Cyclic changes in Hungarian relative clauses

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1.   Introduction

Old Hungarian (OH): early 9th-16th century; first coherent text: Funeral Sermon and Prayer from 1192–1195, first codex: Jókai Codex from after 1370 (surviving copy from 1448).

RCs in OH: relative operator formally identical to interrogative operator

(1)   de **qui**   legen   neký atia   oʒut   nem tudiuc
       but who.INT be.SBJV.3SG he.DAT father-POSS that-ACC not   know-1PL
       'but we do not know who his father is' (Königsberg Fragment)

(2)   ʃcuʒ leannac [**qui**   vleben   tart chudalatuʃ fiot]
       virgin girl-DAT who.REL lap-POSS.INE holds wonderful son-ACC
       'of a virgin girl, who is holding a wonderful son in her lap' (Königsberg Fragment)

Modern Hungarian: interrogative operator unchanged, relative operator has an *a-* prefix

(3)   de nem tudjuk,   **ki**   lehet   az atyja
       but not know-1PL who.INT be.POSSIB.3SG the father-POSS
       'but we do not know who his father is'

(4)   szűz leánynak, **aki**   ölében   tart csodálatos fiút
       virgin girl-DAT   who.REL lap-POSS.INE holds wonderful son-ACC
       'of a virgin girl, who is holding a wonderful son in her lap'

origins of relative pronouns cross-linguistically:

wh-pronouns → wh-REL
demonstrative pronouns → dem-REL

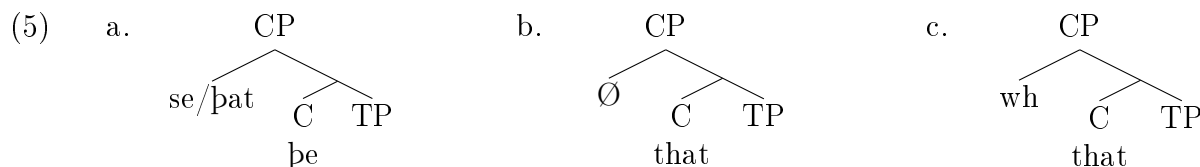the relative cycle (see van **??**):

- the reanalysis of demonstrative/interrogative pronouns into relative pronouns

- the reanalysis of relative pronouns into C heads

- the grammaticalization of original operators into C heads allows new relative pronouns to appear in the CP-domain

English (van **??**):

(I) reanalysis of *that* in OE: demonstrative → relative operator → C head
(II) reanalysis of *wh*-pronouns in ME: interrogative operator → relative operator

(I) precedes (II) → output of (I) provides an environment for (II)

(5) a.

```
          CP
        /    \
   se/þat     \
         /  \
        C    TP
        |
        þe
```

b.

```
          CP
        /    \
     Ø        \
         /  \
        C    TP
        |
        that
```

c.

```
          CP
        /    \
    wh        \
         /  \
        C    TP
        |
        that
```

English historically has both dem-REL and wh-REL in relative clauses

- dem-RELs are standard in Germanic relatives (**?**)

- the dem-REL *that* has been grammaticalized, other dem-RELs obsolete in English relatives

- co-occurrence of wh-RELs with *that*: doubly filled COMP

Main claim: Hungarian displays reanalysis processes similar to (I) and (II), but:

- (II) precedes (I)

- the output of (II) gives only relative operators, not C heads

- hence (I) can produce relative pronouns only if dem-RELs fuse with already existing wh-RELs → complex dem-wh-RELs

Roadmap:

- relative clauses in Old Hungarian

- the appearance of complex relative pronouns in late Old Hungarian

- relative clauses in Modern Hungarian

2. The earliest stage

2.1. The empirical picture

Relative clauses appear in the first coherent Hungarian texts.

- introduced by relative operators

- operators are formally identical to interrogative operators (wh-operators)

(6) a. uimagguc   ʃzent peter urot   [**kinec**   odut hotolm]
         pray-SBJV.1PL Saint Peter lord-ACC who-DAT given power
         'let us pray to the lord Saint Peter, to whom power has been given'
         (Funeral Sermon and Prayer)

b.   es   ana   tartia uleb en   [**qui** sciult dychev segut]
        and mother holds lap-POSS.INE who bore glory-ACC
        'and the mother, who has given birth to glory, is holding him in her lap'
        (Königsberg Fragment)
   c.   eggedum   illen   maraggun   uro dum
        only.one-POSS.1SG live-SBJV.3SG stay-SBJV.3SG lord-DIM.POSS.1SG
        [**kyth**   wylag felleyn]
         who-ACC world fear-SBJV.3SG
        'let my only one live and stay, so that the world shall fear him'
        (Old Hungarian Lamentations of Mary)

Arguments that these are operators, not complementizers:

- can take plural marking and case marking

    (7)   egÿebeknek zerzamaual   [**ky-k-nek**   myatta   ysten mÿuelkedyk
          others-DAT tool-POSS.INSTR who-PL-DAT because.of God   cultivates
          eznek   byzon gyewmelczet]
          this-DAT sure   fruit-POSS.ACC
          'with other tools, with which God cultivates its assured fruit' (Jókai C. 113)

- can take postpositions

    (8)   ez   levn   vy ignec   chudaia   [**qui mia**   vrduguc
          this became.3SG new case-DAT miracle-POSS who because.of devils
          scurnevlenec]
          wondered-3PL
          'this was the miracle of the new event, due to which the devils were surprised'
          (Königsberg Fragment)

2.2.   Analysis

Left periphery of clauses based on **??**:

(9)   FORCE (TOP*) INT (TOP*) FOC (TOP*) FIN IP

Adopted here as:

(10)   CP(1) (TOP*) INT (TOP*) FOC (TOP*) CP(2) IP

NB: topics in Hungarian are generally lower than CP2.

Proposal: OH relative operators are in spec, CP2 because

- they can be preceded by high topics

    (11)   a.   olÿ zerelmeth, [zornÿw halaal **kÿth**   nem goyozoth]
                such love-ACC   terrible death who-ACC not defeated.3SG
                'such love that was not defeated by death' (Czech C. 62)

3

b. yvta Angenek nag hegeyre, [Cicilianak balya felol
reached Ange-DAT great mountains-SUB Cilicia-DAT left-POSS from
melyek vadnak]
which-PL are.3PL
'he came to the great mountains of Ange, which are on the left of
Cilicia' (Székelyudvarhely C. 4)

c. [ʃent Adorẏaʃ Nappyahoz kezelb **ky** vaʃar Nap ezÿk] az
Saint Adrian day-POSS.ALL closer who Sunday falls that
lezen Advent vaʃarnapya
will.be advent Sunday-POSS
'that will be Advent's Sunday, the Sunday which is closer to Saint
Adrian's day' (unnamed codex fragment)

- they can be preceded by the C1 complementizers *hogy* and *ha* (see also ?, though
this is less frequent than C-less sentences)

(12) tyzen keth themen angyalth [**hogy kyk** engem megh
twelve legion angel-ACC that who-PL I.ACC PRT
oltalmaznanak]
protect-COND.3PL
'twelve legions of angels, who would protect me' (Apor C. 209)

(13) a. [**ha kyket** erewsb en zerettem] azoktol hamaraban meg
if who-PL.ACC stronger I loved.1SG those-ABL sooner PRT
vtaltattam
was.hated-1SG
'those whom I loved more started to hate me sooner' (Jókai C. 154)

b. [**ha mit** kerèndetec at'atol èn nèuembè] aʒt
if what-ACC ask-2PL father-ABL I name-POSS.ILL that-ACC
téʒèm
do-1SG
'I will do what you ask from the Father in my name' (Munich C. 101ra)
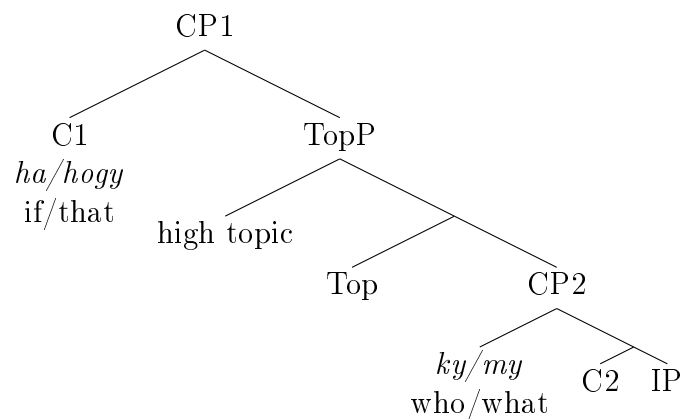
2.3. Against an alternative analysis

?'s (2014) observation: only one example where something intervenes between *hogy* 'that' and *ki/mi* 'who/what' (though several examples where something intervenes between *ha* 'if' and *ki/mi* 'who/what').

Her alternative analysis: RCs beginning with *hogy ki* 'that who' and *hogy mi* 'that what' feature a monomorphemic complementizer *hogyki* and *hogymi*.

(14)

```
            CP
           /  \
          C    IP
   hogyki/hogymi
  that.who/that.what
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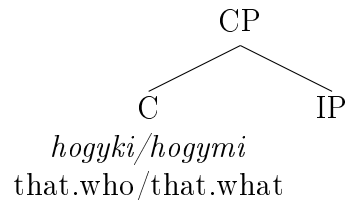
NB: Dömötör is a descriptive grammarian, (14) is a translation of her analysis into the generative framework.

Rebuttal 1:

- RCs with overt Cs are much less frequent than those with covert Cs

- topicalization in Hungarian typically targets a position below the CP-domain

- high topicalization into the CP-domain in RCs with overt Cs is rare

Rebuttal 2:

- the operators *ki* 'who' and *mi* 'what' may bear plural marking and case marking even after *hogy*

  (15) a. tyzen keth themen angyalth   [**hogy ky-k**   engem megh
            twelve   legion angel-ACC that   who-PL I.ACC PRT
            oltalmaznanak]
            protect-COND.3PL
            'twelve legions of angels, who would protect me' (Apor C. 209)
       b. olẏaat   tezọk   raẏtad   [**hog kẏ-tọl**   felz]
            such-ACC do-1SG you.SUP that who-ABL fear-2SG
            'I will do such a thing to you that you are afraid of' (Sándor C. 14v)

- these examples definitely feature a C *hogy* and an operator *ki/mi* 'who/what'


3. The rise of the morphologically complex operator

3.1. Stage 1: the starting point

The demonstrative in the main clause and the RC can be string-adjacent. At the starting point the demonstrative is still in the main clause and receives case from the main clause (the operator receives case from the embedded clause)

(16) Naǵ bolondsag embernek zeretnye **azt**, **kinek** miatta …
     great foolishness human-DAT love-INF.3SG DEM-ACC who-DAT because.of
     'it is very foolish for humans to love the one for whom' (Bod C. 2v)

The reanalysis starts in a subset of the above cases: where the demonstrative is morpho-
logically unmarked

(17) a. Ez **az** [**ky** cristust   kerestfan tarsolkodtatt] Ez **az** [**ky**
          this DEM who Christ-ACC cross-SUP conversed.3SG this DEM who
          cristusual   coporsoba el reÿtetÿk]
          Christ-INSTR coffin-ILL off is.hidden
          'this is the one who talked to Christ on the Cross; this is the one who is put
          into the coffin with Christ' (Jókai C. 133)
      b. o̧ **aʒ** [**ki** èn vtannam io̧uēdo̧]
          he DEM who I   after.me is.to.come
          'he is the one who comes after me' (Munich C. 85 va)
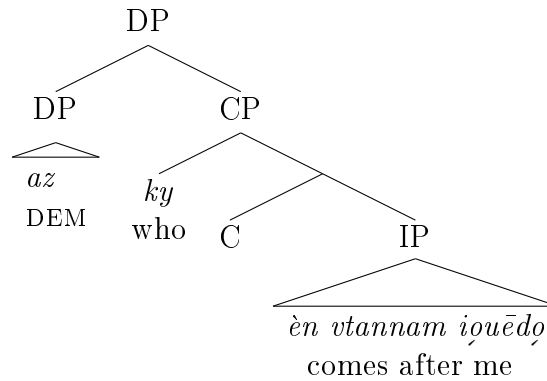
3.2. Stage 2: syntactic change

The demonstrative is reanalyzed as part of the RC. It now receives case from the RC.

(18)   matrix case: ACC, RC case: NOM
      a. veged   [**az mi** thyed]
          take-IMP.2SG DEM what yours
          'take what is yours' (Gl., around 1456)
      b. es   laang meg egethe   [**az kyk**   bÿnesek valanak]
          and flame PRT burned.3SG DEM who-PL guilty-PL were-3PL
          'and those who were guilty were burned by flame' (Kulcsár C. 261)

NB: demonstratives used in nominal positions bear appropriate number and case marking,
adnominal demonstratives are bare.

(19) **az-ok-ot**   agÿad   zegeneknek
      DEM-PL-ACC give-IMP.2SG poor-PL.DAT
      'give those to the poor' (Jókai C. 98)   demonstrative in a nominal position

(20) **az** bewn-**ek-rewl** kyket   tewtem
      DEM sin-PL-ALL   who-PL.ACC did-1SG
      'about the sins that I did' (Jókai C. 25)   adnominal demonstrative

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Demonstratives reanalyzed into the RC are bare:

(21) es   laang meg egethe   [**az   kyk**   bÿnesek   valanak]
      and flame PRT burned.3SG DEM who-PL guilty-PL were-3PL

      'and those who were guilty were burned by flame' (Kulcsár C. 261)

→ the reanalyzed demonstrative forms a constituent with the wh-REL operator
Where is the *az*+relative operator complex? It can be preceded by higher C complementizer → in the spec of the lower CP

(22) egi nehani Caput   peczetelnek be [**hog az   kibol**   ki hotanak]
      a   few   gate-ACC seal-3PL   in that DEM who-ELA out come-3PL

      'they seal a few gates from which they would come out'

NB: (22) is a unique example in the linguistic records, see below why
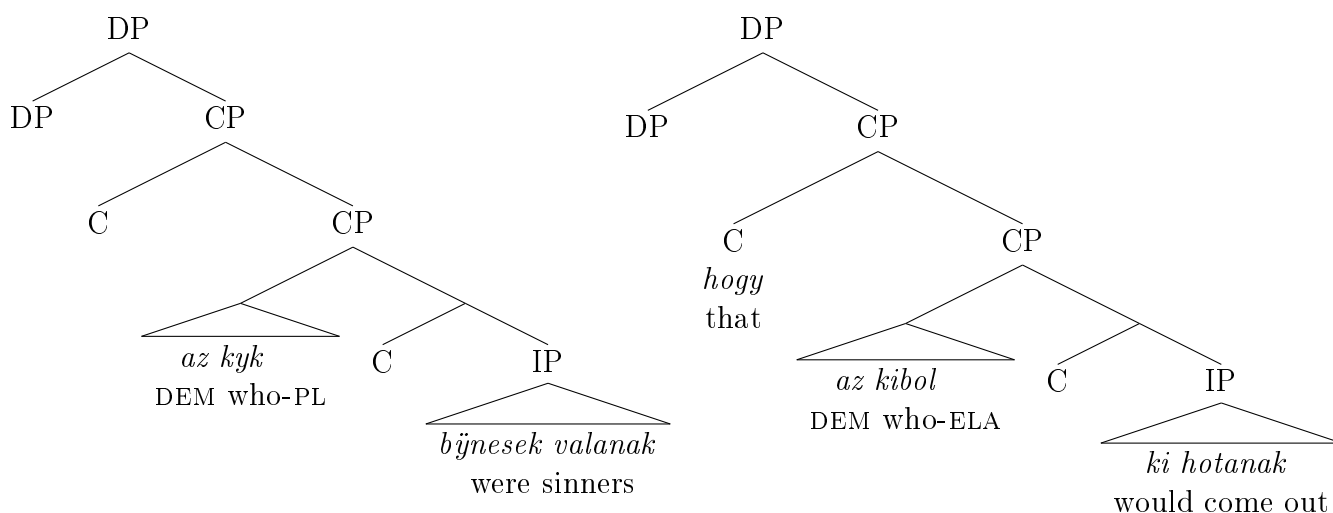
the demonstrative is renewed in the main clause (possibly has different case from the *az*+relative operator constituent):

(23) a. kellemetes nekem Ferencz **az** [**amit**   mondaz]
          pleasant   for.me Francis that DEM-what-ACC say-2SG

          'it is pleasant for me, Francis, what you are saying' (Virginia C. 84)
      b. myre   zeressem   ezt **azt** [**azky**   keserew vegezetewt
          what-SUB love-SBJV-1SG I   that-ACC DEM-who bitter   end-ACC
          yger]
          promise.3SG

          'why should I love that who promises a bitter end?' (Book of Proverbs 74)

```
                              DP
                     _____/  _____
                   DP                    CP
                 _/ \_             _____/  _____
                azt             C                  CP
              that-ACC                       _____/  \_____
                                          azky            \
                                        DEM-who  C          IP
                                                      _____/  \_____
                                                  keserew vegezetewt yger
                                                   promises a bitter end
```

Why did this change happen? Why does the *az*+wh-REL operator complex not co-occur with a higher C more frequently?

- wh-REL operator was no longer enough to mark the embedded character of the clause

- speakers wanted to reinforce the embeddedness of the RC

- two competing strategies:

  - reinforcing the wh-REL operator with *az*, or
  - overtly filling the higher C position

- one of these strategies was enough, economy prevents the use of both

- over time, the strategy of overtly realizing the higher C lost ground; in Modern Hungarian the *az*-reinforcement strategy prevails

3.3.   Stage 3: morphophonological change

Az undergoes morphological cliticization onto the wh-REL operator:

- intervocalic gemination

  (24)   [**ah hol**   en vagyok], ty   oda   nē yehetek?
         DEM where I   am   you there not come-can-2PL
         'you cannot come to where I am' (Jordánszky C. 650)

- intervocalic gemination + loss of space in orthography

  (25)   **ammenere** az   zeretetekbe   az zerelmnec volta vaǵon
         DEM-much   that love-3PL-INE the love-DAT   being is
         'as much as love is in their liking' (Nagyszombat C. 5)

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- loss of the consonant

(26) aʒt   [**a   mel'** alab   valo]
     that-ACC DEM which pityful
     'that which is more pityful' (Munich C. 86rb)

- loss of the consonant + loss of space in orthography

(27) Mert [**aki**   ezic], vrnac   ezic, Es [**aki**   nem
     because DEM-who eat-3SG Lord-DAT eat-3SG and DEM-who not
     ezic],   vrnac   nem ezic
     eat-3SG Lord-DAT not   eat-3SG
     'because those who eat eat for the Lord, and those who do not eat do not
     eat for the Lord' (Vitkovics C. 54)

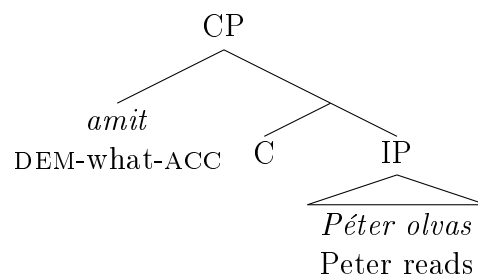These strategies co-existed for a long time; in Modern Hungarian only the last one sur-
vives.

4.   Modern Hungarian

4.1.   Standard Modern Hungarian

Due to structural economy, the higher CP layer is not generated for marking subordination
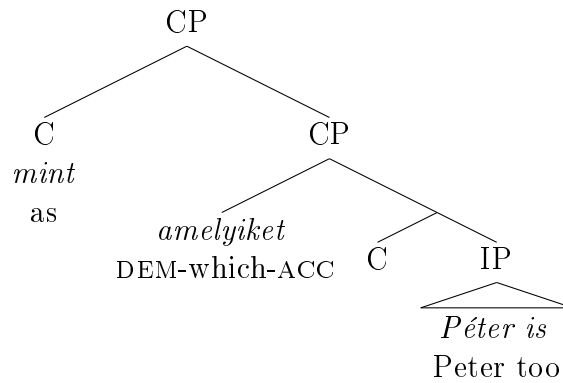(dem-wh-RELs are unambiguously associated with embedded clauses)
Within the lower CP, the Doubly Filled Comp Filter is operative → *hogy* 'that' is una-
vailable both in the higher and in the lower C in RCs

(28) az   a   könyv, (***hogy**) **amit**   Péter olvas
     that the book   that   DEM-what-ACC Peter reads
     'the book that Peter is reading'

```
                        CP
                      /    \
                    /        \
                  /         /  \
               amit        C    IP
          DEM-what-ACC         /  \
                              /    \
                          Péter olvas
                          Peter reads
```

the complementizer *mint* 'as' is available for marking equation/comparison:
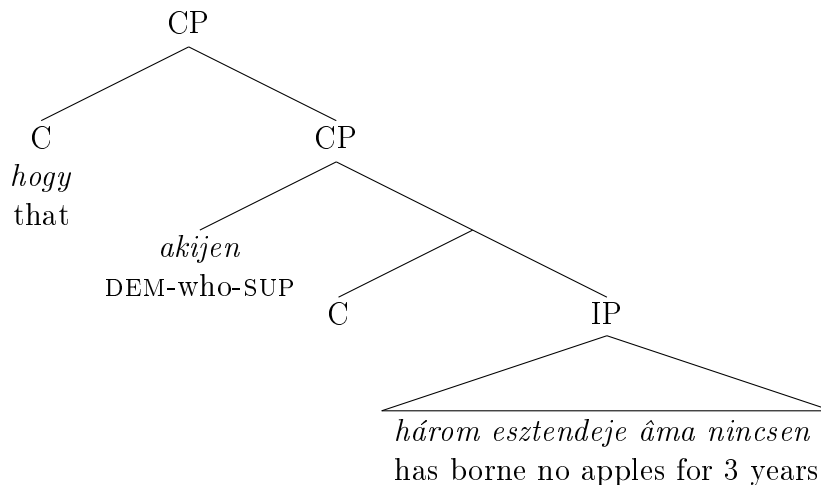
(29) Mari azt   a   könyvet olvassa, [**mint amelyiket**   Péter is].
     Mary that-ACC the book-ACC read-3SG as   DEM-which-ACC Peter too
     'Mary is reading the book that Peter does.'

```
                    CP
                  /    \
                 C      CP
               mint    /   \
                as  amelyiket    \
                    DEM-which-ACC  C    IP
                                       /  \
                                    Péter is
                                    Peter too
```

4.2. Some 20th century dialectal variation
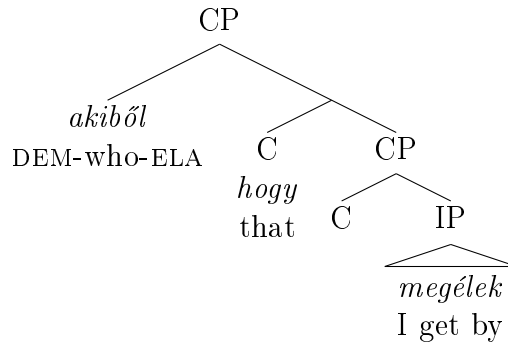
occasionally in the early 20th century, perhaps only dialectally

(30)   annak   vóna egy âmafája,   **[hogy akijen**   három esztendeje
       that-DAT have an apple-tree-3SG that   DEM-who-SUP three   year.since
       âma   nincsen]
       apple not.be

       'that [man] has an apple tree that has borne no apples for three years' (**?**: 48,
       dialect of Gyergyószentmiklós)

```
                    CP
                  /    \
                 C      CP
               hogy    /   \
                that akijen      \
                    DEM-who-SUP   C      IP
                                       /    \
                              három esztendeje âma nincsen
                              has borne no apples for 3 years
```

early 20th century, in spoken (perhaps substandard) Hungarian: the operator is in the
higher CP layer, the Doubly Filled Comp Filter is not operative

(31)   a.   Adott   az Isten nekem annyit,   **[akiből**   **hogy** megélek]
            give-PST.3SG the God me   that-much DEM-who-ELA that   get.by-1SG

            'God gave me enough to get by on' (**?**: 18)
       b.   látom   nincs, **[aki   hogy** tegye]
            see-1SG not-be DEM-who that   do-SBJV.3SG

            'I can see that there is nobody to do it' (**?**: 18)
```

```
                              CP
                   ╱                ╲
             akiből            ╱         ╲
         DEM-who-ELA         C            CP
                            hogy      ╱       ╲
                            that     C         IP
                                          ╱        ╲
                                       megélek
                                       I get by
```

5.   Conclusions

relative cycle in the history of Hungarian relative clauses is attested

general steps of the relative cycle (van **??**):

- Step 1: demonstrative/interrogative pronouns → relative pronouns

- Step 2: relative pronouns (dem-REL, wh-REL) → C heads

- Step 3: appearance of new relative operators in the place of original ones (new cycle)

English demonstrates one complete cycle and an incomplete one:

- (I) reanalysis of *that* in OE: Steps 1&2 completed → Step 3 possible

- (II) reanalysis of *wh*-pronouns in ME: Step 1 completed

- (I) precedes (II) → output of (I) provides an environment for (II)

- results: relatives with wh-RELs OR with dem-C (*that*); substandard: wh-REL + C

Hungarian demonstrates two incomplete cycles :

- (II) reanalysis of *wh*-pronouns: Step 1 completed only → Step 3 defective

- (I) reanalysis of *az* 'that.DEM': Step 1 completed only, with fusion

- (II) precedes (I) → output of (II) provides a partial environment for (I) only

- results: relatives with dem-wh-RELs