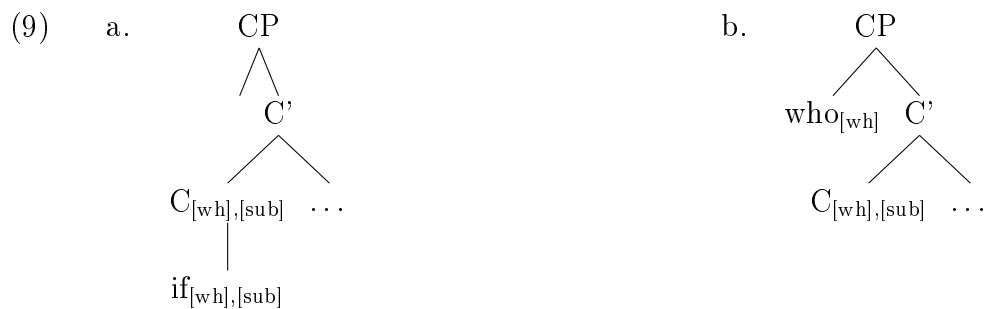relevant features: [sub], [wh]

- [sub]: encoding finite subordination; encoded by a functional C head, does not have to be overt

- [wh]: encoding the interrogative nature of the clause; encoded either by an operator (in *wh*-questions) or by a functional (C or F) head (polar questions); has to be overt in embedded clauses because no intonational distinction available

uninterpretable [wh] feature of a functional head checked off by insertion of a [wh] lexical head or by moving a [wh] operator to the specifier
(or the head: Alemannic/Bavarian)

examples in English:

(8)   a.   I asked **if** Anthony had eaten the cheese.
        b.   I asked **who** had eaten the cheese.

structures:

(9)   a.   CP   b.   CP
                  /\   / \
                   C'   who$_{[wh]}$ C'
                  /\   / \
          C$_{[wh],[sub]}$ $\cdots$ C$_{[wh],[sub]}$ $\cdots$
                 |
          if$_{[wh],[sub]}$

no need for projecting a further layer for encoding [sub]

also: inserted head does not have to be lexically specified as [sub]

- German *ob* 'if' available in main clause questions (with some restrictions)

- some *wh*-elements in Bavarian/Alemannic move to the C head

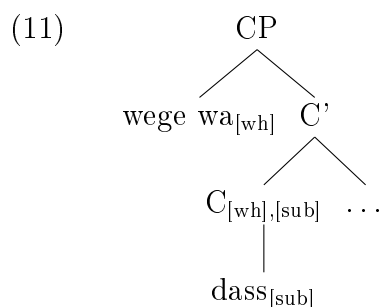Doubly Filled COMP effects in Alemannic and Bavarian (Bayer & Brandner 2008)

- phrase-sized *wh*-elements show the effect (with *dass* 'that') – *wh*-element phrase-sized if co-occurring with lexical phrases, P heads (even lexical case suffixes) – (10a) and (10b)

- head-sized *wh*-phrases (e.g. *wer* 'who.NOM', *wen* 'who.ACC', *was* 'what.NOM/ACC'): *dass* cannot be inserted (regular pattern) – complementary distribution, hence the *wh*-element moves to the C head itself – (10c)

- head-sized *wh*-phrases show the effect if they are contrastively focussed and can be interpreted only as operators in a specifier – (10d)

examples from Alemannic:

(10)   a.   I frog mich **wege wa   dass** die   zwei Autos bruchet.
           I ask REFL for   what that they two cars   need
           'I wonder why they need two cars.'
           (Bayer & Brandner 2008: 88, ex. 3b)

       b.   I ha   koa Ahnung, **mid wa   für-e Farb dass**-er zfriede wär.
           I have no idea   with what for-a colour that-he content would-be
           'I have no idea with what colour he would be happy.'
           (Bayer & Brandner 2008: 88, ex. 4b)

       c.   *I wett   gern   wisse, **wa   dass** i do   uusfülle muss.
           I would gladly know   what that I there out-fill   must
           'I'd like to know what I have to fill out there.'
           (Bayer & Brandner 2008: 88, ex. 5b)

       d.   Ich woass **WO   dass** er abfahrt aber noit   WENN.
           I   know where that he leaves   but not-yet when
           'I know WHERE it (the train) will leave but not WHEN.'
           (Bayer & Brandner 2008: 93, ex. 18, quoting Noth 1993: 424)

movement of *wh*-element: targets the C head is possible, if not, it targets the [Spec,CP]
       insertion of *dass*: subject clitic has to cliticise onto an element in the C head
       (Bayer & Brandner 2008)

structure for Doubly Filled COMP pattern, see (10a):

(11)   CP
                        /   \
               wege wa[wh]   C'
                             /   \
                    C[wh],[sub]   ...
                        |
                    dass[sub]

complementiser not specifically [wh] but should not be incompatible, i.e. [–wh]

insertion of lexically [wh] C element would check off the uninterpretable feature on C
→ the *wh*-phrase could not move

dialectal differences in the lexical properties of *dass*:

- [−wh] in Standard German

- underspecified for [±wh] in Alemannic/Bavarian

no need for projecting any further layer

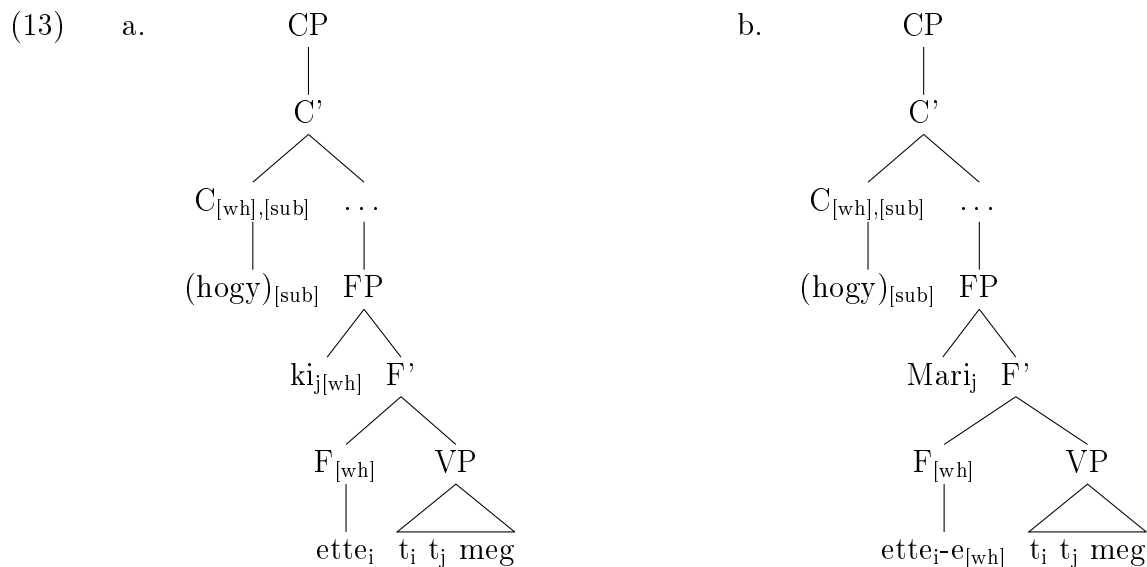Hungarian embedded interrogatives: regular split of [sub] and [wh]

(12) a. Szeretném   tudni,   **(hogy) ki** ette   meg a   sajtot.
          like.COND.1SG know.INF that   who ate.3SG PRT the cheese.ACC
          'I would like to know who has eaten the cheese.'

  b. Szeretném   tudni,   **(hogy)** Mari ette-**e**   meg a   sajtot.
      like.COND.1SG know.INF that   Mary ate.3SG-Q PRT the cheese.ACC
      'I would like to know who if it was Mary who has eaten the cheese.'

Hungarian seems to show a doubling pattern

but: two elements not on the same periphery

- *hogy* 'that': a C head, insensitive to [±wh] – see É. Kiss (2002)

- *wh*-phrases, particle *-e*: functional vP-domain ("focus" position) – see É. Kiss (2002), Van Craenenbroeck & Lipták (2008)

structure:

(13) a.

```
                CP
                |
                C'
              /    \
    C[wh],[sub]     ...
        |            |
  (hogy)[sub]       FP
                   /  \
              ki_{j[wh]}  F'
                        /   \
                   F[wh]     VP
                     |       /|\
                  ette_i   t_i t_j meg
```

b.

```
                CP
                |
                C'
              /    \
    C[wh],[sub]     ...
        |            |
  (hogy)[sub]       FP
                   /  \
              Mari_j   F'
                      /   \
                 F[wh]     VP
                   |       /|\
            ette_i-e[wh]  t_i t_j meg
```

[wh] feature passed onto the functional vP-domain – FP (functional projection)
checked off either by *wh*-element or *-e* head

CP projection hosting *hogy* not generated as an extra layer on top of a *wh*-marking CP
    one CP has to be there to encode [sub], [wh] passed on to a lower projection

difference in ordering in Germanic and Hungarian double marking

- Germanic: *wh* + C head – Doubly Filled COMP effect, same CP

- Hungarian: C head + *wh* – different left peripheries, separate CP and FP

→ marking of [wh] does not require multiple CPs

4   Relative clauses

relevant features: [sub], [rel]

- [rel]: encoding the relative nature of the clause; encoded either by an operator or by a functional C head, does not have to be overt (if a zero [rel] head available in the lexicon, restrictions, e.g. English)

question: whether [rel] necessarily implies [sub]

there also non-finite relative clauses, see Chomsky (1977) for English
    (cf. the examples of Law 2000: 161–162, Aarts 2011: 199)
    see Ackerman & Nikolaeva (2013) for a typological perspective

(14)   A desk is a dangerous place **from which** to view the world. (John le Carré)

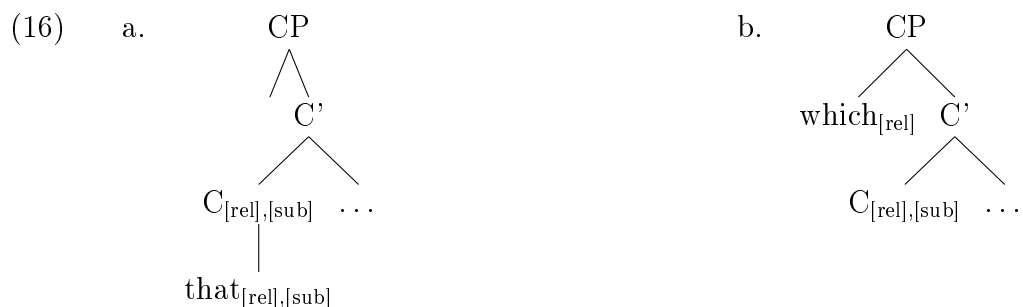[rel] comes with [EDGE] – no "relative in situ" (cf. Bacskai-Atkari 2014c: 122)

→ movement of the operator triggered even if [rel] is interpretable on the functional head

→ real doubling of [rel] head and [rel] operator possible

examples in English:

(15)   a.   This is the book **that** explains the difference between cats and tigers.
        b.   This is the book **which** explains the difference between cats and tigers.

structures:

(16)   a.   CP   b.   CP

                    C'   which$_{[rel]}$ C'

            C$_{[rel],[sub]}$ . . .   C$_{[rel],[sub]}$ . . .

            that$_{[rel],[sub]}$

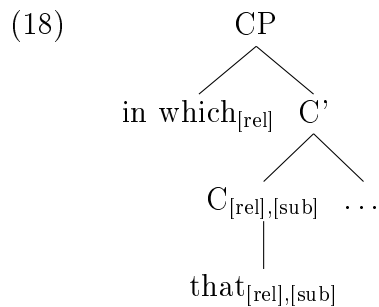no need for projecting a further layer for encoding [sub] in (16b)

in (16a): a covert operator moves to [Spec,CP] as there is no relative in situ
does not affect overt marking

Doubly Filled COMP pattern in English

Van (Gelderen 2013: 59, ex. 85):

(17)   a.   This program **in which that** I am involved is designed to help low-income
             first generation attend a four year university and many of the resources
             they. . .
        b.   it's down to the community **in which that** the people live.

structure:

(18)   CP
              /   \
     in which[rel]   C'
                    /   \
         C[rel],[sub]   . . .
              |
         that[rel],[sub]

inserted head: also a [rel] head, not any complementiser $\leftrightarrow$ interrogatives

evidence from South German: *wo* instead of *dass* 'that' in relative clauses
see Brandner (2008), Brandner & Bräuning (2013)

- regular relative complementiser: *wo*

- relative operators also possible (obligatorily triggering V2) – pronouns are
  borrowings from Standard German

- doubling also possible (*wh wo. . . V*), cf. Weise (1917)

- $\rightarrow$ [rel] head filled either by an element lexically specified as [rel] or V-movement

[rel] head filled in varieties that do not have relative operators genuinely

- even in English: Middle English *wh*-based relative operator an innovation alongside
  that head, see Van Gelderen (2004; 2009)

- other languages without operators: Modern Icelandic *sem* and *er* (Thráinsson 2007)

Hungarian: a language without *that*-relatives

(19)   Ez   az   az ember, **aki**   felette   a   sajtomat.
        this that the person who.REL up.ate.3SG the cheese.POSS.1SG.ACC
        'This is the person who has eaten up my cheese.'

structure as in (16b)

relative clause formation follows a similar pattern also in earlier periods (Old and Middle Hungarian) – cf. Bacskai-Atkari (2012; 2014a;c), Bacskai-Atkari & Dékány (2015), see also Dömötör (1991), Sipos (1991), Juhász (1991)

but: a doubling-like pattern in late Old Hungarian and early Middle Hungarian

- *hogy* 'that' + relative pronoun

- see Galambos (1907), rediscovered by Kenesei (1992a;b), recently discussed by Bacskai-Atkari (2012; 2013; 2014a;c; to appear), and Bacskai-Atkari & Dékány (2014; 2015)

- not the dominant pattern (see Dömötör 2014)

(20) olÿaat tezǫk raÿtad **hog kÿtǫl** felz
      such.ACC do.1SG you.SUP that who.ABL fear.2SG
      'I will do such on you that you fear.' (Sándor Codex 14v)

hogy not a relative complementisers otherwise (Bacskai-Atkari & Dékány 2015)
      ↔ English and German patterns
      → *hogy* marks subordination

structure:

(21)

$$
\begin{array}{c}
\text{CP} \\
| \\
\text{C'} \\
\end{array}
$$
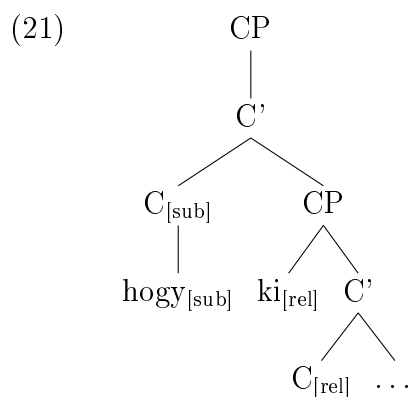
question: why a separate CP for [sub] generated (no need for overt marking)

possible source: embedded degree clauses (analogy)
      cf. Bacskai-Atkari (2014a;c) on the parallelism with relative clauses

also: comparative/equative subclauses are relative clauses (cf. Chomsky 1977)

original comparative complementiser *hogy* 'that' gradually replaced by *mint* 'how/as/than'

modelling of the process:

(22) $\text{hogy}_{[sub],[compr]} \rightarrow \text{hogy}_{[sub],[compr]}\ \text{mint}_{[compr]} \rightarrow \text{hogy}_{[sub]}\ \text{mint}_{[compr]} \rightarrow \text{mint}_{[sub],[compr]}$

third stage in (22): *mint* ambiguous between an operator and a head

$\rightarrow$ analogy: relative clauses generally can be introduced by subordinator + operator

difference in ordering in Germanic and Old/Middle Hungarian double marking

- Germanic: relative Op. + C head – Doubly Filled COMP effect, same CP

- Hungarian: C head + relative Op. – different CPs because overt C head not [rel]

if two CPs, lower one contains the operator – Minimal Link Condition satisfied

$\leftrightarrow$ strict cartographic approaches would assume a double CP for Germanic too

- avoiding Doubly Filled COMP effects, as in Baltin (2010)

- but: no explanation for ordering differences cross-linguistically

$\rightarrow$ marking of [rel] does not require multiple CPs, but projection of an extra layer possible if [sub] C head not equipped with [rel]

5 Embedded degree clauses

relevant features: [sub], [rel], [compr], [pol:neg]

- [compr]: encoding the comparative nature of the clause; encoded either by an operator or by a functional C head, has to be overt

- [pol:neg]: encoding the negative polarity of the clause in the absence of a negative operator (degree negation, not clausal negation); encoded by a functional head (Pol or C), has to be overt (negation and negative polarity marked morphologically, cf. Dryer 2013)

equative clauses (*as*-clauses) and comparative clauses (*than*-clauses):

(23) a. Mary is as tall **as** Peter is.
      b. Mary is taller **than** Peter is.

comparative subclauses are negative polarity environments (Seuren 1973):

(24) She would rather die than **lift a finger** to help her sister.

reason: degree semantics

- equatives express degree equality (d=d')

- comparatives express degree inequality (d$\neq$d', either d$>$d' or d$<$d')

asymmetry between equatives and comparatives attested in several languages synchronically and/or diachronically

Hungarian equatives:

(25) a. Mari olyan magas volt, **mint amilyen (magas)** Péter volt.
     Mary so   tall   was.3SG as   how.REL tall   Peter was.3SG
     'Mary was as tall as Peter.'

   b. Mari olyan magas volt, **mint** Péter ~~volt~~.
      Mary so   tall   was.3SG as   Peter was.3SG
      'Mary was as tall as Peter.'

   c. Mari olyan magas volt, **amilyen (magas)** Péter volt.
      Mary so   tall   was.3SG how.REL tall   Peter was.3SG
      'Mary was as tall as Peter.'

Hungarian comparatives:

(26) a. Mari magasabb volt, **mint amilyen (magas)** Péter volt.
     Mary taller   was.3SG as   how.REL tall   Peter was.3SG
     'Mary was taller than Peter.'

   b. Mari magasabb volt, **mint** Péter ~~volt~~.
      Mary taller   was.3SG as   Peter was.3SG
      'Mary was taller than Peter.'

   c. *Mari magasabb, **amilyen**   **(magas)** Péter volt.
      Mary taller   was.3SGhow.REL   tall   Peter was.3SG
      'Mary was taller than Peter.'

pattern in (25a) attested in non-standard English too:

(27) %Mary is as tall **as how tall** Peter is.
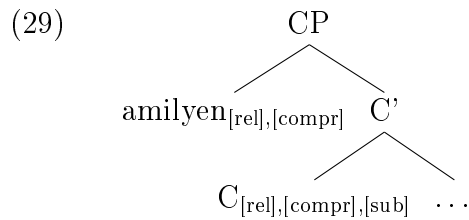
structure for (25a):

(28)
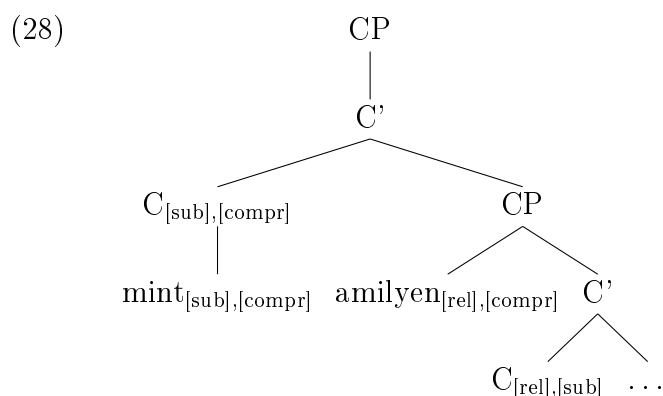
lower C head specified for [rel] but not [compr] → further layer necessary

separation of [rel] and [compr]: comparative complement not necessarily a relative clause
     phrasal comparatives in Italian (PP headed by *di* 'of'), genitive in Russian, Polish
     and Greek, adessive in Hungarian

[rel] and [compr] cannot be encoded by a single overt head in English and Hungarian –
no such lexically specified element

single CP if the lower C is specified for [compr] too and the operator is overt, as in (25c):

(29)

$$
\begin{array}{c}
\text{CP} \\
\diagup\diagdown \\
\text{amilyen}_{\text{[rel],[compr]}} \quad \text{C'} \\
\diagup\diagdown \\
\text{C}_{\text{[rel],[compr],[sub]}} \quad \cdots
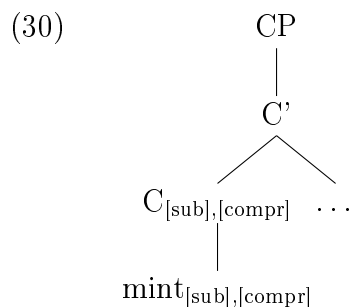\end{array}
$$

not available in English even for speakers who accept (27) – selectional restrictions on
the CP from the matrix Deg

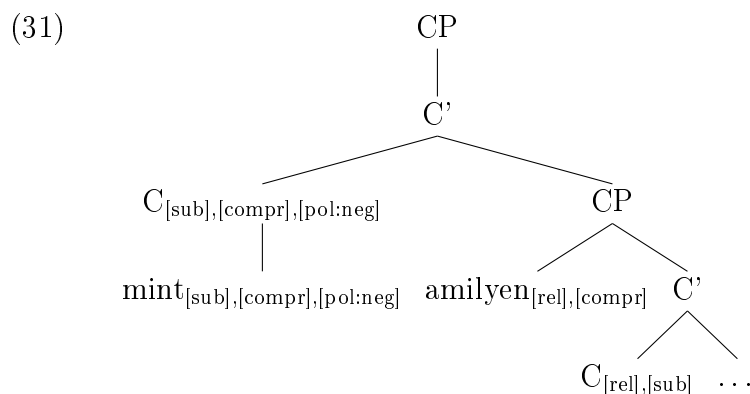elliptical pattern in (25b): C head with [rel] specification is missing

- no operator movement triggered

- [rel] uninterpretable on a non-moved XP: ellipsis saves the construction
  see Bacskai-Atkari (2014c), Bacskai-Atkari & Kántor (2011; 2012) for comparatives

- no Doubly Filled COMP effects either: no [rel] complementiser available in Hungarian → a [rel] C head cannot be filled (operators have no double status either)
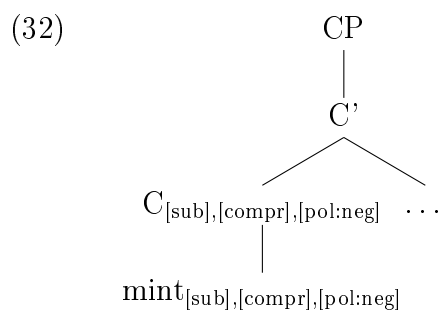
structure:

(30)

$$
\begin{array}{c}
\text{CP} \\
| \\
\text{C'} \\
\diagup\diagdown \\
\text{C}_{\text{[sub],[compr]}} \quad \cdots \\
| \\
\text{mint}_{\text{[sub],[compr]}}
\end{array}
$$

comparatives: additional [pol:neg] feature: C head *mint* may be with or without it
(two lexical items)

structure for comparatives like (26a):

(31)

$$
\begin{array}{c}
\text{CP} \\
| \\
\text{C'} \\
\diagup\diagdown \\
\text{C}_{\text{[sub],[compr],[pol:neg]}} \quad\quad \text{CP} \\
| \quad\quad\quad\quad \diagup\diagdown \\
\text{mint}_{\text{[sub],[compr],[pol:neg]}} \;\; \text{amilyen}_{\text{[rel],[compr]}} \;\; \text{C'} \\
\diagup\diagdown \\
\text{C}_{\text{[rel],[sub]}} \quad \cdots
\end{array}
$$

elliptical pattern in (26b): C head with [rel] specification is missing, same as for equatives:

(32)

$$
\begin{array}{c}
\text{CP} \\
| \\
\text{C'} \\
\diagup \quad \diagdown \\
\text{C}_{[\text{sub}],[\text{compr}],[\text{pol:neg}]} \quad \cdots \\
| \\
\text{mint}_{[\text{sub}],[\text{compr}],[\text{pol:neg}]}
\end{array}
$$

structure for the illicit configuration in (26c):

(33)

$$
\begin{array}{c}
\text{CP} \\
\diagup \quad \diagdown \\
\text{amilyen}_{[\text{rel}],[\text{compr}]} \quad \text{C'} \\
\diagup \quad \diagdown \\
\text{C}_{[\text{sub}],[\text{compr}],[\text{pol:neg}],[\text{rel}]} \quad \cdots
\end{array}
$$
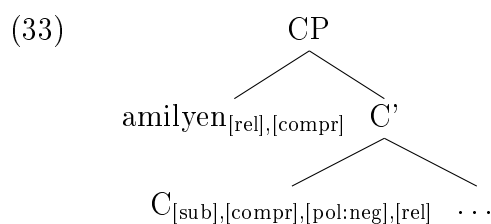
[pol:neg] cannot be checked off: comparative/relative operator not a negative operator

ordering (cross-linguistically well attested): comparative C head + comparative operator

- comparative C heads not encoding [rel]

- Minimal Link Condition

expectation: if there is a language that has a complementiser lexically specified as [rel] and [compr], and there is also an overt [rel], [compr] operator, there will be a single CP showing the same doubling that is attested in relative clauses (hence: operator + complementiser order)
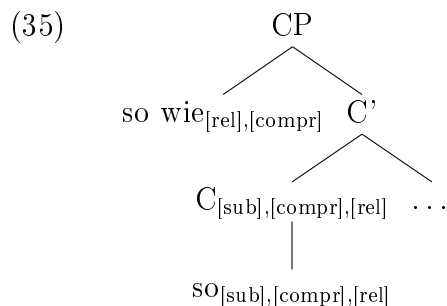
evidence from Old High German:

- *wie* in equatives appears in Early New High German, and goes back to Middle High German *swie*, which in turn stems from Old High German *so wie so*, see (Jäger 2010: 488) – (34a)

- *so wie so* appears in free relatives, just as *so wer so* or *so waz so* in non-comparative free relatives, where the *so*+WH combination is in [Spec,CP] and *so* is in C, see (Jäger 2010: 488), cf. Behaghel (1928), Paul (1920)

- *so* used as a C head in *as*-clauses in Old and Middle High German, see (Jäger 2010: 470–472) – (34b)

- *so* available as a relative complementiser on its own in Middle High German, see (Paul 2011: 405), (Ferraresi & Weiß 2011: 98) – (34c)

examples:

(34) a. er bi unsih tod   thulti, **so wio so** er selbo wolti
          he by us   death suffered as how as he self   wanted
          'he suffered death by us, as he himself wished' (Otfrid V, 1, 7)
          (Jäger 2010: 488, ex. 46, quoting Schrodt 2004)

      b. ir   scult   wesen fruot. **so** die   natrun.
          you.PL should.2PL be   cunning as the.PL snakes
          'you should be cunning as snakes' (Physiologus 142v, 6)
          (Jäger 2010: 472, ex. 14)

      c. ich hete   ir   doch vil lihte ein   teil geseit,
          I   have.COND.1SG she.DAT PRT perhaps a.M.ACC part say.PTCP
          der   vil grossen   liebe **so** min herze an si   hat
          the.F.GEN much great.F.GEN love as my.N heart at she has
          'perhaps I should have expressed to her a part of the great love that my
          heart has towards her' (Rudolf von Rotenburg VII, 2,1–2)
          (Ferraresi & Weiß 2011: 98, ex. 30, quoting Paul 2007: 414)

hence: Doubly Filled pattern possible in embedded degree clauses, but only if the C head
       is specified as [compr] and [rel]

structure for (34a):

(35)

```
                          CP
                 ╱───────────────╲
      so wie[rel],[compr]        C'
                        ╱──────────╲
              C[sub],[compr],[rel]    · · ·
                     │
              so[sub],[compr],[rel]
```

→ embedded degree clauses do not necessarily not have multiple CPs, but they very
   often do, due to the feature distribution of [rel] and [compr], and [rel] and [pol:neg],
   which are not always possible to be marked on the same head

6 More on the functional vP-periphery

recall: (Modern) Hungarian marks [wh] overtly on the functional vP-periphery
     feature passed on from C to F

paradigm:

(36)   a.   **Ki** ette   meg a sajtot?
            who ate.3SG PRT the cheese.ACC
            'Who has eaten the cheese?'

        b.   Megetted**(-e)** a   sajtot?
            PRT.ate.2SG-Q the cheese.ACC
            'Have you eaten the cheese?'

        c.   Azt   kérdeztem, **(hogy)** **ki** ette   meg a sajtot.
            that.ACC asked.1SG   that   who ate.3SG PRT the cheese.ACC
            'I asked who had eaten the cheese.'

        d.   Azt   kérdeztem, **(hogy)** megetted-**e**   a sajtot.
            that.ACC asked.1SG   that   PRT.ate.2SG-Q the cheese.ACC
            'I asked if you had eaten the cheese.'

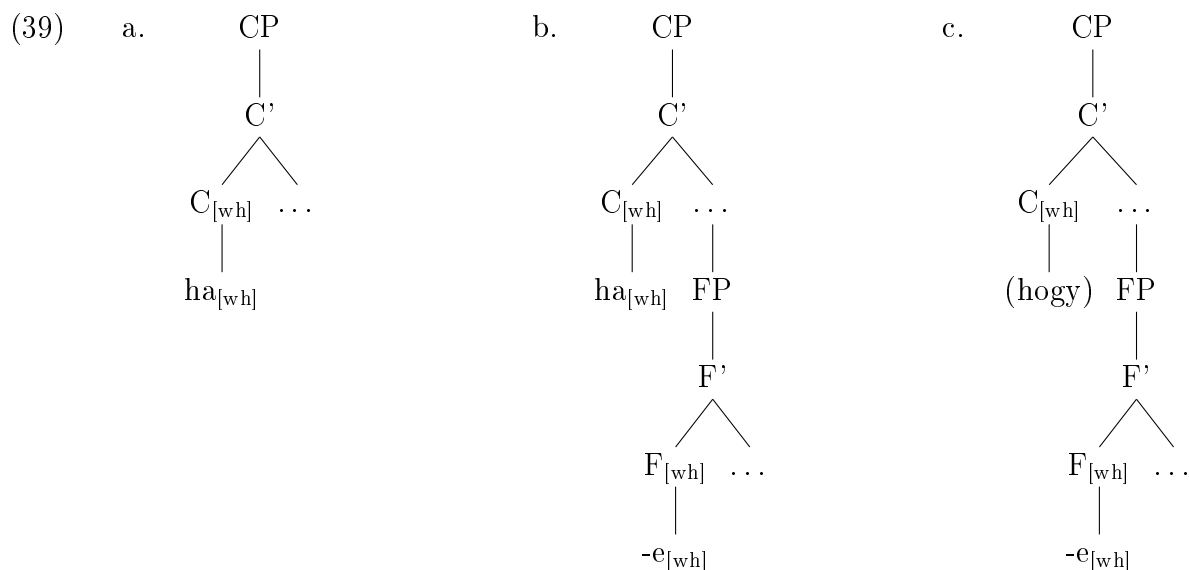*wh*-questions show the same pattern already in Old Hungarian (Bacskai-Atkari 2014b)

embedded polar questions in Old Hungarian: introduced by the complementiser *ha* 'if':

(37)   mėghirdètèc   Amānac   kėuāńauala   megtudni   **ha**
        PRT.announced.3PL Haman.DAT wishing.be.PST PRT.know.INF if
        mėgmaradna   èt̨oruénbèn
        PRT.stay.COND.3SG this.law.INE
        'they told Haman, to see whether his matters would stand' (Vienna Codex 55,
        middle of the 15th century)

appearance of -*e* in embedded polar questions in Middle Hungarian:

(38)   kérdette   tülle   **ha** nyughatik**e**
        asked.3SG (s)he.ABL if   rest.POSSIB.3SG-Q
        '(s)he asked him/her whether (s)he could rest' (Witch Trial 13; from 1724)

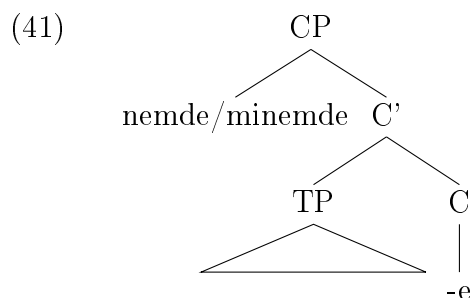changes in embedded clauses:

(39) a.
```
        CP
        |
        C'
       /  \
    C[wh]  ...
      |
   ha[wh]
```

b.
```
        CP
        |
        C'
       /  \
    C[wh]  ...
      |      |
   ha[wh]   FP
            |
            F'
           /  \
        F[wh]  ...
          |
       -e[wh]
```

c.
```
        CP
        |
        C'
       /  \
    C[wh]  ...
      |      |
   (hogy)   FP
            |
            F'
           /  \
        F[wh]  ...
          |
       -e[wh]
```

-e present in main clause interrogatives already in Old Hungarian:

- optional, just like in Modern Hungarian

- most typically located in the F head (verb-adjacent)

- traces of an older pattern, whereby *-e* is clause-final: the C head of a head-final CP, which also requires the co-presence of a clause-initial question particle such as *nemde* or *minemde* 'whether, isn't it', see É. Kiss (2014)

examples:

(40) a. **nēde** tú incab nagobbac vattoc aȝocnal   ė
          Q   you rather greater.PL are.3PL those.DAT Q
          'Are ye not much better than they?' (Munich Codex 12vb, from 1466)

      b. Te vag ė Danièl Iuda fogſaganac   fiaibol
          you are Q Daniel Judah captivity.POSS.DAT sons.POSS.ABL
          'Art thou that Daniel, which art of the children of the captivity of Judah?'
          (Vienna Codex 142, middle of the 15th century)

structure for (40a):

(41)
```
                CP
               /  \
   nemde/minemde   C'
                  /  \
                TP    C
               /|\    |
              /_|_\  -e
```

17

the two heads in C and F may even co-occur:

(42)   **Mínemde** elfelethethí-**e**   az ańa   v   kis   germǫket-**e**
        Q   off.forget.POSSIB.3SG-Q the mother she small child.POSS.ACC-Q
        'Can the mother forget her small child?' (Nádor Codex 26r, from 1508)
        (É. Kiss 2014: 16, ex. 17)

summary of changes:

- reanalysis of -*e* from head-final C into head-initial F: in line with a major typological change from "SOV" to "Top Foc V X" (see É. Kiss 2013)

  - change from predominantly head-final to predominantly head-initial projections

  - evolution of a functional vP-periphery (FP layers) that hosts predicational items (focus, *wh*-elements etc. – see É. Kiss 2006; 2008a;b)

- introduction of -*e* into embedded clauses alongside the C head *ha* 'if' – analogy from main polar questions, and from *wh*-questions (overt marking of [wh] on the functional vP-periphery)

- disappearance of doubling pattern: *ha* disappears from embedded polar questions, subordination marked by *hogy* 'that' (optionality)

7 Conclusion

aim: providing a flexible, feature-based approach to functional left peripheries

realisation of layers largely depends on overtness requirements – syntactic encoding

- embedded interrogatives: mostly single CP (possibly with Doubly Filled COMP), layer spreading (Hungarian)

- relative clauses: mostly single CP (possibly with Doubly Filled COMP), double CP if [sub] marked separately (Old Hungarian)

- embedded degree clauses: mostly double CP – [rel] carried by a lower C than [compr] and [pol:neg]; Doubly Filled pattern possible (Old High German)

- lower C in multiple CPs: related to operator movement (if any)

- functional vP-periphery: attested in structures closely resembling IS-related movement targeting the same periphery – embedded interrogatives in Hungarian

→ number of layers, ordering can be modelled on the basis of features

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