Long-Distance Binding of Indeterminate Pronouns in the History of Hungarian

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1 Introduction

Part of a larger project on the expression of quantification in Old Hungarian.

Claim: Early Old Hungarian (and possibly Proto-Hungarian) could express quantification by means of indeterminate pronouns ‘bound’ long-distance by propositional quantifiers.

Subsidiary claim: D-quantification could be a relatively recent development during the Old Hungarian period. Part of a morphological ‘compounding’ process that also yielded relative pronouns, Free Choice expressions and morphologically complex complementisers:

Complementisers: hogy-ha (‘that-if’), mert-hogy (‘because-that’).
Quantifying DPs and indefinites:
2 Modes of Quantification

Barbara Partee: D-quantification (determiners, quantifying DPs) vs A-quantification (adverbs, affixes, argument structure adjusters).

Old Hungarian: minden ‘every’, ‘everyone’ vs floating mind ‘all’, egymindenik ‘each’.

Shimoyama, Kratzer: long-distance quasi-binding of alternatives (supplied by indeterminate pronouns) via propositional operators. Similar to the semantics of questions (Hamblin, Karttunen) and Focus in Alternative Semantics (Rooth).

2.1 D-quantification

D-quantification is selective, local, and island-sensitive. NB, unmodified indefinites are NOT considered to be quantifiers.
(1) Every cat is fond of its kittens. She caught a lot of mice.

(2) a. Every professor heard the rumour that every student of his had been summoned to the dean’s office.
   b. If every friend of mine comes to the party it will be a riot.
   c. Every semanticist moved to Tübingen because every computational linguist was working there.

(3) The ambassador to/of every country was invited to the reception

OH example of narrower-than-surface scope:

(4) Es sonha meg nem sert tyteket valamyben ha mynden and never PRT not hurt you.PL-ACC something-INE if every
   nannon pogattok neky adnya eleg eledelt
day-SUP promise-2PL DAT-3.SG give-INF enough food-ACC
   ‘And he (the wolf) will never cause you any harm if you promise to give
   him enough food every day’ (Jókai C. 151)

   The point of the example: the scope of mynden nappon ‘every day’ is confined
to the infinitival clause. (The reading is “You promise to give him enough food
every day”, and NOT “Every day, you promise to give him enough food”.)

(5) Thowaba megh nem emelekezem soha mynden ő
   Further PRT not remember never every he
   alnoksaghyrol
duplicity-POSS.PL-3SG-about
   ‘Furthermore, I shall never recall all his duplicity’ (Érsekújvári C. 77vb)

(6) akoron wolthak wolna Ierwsalembe sok Irašthwdošk mýndē	hen were PAST Jerusalem-INE many learned-men every
   nemzetekbol
   nations-from
   ‘At the time there were in Jerusalem many learned men from every nation’
   (Érsekújvári C. 80rb)
(7) a. mi atyank bodog fferench menden miuelkedetiben
we father-POSS.1SG blessed Francis every deed-POSS.1SG-INE
istenhez volt hassonlatos
god-to was similar
‘Our father the Blessed Francis was similar to God, in everything he
did’ (Jókai C. 1)
b. menden test ne gyczewlkewgyek ew lelkeben
every body not glorify-REFL-SUBJ.3SG he soul-POSS.1SG-INE
‘For every body it holds that he should not glorify his soul/glory in his
soul’ (Jókai C. 128) OH: minden (‘everyone’, ‘everything’) and its
‘compounds’ (mindenkor, mindenha ‘always’), egymindenik (‘each
and every one of them’).

2.2 A-quantification

2.2.1 Affixes and Other Stuff

In OH there was, for instance,

• Reduplication:

  Reduplicated ki ‘who’: ki-ki ≈ ‘each’.

(8) a. ky ky mind miwelkođethe zerenth weğón:
who who all deed-POSS.3SG according.to take-SBJV.3SG
awagh Iot: awagh gonozth:
or good-ACC or evil-ACC:
‘Each should partake according to his deeds, whether it be of
good or evil’ (Kazinczy C. 89v)
b. mindonok feel tamadnak az alkolmas allapatba: meel
every-PL. up surge-3PL the appropriate state-INE which
kinek kynek nezy önnön termezettit:
who-DAT who-DAT regard-3SG own nature-POSS.3SG-ACC
‘Everyone will be resurrected in the state appropriate to his na-
ture’ (Kazinczy C. 96v–97r)

Reduplicated numerals:
(9) a. De mert meglen keuessen valanak az baratok nem
But for yet few-N were the friars not
boczathattyauala ewket ketten ketten
send-out-POSS-PAST them two-N two-N
‘Since there were still not many brethren he could not send
them out in twos’ (Jókai C. 82)
b. ewduezeytew ysten boczata ew tanoýtuanyt
redeemer god sent he disciple-POSS.PL.3SG-ACC
ketten ketten menden varosba es helyre
two-N two-N every city-into and place-onto
‘God the redeemer sent out his disciples in twos, to every city
and estate’ (Jókai C. 128)
c. (Szent Ferenc) boczata kettewt kettewt ez
(Saint Francis) sent two-ACC two-ACC
vylagotmya predicalný
this world-throughout preach-INF
‘Saint Francis sent his disciples in twos, to preach all over the
world’ (Jókai C. 129)

• -keed, -keet as a distributivity/pluractionality operator:

(10) a. Heten vadnak, Mel’eket, az ő At’ok
seven-ADV are, which-PL-ACC the she father-POSS-3PL.
az őrdog mynd égenkét kazdagon el hazasyta,
the devil all oneADV-DIST richly away marries
‘They (the daughters of cupidity) are seven in number, all of
whom their father the devil marries off generously, one by
one’ (Székelyudvarhely C. 95r–v)
b. Es lakozýk wala naponkeed nagý gyényerewseggel
And dwell PAST day-N-LY great pleasure-INS
‘And he dwelt (there) with great pleasure every day’ (Érsekújvári
C. 5r)

(11) hogý ký naponked eshetel wgýan azon korsagban
that who day-ly fall-POSS-2SG same that illness-ACC
‘Every day it is possible for you to come down with the same ill-
ness’ (Érsekújvári C. 211vb)
2.2.2 Adverbs


Floating quantifiers: no division into Restrictor and Scope; discoursal.

2.3 Long-distance Binding of Indeterminate Pronouns

Japanese: indeterminate pronouns (Kuroda) that acquire existential, universal or interrogative force via (long-distance) association with certain particles.

\[
\begin{align*}
dare & \quad nani & \quad dono \\
\text{‘who’} & \quad \text{‘what’} & \quad \text{‘which’ (Det)} \\
\exists & \quad dare \ldots ka & \quad nani \ldots ka & \quad dono \ldots ka \\
\forall & \quad dare \ldots mo & \quad nani \ldots mo & \quad dono \ldots mo \\
\end{align*}
\]

Similarly for:

(12) \[[\text{Dono gakusei}-\text{ga} \text{ syootaisita} \text{ sensei}-\text{mo} \text{ odotta} \]
\text{which student-NOM invited teacher-mo danced ‘For every student } x \text{ the teacher } x \text{ had invited danced’ } \cong \text{ ‘Every teacher invited by some student (from among alternative students) danced’}
\text{—alternatives are exhausted—}

Hamblin semantics: i. pronouns introduce alternatives; alternative meanings of larger constituents are computed compositionally. Ka, Mo: propositional operators that bind alternatives.

(13) a. \[[\text{dare}]^{w,g} = \{x|\text{human}(w)(x)\}\]
\text{b. } [\text{nemutta}]^{w,g} = \{\lambda x.w.[\text{sleep}(w)(x)]\}
\text{c. } [\text{darenemutta}]^{w,g} = \{p|\exists x.[\text{human}(w)(x) \land \text{sleep}(w)(x)]\}

(14) \[[\text{Dono hon-o yonda} \text{ kodomo}-\text{mo} \text{ yoku nemutta} \]
\text{which book-ACC read child -MO well slept ‘For every book } x \text{, the child who read } x \text{ slept well’ } \cong \text{ ‘Every child who read a book from the set of alternative book slept well’}

Operators reduce the set of alternatives to a singleton.

Sentential quantifiers (Kratzer–Shimoyama): for \[[\alpha]^{w,g} \subseteq D_{(s,t)}:\]
Mathematical properties of Hamblin style quantification:

- Nested dependencies:

  (16) *[*[*...[...ind...ka/mo]...]ka/mo

  Alternatives ‘associate’ with the first available operator. In this scheme, the outermost operator cannot associate with the indeterminate pronoun.

  (17) [[[Yamada-ga dare-ni nani-o okutta ka] sitteiru]

  Yamada-NOM who-DAT what-ACC sent Q know

  syoonin]-mo damatteita

  witness-mo was.silent

  ‘The witness who knew what Yamada sent to whom was also silent’

  (Here, mo means ‘also’)

  NOT ‘For every person x, the witness who knew what Yamada sent to x was silent.

- The illusion of unselective binding:

  (18) [[[Dono gakusei-ga dono ie-ni syootaisita] sensei]-odotta

  which student-NOM which house-to invited teacher-mo

  danced

  ‘For every student x and every house y, the teachers x had invited to y danced’ (Shimoyama 2006)

- Operators can reach across certain syntactic islands (complex NPs and adjectives but not wh-islands).

  (19) [[[Dono T.A.-ga osieta] gakusei-ga syootaisita] sensei]-mo

  which T.A-NOM taught student-NOM invited teacher-mo

  kita came
‘For every T.A. \( x \), the teacher(s) invited by the students taught by \( x \) came’ (Shimoyama 2006)

(20) \[
[[[\text{Taro-ga nani-o katta-kara} \text{ okotta]-hito]-mo} \text{Taro-NOM what-ACC bought-because got.angry person-MO heya-o deteitta room-ACC left 'For every thing } x \text{, the people who got angry because Taro bought } x \text{ left the room’ (Shimoyama 2006)}
\]

- Scope is ‘frozen’: Scope is determined by the placement of the nearest operator.

3 The Landscape of Quantification in Old Hungarian Records

Some Oddities

Requantification? Sensitivity to spoken discourse?

(21) a. \text{m"yndennemo dolgath k"yth az \( \varphi \) zent every-kind-of matter-POSS.3SG-ACC who-ACC the he holy att"a hag"yoth wolna onek"y m"yndeneketh father-POSS.3SG left PAST he-DAT.3SG everything-PL-ACC weeghezeth wolna finished PAST 'Every affair of his, which had been ordered by his Holy Father, he brought everything to an end’ (\'Ersek\'ujv\'ari C. 68ra)

b. \text{az ang\'yaloknak m\"yden kar\"ybol hwlottanak wala the angel-PL-DAT every order-POSS.PL.3PL fell PAST lee az athkozoth Lwc\'yperrel k"yk m\"ynd onek"y down the accursed Lucifer-INS who-PL all he-DAT.3SG enghdeeenek b\'ynben yield-PST-3PL sin-INE 'from every order there were angels who fell together with the accursed Lucifer, who had all yielded to him and sinned’ (\'Ersek\'ujv\'ari C. 68rb)
(22) Ennek feletthe mûndenek kûk hallûak wala kû
This-DAT above-POSS.3SG everyone who-PL hear-3PL PAST who
mûnd ew nûelweken Ӧketh zolwan
each he tongue-POSS.3SG-on speak-PARTICIPLE
‘Furthermore, everyone who heard them, each (hearing them) speak in
their tongue’ (Érsekûjvári C. 80va)

4 Indeterminate Pronouns in OH Codices and Elsewhere

4.1 Preliminary: IPs in (Modern) Hungarian

• Reduplicated ki-ki (lit. ‘who-who’) ‘each’:

(23) Ki-ki menjen haza!
    Who-who go-SBJ-3SG home
    ‘Everyone (should) go home!’

• ‘Existential’ free relatives:

(24) a. Van, mit en nem
    Is what-ACC eat-INF-1SG
    ‘I have something to eat’
    Lit. ‘I have what to eat’

b. Van, hova mennem
    Is where go-INF-1SG
    ‘I have somewhere to go’
    Lit. ‘I have where to go’

• Partitive-existential ki ‘who’:

(25) a. Kî jûl, ki rosszul oldotta meg a feladatot.
    Who well, who badly solved PRT the problem-ACC
    ‘Some solved the problem correctly, and some made errors’

b. *Kî jûl oldotta meg a feladat
    Who well solved PRT the problem-ACC
    Intended: ‘Some solved the problem correctly’
(26) Mert nemellýek ez neepek kezzwl lakoznak
Since some-PL this people-PL from-among dwell
parthía-INE media-INE who-PL from-among are Sun
kelethrol kýk delrol kýk nap nýgothrol kýk
rise-from some South-from some Sun set-from some
ezakrol Nemellýek o kezzwlek lakoznak
North-from Some-PL he from-among dwell
Mesopothanyabán...Nékýk lakoznak az thengernek keeth
Mesopotamía-INE...NÉ-who-PL dwell the sea-DAT two
feleen...
side-POSS.3SG-on...
For some of these people dwell in Parthia, Media, some of whom
are from the East, some from the South, some from the West and
some from the North. Some of these dwell in Mesopotamia, ...some
dwell on the two shores of the sea...’ (Érsekújvári C. 73ra)

(27) zolgaý bewlczek walana nagý sok tanaczot
servant-POSS3,SG.PL wise-PL were great much advice-ACC
tartanak wala ký ký mynd Hozza mond uala ký egyet
keep PAST who who all to-it say PAST who one-ACC
ký masth mond wala
who other-ACC say PAST
‘His servants were wise and gave a lot of advice; each of them
joined in, some said this and some said that.’ (Érsekújvári C.
224va)

4.2 The OH Data

Query method: old-fashioned (manual & ocular). Came across data while reading
codices. In all, found about 10 occurrences (one or two of which can be analysed
as correlative/relative operators).

(28) tevzet ievttem bochatny fevldre. es myt akarok
fire-ACC come-PST-1SG release-INF earth-SUB and what-acc want-1SG
egyebet. hanem chak hog eegyen.
else-ACC if-not only that burn-SBJV.3SG
‘I’ve come to release fire onto earth, and what (else) do I want but for it
to burn’ (Cornides 65 r–v)
‘I’ve come to release fire on earth, and I want nothing else but for it to burn’

myt: interrogative in (rhetorical) question (‘what else do I want but . . . ’) or bound by (implicit) negation (‘I want nothing else but . . . ’).

(29) Az yo lelkew embernek kedeeg nagyob erdemót zerez
   the good natured man-DAT CONJ bigger merit-ACC acquire
   vele chak ky neky ne engheggyyen
   INST.3SG just who DAT-3SG not yield-SBJV.3SG
   ‘(The devil’s temptations) (only) increase the merits of good souls; it is just that no-one should yield to them’ (Erédi C. 82b)
   ‘(The devil’s temptations) only serve to multiply the merits of good souls; the key is that no-one is to yield to them’

ky ‘who’ bound by negation.

(30) Es tehát latek tewz langott menbelewli leýtewtt
   And so saw-SG1 fire flame-ACC heaven-from descend-PART-ACC
   . . . de az egýebekrewl nem tudok mýtt
   . . . but the other-PL-about not know-SG1 what-ACC
   ‘I saw a flame descending from Heaven . . . but I know nothing about the rest’ (Jókai Codex 45)

mýtt ‘what’ bound by negation. Clear from syntactic context that it is not an embedded question (à la ‘I don’t know what to say’).

(31) Ha ky kerdenee honnan volt az. Azzonywnk
   if who ask-COND.3SG where-from was that. lady-POSS.1PL
   marianak hogy semy terheet nehesseegeet nem zenwette
   Mary-DAT that none burden-ACC difficulty-ACC not suffered
   legyen Reea felelnék doctorok mondwan.
   be-SBJV.3SG SUB-3SG reply-3PL doctors say-PART . . .
   ‘Should someone ask how come that Our Lady Mary had no difficulty (in giving birth) learned men reply saying . . . ’ (Erédi C. 44a)

ky immediately following Ha ‘if’: default existential closure, universal reading in virtue of conditional. (Donkey sentence.)
(32) Ha kedeeg my kewessee annal nagyobot zolt
if CONJ what little-TRANS that-ADE bigger-ACC speak-PST.3SG
volna. hyzóm hogy mind ez vylaag sem
be-COND believe-1SG that all this world neither
foghatta volna meg
catch-POSSIB-PERF.3SG be-COND PRT
‘And if he (St John) had spoken somewhat louder / any louder I believe
that not even the whole wide world could have grasped it’ (Érdy C. 54a)

my: default existential closure, universal reading in virtue of conditional. (Donkey
sentence.)

(33) De ha kŷ kerdene mŷ leegŷen az eredet zerent
But if who ask-COND.3SG what be-SUBJ.3SG the origin acc.to
walo ųgassagh …wgŷ mond zent Anselm.ws doctor…
be-PARTICIPLE truth …so says saint Anselm doctor…
‘Should someone ask what original truth should be …Doctor Saint Anselm
says …’ (Érsekújvári C. 289 r)

kŷ ‘who’ existentially closed, universal construal due to conditional. (Donkey
sentence.)

(34) Ha mŷ fogŷatkozasnak kedeeg tórteenŷk esnŷ …Vala kŷ meg
If what deficiency-DAT CONJ happen fall-INF …some one PRT
erthetŷ es twdhattŷa semŷ ellensees nem leezen
understand-POSS and know-POSS no antagonism not will-be
oka ha meg emendallŷa
reason-POSS.3SG if PRT correct
‘Should there be any deficiencies (in this text) let it be understood (by
anyone) that there will be no resentment if they are corrected’ (Érdy C.
3a)

mŷ ‘what’ existentially closed, universal construal due to conditional.

(35) Mŷkoron kedeeg ųwtot vona az patakra kŷn az
When CONJ arrived the stream-onto which-on the wood-ACC
ffaat atal vetettek vona. mŷnṯ ha kŷ meg mondotta vona. otta
across hurled PAST like if’ who PRT said PAST there PRT
‘When she (the Queen of Sheba) reached the stream bridged by the wood (that would be used in the Holy Cross), it was as if someone had told her, she recognized it in her soul’ (Érdy C. 289b)

ký – default existential closure (under modal/counterfactual).

(36) ha kýnek valamyre enghedelmet hagyott volna es nem if who-DAT something-onto permission-ACC left PAST and not tette volna . . . azokat nagy eressen megh feddy vala did PAST . . . those great strongly PRT reprimand PAST ‘If (whenever) he ordered someone to do something, and they failed to do it, those were severely reprimanded’ (Érdy C. 298b)

Could be correlative; kýnek (‘to whom’) could as well be a free pronoun bound by existential closure (universal construal: donkey effect).

(37) Es azert valamykoron mytt zoluala zent ferenczrewl mondya And thus when(-ever) what-ACC say-pst saint francis-about say-Pst uala ffrat(er) lleo En dragalatosim mend nagyok: de zent fferencz es Pst brother Leo My dears all great-PL but Saint Francis too nagy
great ‘So, whenever Brother Leo said something about Saint Francis, he would say: ‘My dears, they are all great, but Saint Francis is also great’ ’ Or: “So, whenever Brother Leo said anything about Saint Francis, he would say: . . .” (Jókai Codex, 44)

Latin source: ‘Et propter hoc quandocumque aliqui loquebantur de sanctis, frater Leo dicebat . . .’

mytt is either bound by existential closure, or the subordinate clause is understood as a correlative, and mytt is a relative–correlative operator.

(38) Azerth mydë Ember ezeben wegye hogy ký
Thus every man mind-POSS.3SG-INE take-SUBJ.3SG that who mykoron ýw tand o halalanak ýdeere when reach he death-POSS.3SG-DAT time-POSS.3SG-onto
Naggýal Nehezeb Es erôsseb kesertethk leznek
greatly heavier and stronger temptations be-FUT.3SG
'Thus everyone should bear in mind that whoever, whenever (he) reaches the hour of his death he will have to face much stronger temptations’ (Érsekújvári C. 136va)

ký can be a correlative pronoun, but it can also be a free, universally generalised pronoun.

Indeterminate pronouns could be full DPs, but they could also be determiner-like or modifier-like elements in the DP (as in Japanese).

Indeterminate pronouns have been detected in the following environments:

- Sentence-initially, with a partitive construal.
- In the scope of negation.
- In antecedents of conditionals, where they are taken to be existentially closed. Universal reading due to conditional.
- Taken for granted: interrogative and relative (correlative) contexts. In relative clauses and correlatives, morphologically simple pronouns freely alternate with morphologically complex pronouns (even in Modern Hungarian).
- Reduplicated ki-ki (lit. ‘who-who’, meaning ‘each’): either a distributivity operator on its own, or an indeterminate complex bound by a covert distributivity operator.

4.3 Discussion

The presence of indeterminate pronouns in OH codices is not surprising, given that morphologically complex quantifiers, FC items, relative operators a.s.o. are Hungarian developments (Benkő 1993), even if their components often go back to Finno-Ugric roots. When the codices were written such complexes could be judged as relatively recent.

A complex like vala-ki (‘somebody’) or akár-ki (‘whoever’) or minden-hol (‘every-where’) can be said to consist of a pronoun (made determinate, as it were), and an operator/a semantic marker for a quasi-epistemic or a FC construal. Tentatively, these compounds can be said to date from the Proto-Hungarian or Early Old Hungarian period. The expression mind ‘all’ (which is also the root morpheme in
minden ‘every-’, ‘everything’, ‘everybody’) also consists of an indeterminate pronoun (mi ‘what’ and an adverbial suffix -n(d), which could have been interpreted as a maximality operator).

⇒ Before such compounds emerged, quantification in OH could have been expressed with A-quantifiers (adverbials and affixes) and propositional ‘binders’ of indeterminate pronouns. Not clear: whether Proto-Hungarian or Proto-Uralic had determiner quantification, which became obsolete.

⇒ IF D-quantification (in its present form) is taken to be a PH/Early OH development, and IF it is taken to be preceded by a mix of A-quantification and long-distance propositional quantification, it follows, from comparing the logical properties of the two modes of quantification, that the emergence of D-quantification has brought about a rather abrupt and radical shift in the logical architecture of the language.

Two remarks:

1. Long-distance propositional quantification over alternatives has possibilities of expression which may or may not have been fully exploited in Hungarian. The possibility was nevertheless there.

2. Reconstructing/extrapolating quantificational properties: this is not reconstruction as such, since mathematical properties of long-distance binding follow directly from Hamblin semantics.

Primary Sources


Érdey Codex 1524-1527. Unpublished transcription of the original text, received from the Sermones project at Eötvös University (Budapest), http://sermones.elte.hu/erdy/.


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