Cyclic changes in Hungarian relative clauses

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1. Introduction

Old Hungarian (OH): early 9\textsuperscript{th}-16\textsuperscript{th} 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 oğut nem tudünc
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) [qui vleben tart chudalatu] 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 leánnak, aki öleben tart csodálatos fiut
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:

\textit{wh}-pronouns $\rightarrow$ wh-REL

\textit{demonstrative} pronouns $\rightarrow$ dem-REL

the \textit{relative cycle} (see van ??):

\begin{itemize}
\item the reanalysis of demonstrative/interrogative pronouns into relative pronouns
\item the reanalysis of relative pronouns into C heads
\item the grammaticalization of original operators into C heads allows new relative pronouns to appear in the CP-domain
\end{itemize}
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/bat
   C
   be
   TP
   b. CP
   Ø
   C
   that
   TP
   c. CP
   wh
   C
   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 [zent 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 illian maraggun uro dum only.one-POSS.1SG live-SBJV.3SG stay-SBJV.3SG lord-DIM.POSS.1SG [kyth wylag felley] 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) egyebeknek zerzamaual [ky-k-nek myatta ysten mỳuelkedyk others-DAT tool-POSS.INSTR who-PL-DAT because.of God cultivates eznek byzon gyewmelcet] 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 scurnevlence] 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. oly zereilmeth, [zornyw halaal kyth nem goyozoeth] such love-ACC terrible death who-ACC not defeated.3SG ‘such love that was not defeated by death’ (Czech C. 62)
b. yvta Angenek nag hegeo[re, [Cilicianak 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’ (Szekelyudvarhely C. 4)

c. [fent Adóryaʃ Napp yarrow kezelb ky vafar Nap ezýk] az Saint Adrian day-POSs.ALL closer who Sunday falls that lezen Advent vafarnapya 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.L.ACC PRT oltalmaznanak] protect-COND.3PL ‘twelve legions of angels, who would protect me’ (Apor C. 209)

(13) a. [ha kyket erewsb en zarettem] azoktol hamaraban meg if who-PL.L.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 kerëndetec at’atol an nêuembé] aʒt if what-ACC ask-2PL father-ABL I name-POSs.ILL that-ACC téçem 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) 
\[ \text{CP} \]
\[ \text{C} \rightarrow \text{IP} \]
\[ \text{hogyki/hogymi} \]
\[ \text{that.who/that.what} \]

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 meg] twelve legion angel-ACC that who-PL I.ACC PRT oltahmaznak\[a\] protect-COND.3PL
   ‘twelve legions of angels, who would protect me’ (Apor C. 209)

b. ol\[a\]at tez\[a\]k r\[a\]y\[a\]tad [hogy ky-t\[a\]l 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)
The reanalysis starts in a subset of the above cases: where the demonstrative is morphologically 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 reįtetyk] 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. ř aţ [ki en vtannam iquėdo] 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. vegel [az mi thyed] take-IMP.2SG DEM what yours ‘take what is yours’ (GL., around 1456)

b. es laang meg egethe [az kyk bỳnesek 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 agyiad zegenekek 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
Demonstratives reanalyzed into the RC are bare:

(21) es laang meg egethe [az kyk bỳnesek 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) egy neháni 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
vger]
promise.3SG
‘why should I love that who promises a bitter end?’ (Book of Proverbs 74)
Why did this change happen? Why does the $az+\text{wh-REL}$ operator complex not co-occur with a higher $C$ more frequently?

- $\text{wh-REL}$ 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 $\text{wh-REL}$ 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 $\text{wh-REL}$ operator:

- intervocalic gemination

$$\text{(24) [ah hol en vagyok], ty oda nē yehetek?}$$

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

$$\text{(25) ammenere az zéretetekbe az zérelm nec volta vagon}$$

DEM-much that love-3PL-INE the love-DAT being is

‘as much as love is in their liking’ (Nagyszombat C. 5)
• 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 survives.

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 unavailable 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’

\[
\text{CP} \\
\quad \text{amit} \\
\quad \text{DEM-what-ACC} \\
\quad \text{C} \\
\quad \text{IP} \\
\quad \text{Péter olvas} \\
\text{Peter reads}
\]

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.’
4.2. Some 20th century dialectal variation

occasionally in the early 20th century, perhaps only dialectally

\(\text{(30) annak \ vóna \ egy \ ámafája, \ [hogy \ akijen \ három \ esztendeje \ that-DAT \ have \ an \ apple-tree-3SG \ that \ DEM-who-SUP \ three \ year.since \ áma \ nincsen] \}

\text{apple \ not.be} \quad \text{‘that [man] has an apple tree that has borne no apples for three years’ (?: 48, dialect of Gyergyószentmiklós)}

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

\[\text{(31) a. Adott \ az \ Isten \ nekem \ annyit, \ [akiből \ hogy \ meglek]\}
\text{give-PST.3SG \ the \ God \ me \ that-much \ DEM-who-ELA \ that \ get.by-1SG}
\text{‘God gave me enough to get by on’ (?: 18)} \]
\[\text{b. látom \ nincs, \ [aki \ hogy \ tegye]\}
\text{see-1SG \ not-be \ DEM-who \ that \ do-SBJV.3SG}
\text{‘I can see that there is nobody to do it’ (?: 18)} \]
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