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Categories, features and overtness in the CP-periphery

0. 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 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

1. Approaches to the CP-periphery

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

Rizzi (1997, 2004):

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

topics and focus: optional, topics also iterable

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 and Lenertová 2011)

      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

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*: cannot be combination of *as*-clause and *if*-clause (*as* would be *wie*)

cf. also Jäger (2010)

→ grammaticalised form, one single left periphery

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

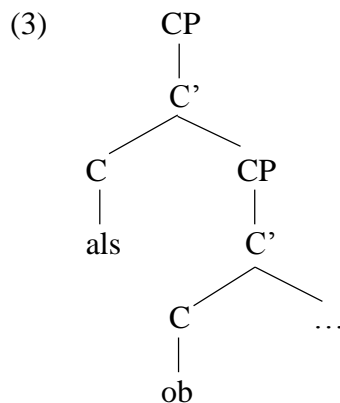↔ Hungarian *mintha*: fused form (Bacskai-Atkari 2014a, 2014b)

lower C position: overt complementiser or verb movement

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

lower C available for movement

no violation of the Minimal Link Condition (Chomsky 1995)

structure:

(3)

```
            CP
            |
            C'
           /  \
         C      CP
         |      |
        als     C'
               /  \
              C    …
              |
              ob
```

not iteration, but still conforms to the idea of two complementisers

dialectal variation in German comparative *than*-clauses:

cf. Jäger (2010), Eggs (2006), Lipold (1983), Weise (1918)

(4) a. Ralf   ist   größer **als**   Peter.
         Ralph is   taller   than   Peter
         'Ralph is taller than Peter.'

     b. % Ralf ist größer **als** **wie** Peter.
         Ralph is   taller than   as   Peter
         'Ralph is taller than Peter.'

     c. % Ralf ist größer **wie** Peter.
         Ralph is   taller as   Peter
         'Ralph is taller than Peter.'

independent evidence that both *als* and *wie* are heads in (4)

see Jäger (2010), Bacskai-Atkari (2014a, 2014b)

→ two C heads in (4b), again not Force+Fin distinction
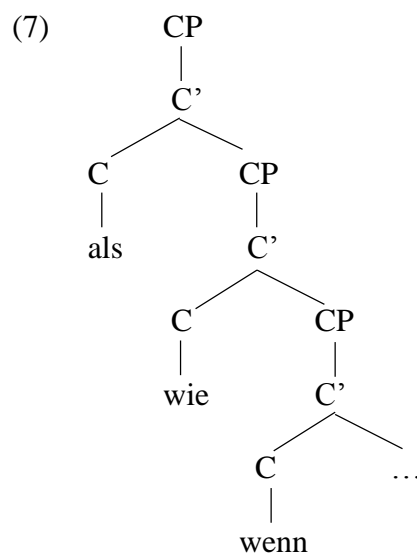
structure similar to (3):

(5)
```
        CP
         |
        C'
       /  \
      C    CP
      |     |
     als   C'
          /  \
         C    …
         |
        wie
```
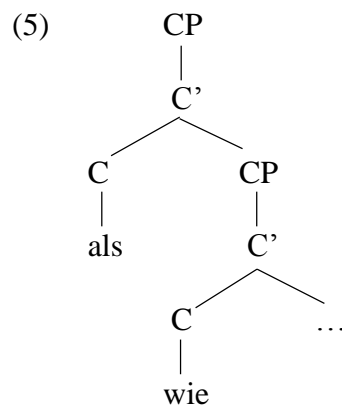
dialects that have *als wie* may use *als wie* in structures like (2)

→ three C heads (cf. Thurmair 2001: 62; Erzgebirgisch: also *als wie ob*[1]):

(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.'

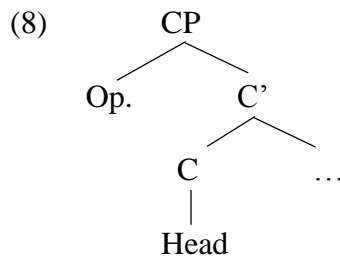structure on the basis of (3) and (5) should involve 3 C heads:

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

---

intermediate C position not even an Int head

→ a rigid cartographic approach in untenable

2. Complementisers and operators

distinction between C heads and C-operators going back to Chomsky (1977, 1981):

(8)　　　CP
　　　／　＼
　Op.　　C'
　　　／　＼
　　C　　　…
　　│
　Head

distinction questioned by some (e.g. Kayne 2009, 2010a, 2010b)

　　but: reasons to believe there is categorial distinction (though not rigid)

　　　cf. Franco (2012)

specifiers are phrase-sized positions – visibly phrase-sized material can only be a specifier

　　e.g. prepositions with relative operators, Hungarian comparatives

(9)　a.　This is the exhibition **about which** I was talking.
　　b.　A　macska kövérebb,　mint **amilyen széles** a　macskaajtó　volt.
　　　　the cat　　fatter　　　than how　　wide　the cat flap　　was.3SG
　　　　'The cat is fatter than the cat flap was wide.'

head-sized elements: can be phrases or heads

　　complementisers: base-generated heads

　　head position filled by movement: e.g. verbs (V2 movement in German)

　　preference for head status involving no movement if the element has dual status

　　　transparency for the language learner (cf. Roberts and Roussou 2003)

　　　→ reanalyses from specifier into head diachronically (van Gelderen 2004, 2009)

intermediate status: base-generated phrases moving to a head position

　　e.g. *wh*-elements have a latent C feature (Bayer and Brandner 2008)

Doubly Filled COMP in Bavarian (and Alemannic) embedded questions: if *wh* phrase-sized

 e.g. co-occurring lexical phrases, P heads (even lexical case suffixes)

 Bayer and Brandner (2008: 88, ex. 3a and 4a):

(10) a. I frog-me, **fia wos dass-ma** an zwoatn Fernseher braucht.
    I ask-REFL for what that-one a second TV   needs
    'I wonder what one needs a second TV for.'

   b. I hob koa Ahnung, **mid wos fia-ra Farb** **dass-a** zfrien waar.
    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.'

insertion of *dass*: subject clitic needs a preceding functional head (Bayer and Brandner 2008)

but: no *dass* if the *wh*-element is head-sized (Bayer and Brandner 2008: 88, ex. 5a):

(11) *I woass aa ned, **wer dass** allas am Sunndoch in da Kiach gwen is.
   I know too not who that all at Sunday in the church been is
   'I don't know either who all has been to church on Sunday.'

possible structures:

(12)
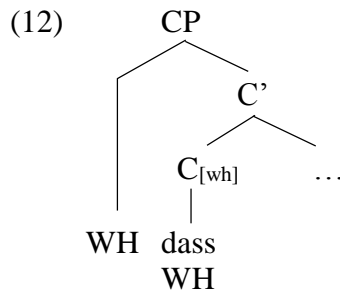
[wh] feature of the head can be checked off either by inserting a [wh] head or a phrase

 insertion of *dass*: independent reasons (subject clitics)

  but *dass* has to be insensitive to [±wh] ↔ standard German

grammaticalisation: if the original operator loses features incompatible with C head status

 cf. also van Gelderen (2009)

 similarly: Hungarian C heads historically (Bacskai-Atkari 2014a, 2014b, in press)

 e.g. person, number, case; also: cross-linguistic differences

→ categorial distinction between C heads and clause-typing operators (hence: C-operators)
  holds, but no rigid boundary

3. C-operators and lexical phrases

C-operators may take lexical phrases along:

(13) a. This is the exhibition **about which** I was talking.

    b. This is the exhibition **which** I was talking **about**.

    c. This is the exhibition I was talking **about**.

    d. *This is the exhibition **about** I was talking.

movement driven by the [rel] feature of the operator

zero relative operator possible in English – (13c)

ungrammaticality of (13d): violates the Overtness Requirement

    cf. Bacskai-Atkari (2014a) in comparative subclauses

Overtness Requirement: lexical material is licensed to co-occur in the same position with a C-operator only if the operator is overt

does not affect movement not driven by operators

German main clauses have V2: verb movement to C, movement of a constituent by [EDGE] feature to the [Spec,CP] position

    see e.g. Fanselow (2002, 2004a, 2004b), Frey (2005), Den Besten (1989)

(14) a. **Mein Schwiegervater** hat morgen Geburtstag.
      my.M father-in-law has tomorrow birthday
      'My father-in-law has birthday tomorrow.'

    b. **Morgen** hat mein Schwiegervater Geburtstag.
      tomorrow has my.M father-in-law birthday
      'My father-in-law has birthday tomorrow.'

unselective [EDGE] feature – not a lexical property of the given XP

similarly: leftward movement of topics, focus in Hungarian unaffected by Overtness Requirement

movement in (13): driven by the feature [rel]

    lexical property of the relative operator

    always triggers movement – "no relative-in-situ" (↔ *wh*, Bacskai-Atkari 2014a: 122)

    → [rel] always specified for [EDGE], and [EDGE] may project upwards, causing a larger XP containing lexical material to move to the left periphery

case of (13a): [EDGE] feature projects up to the PP level:

(15) [about [which]$_{[rel]}$]$_{[EDGE]}$

→ features aligned to overt elements that PF can realise

case of (13b): [EDGE] feature does not project up to the PP level

(16) [which]$_{[rel],[EDGE]}$

→ features again aligned to an overt element that PF can realise

case of (13c): [EDGE] feature does not project up to the PP level

(17) [rel],[EDGE]

→ features not aligned to an overt element, hence no PF realisation

case of (13d): [EDGE] feature projects up to the PP level

(18) [about [rel]]$_{[EDGE]}$

→ one of the features not aligned to an overt element, no PF realisation of the feature domain

feature domain created by the projection of a feature

no unaligned features in IS-related movement or first position (German)

→ the movement of C-operators can be distinguished from movement of lexical phrases on the basis of features – difference not directly related to category label of the landing site

4. 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 v) head (polar questions); has to be overt in embedded clauses because no intonational distinction available
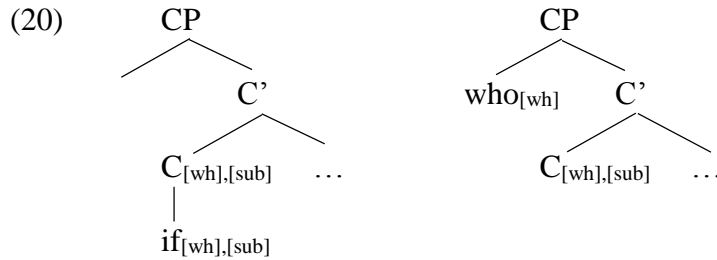
uninterpretable [wh] feature of a functional head checked off by insertion of a [wh] lexical head or by moving a [wh] operator to the specifier (or the head: Alemannic/Bavarian)

examples in English:

(19) a. I asked **if** Ralph had eaten the cheese.
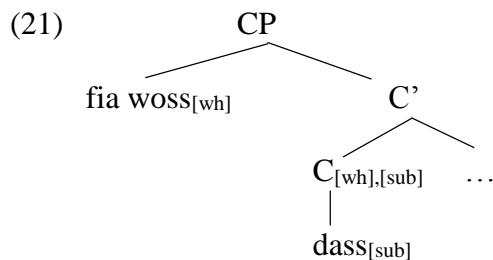   b. I asked **who** had eaten the cheese.

structures:

(20)

```
        CP                           CP
       /  \                         /  \
          C'                   who[wh]   C'
         /  \                           /  \
  C[wh],[sub]  ...              C[wh],[sub]   ...
      |
  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), moved *wh* in
      Bavarian/Alemannic not specified as a subordinator

Doubly Filled COMP pattern – see (10) for Bavarian:

(21)

```
              CP
             /  \
   fia woss[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 checks of the uninterpretable feature on the head

      → the *wh*-phrase could not move

no need for projecting any further layer

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

(22) 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
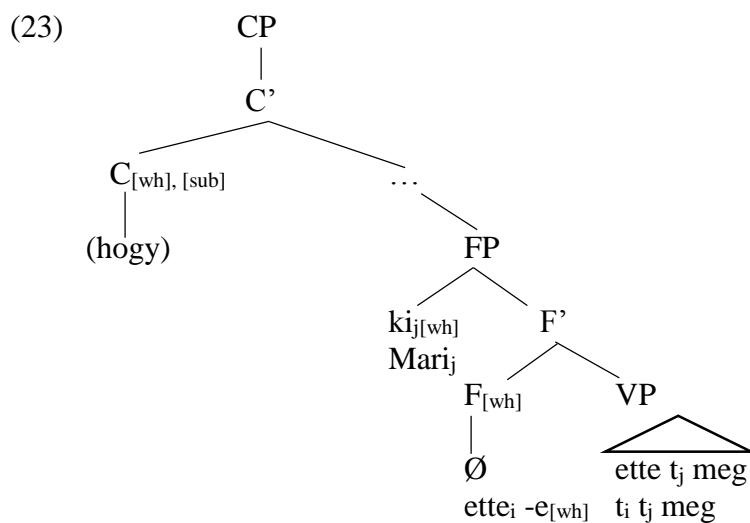   'I would like to know who if it was Mary who has eaten the cheese.'

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*: vP-domain ("focus" position) – see É. Kiss (2002), Van Craenenbroeck and Lipták (2008)

structure (Bacskai-Atkari 2014c):

(23)

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

[wh] feature passed onto the vP-domain – FP projection

> checked off either by *wh*-element or *-e* head

> movement of the verb to F: triggered by the bound morpheme *-e* (not otherwise)

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

5. 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]

but: also non-finite relative clauses

> see Law (2000: 161–162), Aarts (2011: 199) for English

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

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

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

examples in English:

(25) 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:

(26)

CP
    C'
C$_{[rel],[sub]}$ …
  that$_{[rel],[sub]}$

CP
which$_{[rel]}$ C'
C$_{[rel],[sub]}$ …
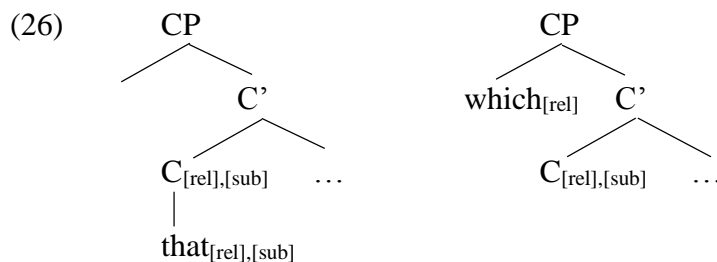
no need for projecting a further layer for encoding [sub]

Doubly Filled COMP pattern in English: (van Gelderen 2013: 59, ex. 85):

(27) 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:

(28)　　　　　　CP
　　　　　　／＼
　　in which[rel]　　　C'
　　　　　　　　　／＼
　　　　　　　C[rel],[sub]　…
　　　　　　　　｜
　　　　　　　that[rel],[sub]
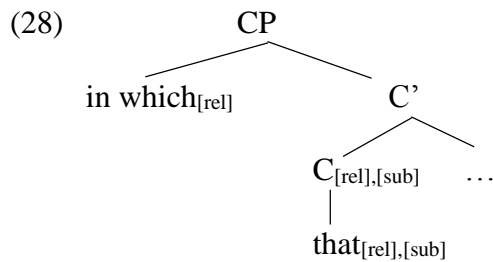
inserted head: also a [rel] head, not any complementiser ↔ interrogatives

evidence from South German: *wo* instead of *dass* 'that' in relative clauses

    see Brander (2008), Brandner and Bräuning (2013)

      regular relative complementiser: *wo*

      relative operators also possible (triggering V2) – borrowing (Standard German)

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

    → [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

    also: Middle English *wh*-base relative operator an innovation alongside *that* head

      see van Gelderen (2004, 2009)

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

further possibility: relative operators merging as heads during reanalysis phase

    cf. the relative cycle of van Gelderen (2004, 2009)

Hungarian: a language without *that*-relatives

(29)　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:

(30)　　　　CP
　　　　　／＼
　　aki[rel]　　C'
　　　　　　　／＼
　　　　C[rel],[sub]　…
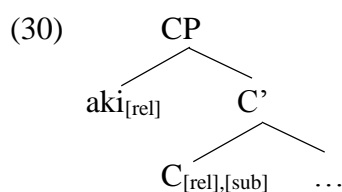
relative clause formation follows a similar pattern also in earlier periods (Old and Middle Hungarian) – cf. Bacskai-Atkari (2012, 2014a, 2014b, 2014d), Bacskai-Atkari and Dékány (2015), see also Dömötör (1991), Sipos (1991), Juhász (1991)

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

hogy 'that' + relative pronoun, and *ha* 'if' + relative pronoun

see Galambos (1907), rediscovered by Kenesei (1992a, 1992b), recently discussed by Bacskai-Atkari (2012, 2013, 2014a, 2014b, 2014d, in press) and Bacskai-Atkari and Dékány (2014, 2015)

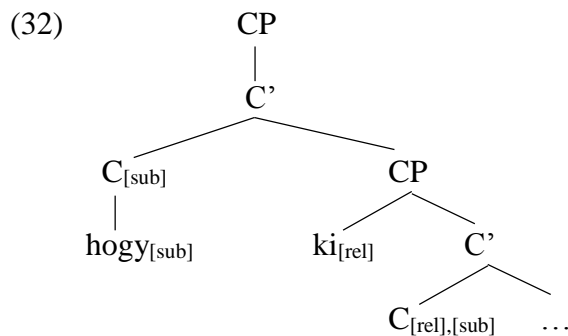not the dominant pattern (see Dömötör 2014)

(31) 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)

neither *hogy* nor *ha* relative complementisers otherwise (Bacskai-Atkari and Dékány 2015)

↔ English and German patterns

→ *hogy* and *ha* mark subordination

structure (based on Bacskai-Atkari 2014a, 2014b; Bacskai-Atkari and Dékány 2014, 2015):

(32)
```
                    CP
                    |
                    C'
                   /  \
              C[sub]   CP
                |      /  \
          hogy[sub] ki[rel]  C'
                           /  \
                   C[rel],[sub]  …
```

question: why a separate layer for [sub], if overt marking of [sub] no necessary otherwise

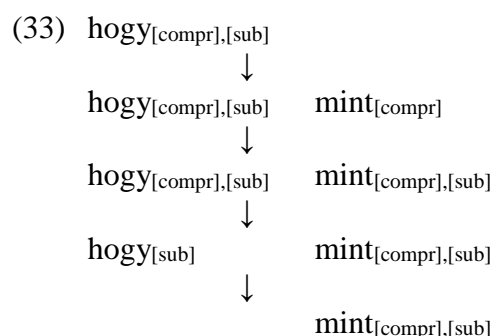Bacskai-Atkari and Dékány (2015): reinforcement

possible source: embedded degree clauses

cf. Bacskai-Atkari (2014a, 2014b) 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* 'as/than'

modelling of the process (cf. Bacskai-Atkari 2015):

(33) hogy$_{[compr],[sub]}$

$\downarrow$

hogy$_{[compr],[sub]}$ mint$_{[compr]}$

$\downarrow$

hogy$_{[compr],[sub]}$ mint$_{[compr],[sub]}$

$\downarrow$

hogy$_{[sub]}$ mint$_{[compr],[sub]}$

$\downarrow$

mint$_{[compr],[sub]}$

$\rightarrow$ language learner: relative clause maybe introduced by "subordinator + operator"

difference in ordering in Germanic and 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]

6. 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):

(34) a. Ralph is as tall **as** Peter is.

      b. Ralph is taller **than** Peter is.

comparative subclauses are negative polarity environments (Seuren 1973):

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

reason: equatives express degree equality (d=d'), while comparatives express degree
      inequality (d≠d', either d>d' or d<d'), cf. Bacskai-Atkari (2015)

negative polarity can be expressed by a separate Pol head (Old Hungarian, Romance)

if negative polarity is encoded on a C head, that C head must be overt

    → comparative operator not enough to be overt ↔ equatives

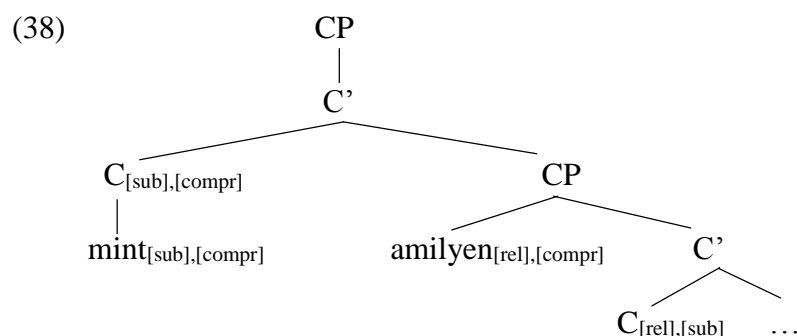evidence from Hungarian: asymmetry between equatives and comparatives

equatives:

(36) a. Mari   olyan magas, **mint amilyen (magas)** Péter.
       Mary so   tall   as   how.REL tall   Peter
       'Mary is as tall as Peter.'

    b. Mari   olyan magas, **mint** Péter.
       Mary so   tall   as   Peter
       'Mary is as tall as Peter.'

    c. Mari   olyan magas, **amilyen (magas)** Péter.
       Mary so   tall   how.REL tall   Peter
       'Mary is as tall as Peter.'

comparatives:

(37) a. Mari   magasabb, **mint amilyen (magas)** Péter.
       Mary taller   as   how.REL tall   Peter
       'Mary is taller than Peter.'

    b. Mari   magasabb, **mint** Péter.
       Mary taller   as   Peter
       'Mary is taller than Peter.'

    c. *Mari magasabb, **amilyen (magas)** Péter.
       Mary taller   how.REL   tall   Peter
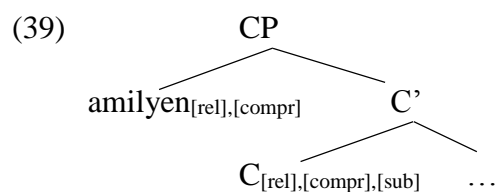   'Mary is taller than Peter.'

structure for equatives like (36a):

(38)

```
                        CP
                        |
                        C'
         ┌──────────────┴──────────────┐
   C[sub],[compr]                      CP
         |                    ┌─────────┴────────┐
   mint[sub],[compr]     amilyen[rel],[compr]    C'
                                           ┌─────┴─────┐
                                    C[rel],[sub]      …
```

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

cross-linguistically attested pattern with overt operators (e.g. non-standard English *how*)

single CP if the lower C is specified for [compr] too and the operator is overt, as in (36c):

(39)

```
                    CP
          ┌─────────┴────────┐
   amilyen[rel],[compr]       C'
                        ┌─────┴─────┐
               C[rel],[compr],[sub]   …
```

elliptical pattern in (36b): 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 (2014), Bacskai-Atkari and Kántor (2011, 2012) for comparatives

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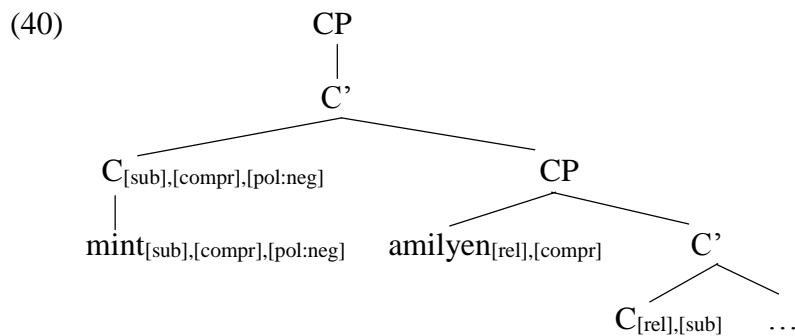
→ a [rel] C head cannot be filled (operators have no double status either)

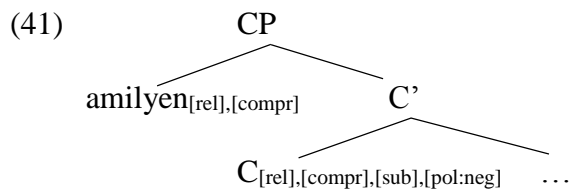comparatives: additional [pol:neg] feature

element *mint* may be with or without it (two lexical items)

structure for comparatives like (37a):

(40)

CP
|
C'
    C[sub],[compr],[pol:neg]   CP
    | amilyen[rel],[compr]   C'
    mint[sub],[compr],[pol:neg]   C[rel],[sub]   …

structure for the illicit configuration in (37c):

(41)

CP
    amilyen[rel],[compr]   C'
                       C[rel],[compr],[sub],[pol:neg]   …

[pol:neg] cannot be checked off: comparative/relative operator not a negative operator

elliptical pattern in (37b): C head with [rel] specification is missing, same as for equatives

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

    comparative C heads not encoding [rel]

    Minimal Link Condition

→ equatives need not have multiple CPs but may, due to the feature distribution of [rel] and
    [compr], comparatives by default do have a double CP because [rel] and [pol:neg] not
    marked on the same head

Conclusion

aim: providing a flexible, feature-based approach to the CP-periphery

clause-typing heads and operators different from IS-related movement, formal movement

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]

lower C in double layers: related to operator movement (if any)

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

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