Pluractionality and diachrony: the case of *–nkéd* in Old and Middle Hungarian

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This paper contributes to our cross-linguistic understanding of pluractional adverbials through an in-depth, corpus-assisted study of the N(um)-*nkéd* construction in Late Old and Early Middle Hungarian. We argue that N(um)-*nkéd* pluractionals are (i) mereological-only, (ii) they can be associated with the agent, theme, time or location of the eventuality, (iii) they can modify states as well as events and (iv) they cannot instantiate pluractional comparisons across substates. These findings call for a more fine-grained cross-linguistic approach to pluractional adverbials, especially in terms of the mereological-scalar dichotomy: in addition to (i) context and (ii) the type of the N(um)-denotation, (iii) the morphosyntactic makeup of the pluractional also has to be taken into account. Adopting a diachronic approach will also enable us to shed light on a somewhat neglected aspect of pluractional adverbials: their functional load, especially in terms of the division of labour vis-à-vis universal quantifiers ('day-by-day' vs. 'every day') and distributive operators ('all the boys one-by-one' vs. 'each boy'). By observing changes playing out in the Late Old Hungarian to Early Middle Hungarian as evidenced in corpora, we will show that the development and spread of bona fide universal quantifiers and of the partitive-distributive suffix *–ik* indeed happened in tandem with a sharp reduction of the frequency of the relevant types of pluractional adverbials.

1. Introduction

This paper aims to contribute to our cross-linguistic understanding of pluractional adverbials through an in-depth, corpus-assisted study of the N(um)-*nkéd* [1]construction in Late Old and Early Middle Hungarian. The study of pluractional adverbials has expanded considerably in recent decades (see Beck 2021 and Wu 2023 for a recent overviews). While different authors have covered a slightly differing range of constructions[2], the empirical core of the phenomenon can be characterized as follows: pluractional adverbials (the term we are going to adopt as it seems to be maximally neutral to us) such as as *ajtó-nkéd* 'door-PLACT' below encode a relationship between an eventuality (event or state) and an N(um) -denotation

(1) *És reggel az fráterek ajtó-**nkéd** kenyeret koldulának.*
and morning the friars door-PLACT bread begged
'And in the morning, the friars went begging for bread, from door to door.'
(Domonkos Codex, 1517)

[1] N(um)-*nkéd* means that *–nkéd* combines with nominals as well as (cardinal) numerals.
[2] This is reflected in the varied terminology: pluractional adverbials (Beck and von Stechow 2007), N-by-N adverbials (Henderson 2013, Wu 2023), the 'N Preposition N' construction (Beck 2021) a.o.

Specifically, the eventuality is partitioned[3] into subeventualities; and some parameter of the eventuality (agent, theme, location or time) is partitioned in terms of the N(um)-denotation; and there is a one-to-one (bijective) relation between the two partitions:

(2) subeventuality_1 <---> $\text{N(um)-denotation}_1$
subeventuality_2 <---> $\text{N(um)-denotation}_2$
subeventuality_3 <---> $\text{N(um)-denotation}_3$
… <---> …
subeventuality_n <---> $\text{N(um)-denotation}_n$

Paraphrasing Beck and von Stechow (2007): (1) is true of a begging event *e* iff the relevant division of the spatial extension of *e* is into doors, and each door was the location of a relevant subevent of *e*, and each relevant subevent of *e* took place at one of the doors.

While at this level of detail, pluractional adverbials are pretty much alike, there is in fact a fair amount of variation which, to our mind, seems to call for a systematic formal typological approach, to which we wish to contribute in this paper.

One parametric difference across languages seems to be whether the evantualities that are being partitioned include events *and* states (as was the case in Old Hungarian) or only events (as seems to be the case in Modern Hungarian).

Another point of variation is whether the subeventualites are obligatorily temporally ordered or not. While it has been assumed in much (though not all) of the literature[4] (either tacitly or explicitly) that temporal ordering (or sequencing) is a hard-wired part of the semantics of pluractional adverbials, we will provide evidence that this was emphatically not the case with Old Hungarian N(um)–*nkéd*. Note that cross-linguistically, there seems to be a correlation between the obligatoriness of sequencing and the morphological makeup of the adverbial. '(Preposition) N Preposition N'-type pluractionals (e.g. in English and German) and 'N-Postposition N-Postposition'-type pluractionals (e.g. in Hungarian) are obligatorily sequenced whereas pluractionals of 'N-suffix' type (N-*wise* in English, N-*weise* in German, N(um)-*nkéd* in Hungarian) are not. (Whether this rough observation holds on a larger sample of languages remains to be seen.)

Languages also differ in terms of what the subeventualities are partitioned to, i.e., what the N(um)-denotation relates to: while in the languages examined so far (and in Old Hungarian too), pluractional adverbials as a family of constructions can target the agent, patient, time and location of the event, it is conceivable that in some languages, pluractionals are more limited. Note also that different pluractionals can have a different range within the same language. While N(um)–*nkéd* in Old Hungarian (and its Modern Hungarian cognate N(um)–*nként*) covers agent, patient, time and location, the N-*ről* N-*re* (N-ELA N-SUB) '*from N to N'* construction appears to be limited to time and location.

The exact nature of how the N(um)-denotation is being partitioned and mapped to the subeventualites is also subject to cross-linguistic variation. To date, most of the work has been done on a sample of two languages: English (mostly) and German (to a lesser extent), with the

[3] Partitioning means that (i) the subeventualities are non-overlapping and (ii) the sum (or union) of the subeventualities is equal to the eventuality.
[4] While Beck and von Stechow (2007:222) differentiate pluractional adverbials with a sequential interpretation from those with a divisional (i.e. non-sequential) interpretation, Wu (2023) posits that temporal sequencing is an in-built feature in the lexical entry of N(um)-by-N(um) pluractionals in English.

notable exception of Vlášková and Dočekal's (2020) analysis of pluractionals in Czech. The following main subtypes have been identified:[5]

MEREOLOGICAL MAPPING: here, the N-denotation is partitioned either in terms of a subset-set relation (in which case N is typically a numeral or a sortal noun) or a part-whole relation, and each subeventuality is mapped to exactly one subset or part of the N-denotation:[6]

(3) *The friars entered the chapter one-by-one.*

(4) *The faithful celebrated the Passover house-by-house.*

(5) *The size of the congregation grew day-by-day.*

(6) *Mary ate the bread slice-by-slice.*

Mereological mapping may apply to participants (agent and theme, or more generally, some theta role of the event) or the theme or location of the eventuality. Mereological mapping can apply in the case of events and also in the case of states. The state may be constant such as in (7) below:

(7) *kor-onkéd* *dagályosok* *voltatok*
time.interval-PLACT boastful were.you
'you have always been boastful' (lit. 'you were boastful from minimal time interval to minimal time interval', i.e., 'each time interval is such that you were boastful in it')
(Jordánszky C., 1516-1519, Deut 31:27)

Or the state may be changing in degree (in so-called pluractional comparisons):

(8) *She felt better day-by-day.* ('each day was such that she felt better than on the day before')

SCALAR MAPPING (EVENTS): here, an event and its subevents refer to a change in one of the participants and the N-denotation refers to unit of the scale along which the change can be measured (that is, N is typically a unit noun in this case):[7]

(9) *The crack widened inch-by-inch.*

Since pluractionals in English (specifically, the N(um)-*by*-N(um) construction) have been shown to exhibit all these readings, there has been a push in the literature to come up with unified models that cover all these readings. Beck and von Stechow's (2007) and Brasoveanu & Henderson's (2009) exclusively mereological approach has been shown by Henderson (2013) to be unable to cover scalar mapping. Henderson's (2013) stipulated that while Num-by-Num pluractionals are mereological, Noun-by-Noun pluractionals are exclusively scalar.[8] This approach has been criticized by Wu (2023) on theoretical and empirical grounds. Wu (2023) in turn advocated for a unified (but underspecified) semantics for N(um)-*by*-N(um): in his model, all N(um)-*by*-N(um) pluractionals have the same lexical entry, however, this entry contains an underspecified free interval function which is contextually resolved either to a so-called count function (resulting in a mereological reading related to an eventuality participant), or to a path function (resulting in a

[5] Here, I tried to use terms that are neutral, straightforward and empirically adequate.
[6] This has been characterized as the participant-distributive reading by Wu (2023), a slightly misleading term as the possible range of N-denotations also includes the time and the location of the event, in addition to the participants (agent, theme and possibly other theta-roles).
[7] This is called differential-distributive mapping by Wu (2023).
[8] For a different analysis in scalar terms, see Braginsky and Rothstein (2008).

mereological reading related to the time or location of the eventuality) or to a trace function (resulting in a scalar reading).

While such a unified account seems warranted for N(um)-*by*-N(um) in English, it remains to be seen whether pluractionals exhibit this same plasticitiy in terms of mereological and scalar readings cross-linguistically. Indeed, Vlášková and Dočekal (2020) have argued that as far as Czech is concerned, Noun-Preposition-Noun pluractionals are scalar, wherease Num-Preposition-Num pluractionals are mereological. (This of course could be technically handled by tweaking Wu's (2023) model so that the resolution of the underspecified interval function is not contextual but rather, is rule-based: in the case of nouns, it is resolved to a trace function, in the case of numerals, to a mereological count function.) As we will see, in Old Hungarian, N(um)-*nkéd* pluractionals (such as nap-onkéd 'day-PLACT') are strictly limited to a mereological interpretation, whereas N-Postposition-N-Postposition pluractionals (such as *nap-ról nap-ra* 'from day to day') are strictly limited to a scalar interpretation. Within the mereological interpretation, so-called pluractional comparisons across substates are unattested with N(um)-*nkéd*.

Thus, it appears that the availability of mereological vs. scalar interpretations can depend on (i) context (as advocated by Wu(2023) for English N(um)-*by*-N(um), (ii) the type of the "N-denotation" (noun vs numeral, as shown by Vlášková and Dočekal 2020 for Czech) and on (iii) the structure of the pluractional (as we submit in the present study concerning Old Hungarian). Any cross-linguistically valid unified model of pluractionals has to take all three factors into account. Our purpose in this paper is not to develop such a full-fledged model: we content ourselves with (i) delineating which existing models fit the data from Old Hungarian and (ii) to precisely characterising how data from Old Hungarian augment the cross-linguistic explanandum with regard to pluractional adverbials.

Another oft-noted point of variation is whether a pluractional is strictly an adverbial adjunct (e.g. *from day to day*) or can also occupy an argument position (e.g. *day after day*):

(10) *We cried from day to day / day after day.*

(11) **From day to day / Day after day has passed.*

As we will see, N(um)-*nkéd* is strictly an adjunct, as is N-*ről* N-*re* 'from N after N'. (Only N N *után* 'N after N' can be used as an argument.)

Finally, adopting a diachronic approach will enable us to shed light on a somewhat neglected aspect of pluractional adverbials: their functional load, especially in terms of the division of labour vis-à-vis universal quantifiers and distributive operators. Pluractional adverbials often have a semantic import similar to universal quantifiers (e.g. *nap-onkéd* 'day-by-day' vs. *minden nap* 'every day') or to distributive operators (*a fiúk mind egyenként* 'the boys all one-by-one' vs. *minden-ik fiú* 'every-DISTR boy'). By carefully observing changes playing out in the Late Old Hungarian to Early Middle Hungarian as evidenced in corpora, we will show that the development and spread of bona fide universal quantifiers (Bende-Farkas 2015, Bende-Farkas 2019) and of the partitive-distributive suffix *–ik* (É. Kiss and Tánczos 2018) indeed happened in tandem with a reduction of the functional load of certain types of pluractional adverbials.

The paper is organized as follows. In Section 2 we discuss the main characteristics of N(um)-*nkéd* pluractionals in Old Hungarian (types of N(um)-denotations, types of eventuality-N(um)-denotation relations. In Section 3, we discuss grammaticalization pathways taken and not taken. In Section 4, we consider the possible effect of the originals in case of translated texts. In Section 5,

we canvas alternative expressions of pluractionality in Old Hungarian. In Section 6, we take a brief look at the landscape of Modern Hungarian. The Appendix contains aggregated data drawn from our corpus. Non-aggregated data are provided in the electronic supplement.

2. N(um)-*nkéd* constructions in Old Hungarian: the main characteristics

Data presented in this section are based on our detailed analysis of the so-called Old Hungarian Corpus (which contains Late Old Hungarian texts of various type plus five Bible translations representing the Early Middle Hungarian period, Simon and Sass 2012, Simon 2014). Using a broad search strategy in order to minimize the chance of false negatives and to cover various alternative spellings, we covered the totality of the corpus (including the morphologically unparsed part as well) and we identified altogether 723 cases of N(um)-*nkéd* pluractionals, each of which was analysed separately. In addition to exploring the availability and relative frequency of the various subtypes of pluractionals over time in the corpus as a whole, we also carried out a concordance-based analysis using the various Bible translations: this made it possible (i) to carry out a more detailed analysis of the division of labour between various types of pluractionals and between pluractionals and other elements and (ii) to map the diachronic changes in the frequency of various types of pluractionals.

Our main empirical findings are the following:

1) N(um)-*nkéd* pluractionals applied to the agent, theme, location or time of the event
2) N(um)-*nkéd* pluractionals applied to events and states
3) N(um)-*nkéd* pluractionals were limited to a mereological reading
4) N(um)-*nkéd* pluractionals could not instantiate pluractional comparisons across substates

Generally speaking, *-nkéd*[9] in Old and Early Middle Hungarian encodes a relation between an eventuality (event or state) and an N-denotation, specifically:

- the eventuality is partitioned[10] (non-overlapping, with union equal to the eventuality) into subeventualities; and some parameter of the eventuality (agent, theme, location or time) is partitioned in terms of the N-denotation
- there is a one-to-one (bijective) relation between the two partitions:

(12) subeventuality_1 <---> N-denotation_1
subeventuality_2 <---> N-denotation_2
subeventuality_3 <---> N-denotation_3
… <---> …

[9] In corpus, *-nkéd* surfaces with a plethora of different spellings, because of (i) dialectal variation (e.g. the Sylvester Bible systematically has *í* in places where other authors/translators have *é*), (ii) diachronic change (*-nkéd* -> *-nként*) and (iii) lack of standardized orthography. We adopted our search strategy to this, covering a very wide range of potential spellings (see Appendix) and manual checking each hit. One potential confound was present in the form on the *–ként* 'in the manner of' suffix. In the vast majority of cases, *-ként* and *–nkéd* are trivial to tell apart. In a handful of cases, detailed analysis was needed. E.g. Munich Codex has something that might be read as *minden-ként* 'by all means, in all ways' (cf. *minden-képp*) or as *mind-enkéd* (all-PLACT). However, (i) since the association of *–nkéd* with a universal quantifier is vanishingly rare and (ii) the Munich Codex otherwise completely lacks *–nkéd* expressions (even in the concordances where other Bible translations have *–nkéd*-expressions in abundance), we analysed this as *minden-ként*.

[10] Partitioning means that (i) the subeventualities are non-overlapping and (ii) the sum (or union) of the subeventualities is equal to the eventuality.

subeventuality$_n$ <---> N-denotation$_n$

Consider:

(13) *És reggel az fráterek ajtó-**nkéd** kenyeret koldulának.*
and morning the friars door-PLACT bread begged
'And in the morning, the friars went begging for bread, from door to door.'
(Domonkos C., 1517)

In (13), the event of begging is partitioned into subevents, and the location of the event of begging is partitioned into sublocations by the N-denotation (door here is a metonym of house/household), and there is a bijective relationship between subevents and sublocations.

Paraphrasing Beck & von Stechow (2007)): (13) is true of a begging event *e* iff the relevant division of the spatial extension of *e* is into doors, and each door was the location of a relevant subevent of *e*, and each relevant subevent of *e* took place at one of the doors. Informally:

(14)
begging subevent$_1$	<--->	door$_1$
begging subevent$_2$	<--->	door$_2$
begging subevent$_3$	<--->	door$_3$
…	<--->	…
begging subevent$_n$	<--->	door$_n$

Formally (in a Neo-Davidsonian even semantics framework, specifically, adopting Beck and von Stechow (2007)'s analysis of pluractionals):

(15) a. [[*-nkéd*]]: λP<e, t>.λCov.λR<e, <v, t>>.λy.λe: PART(Cov, e + y).

**[λy'.λe'. Cov(y') & Cov(e') & P(y') & R(y')(e')](y)(e)

b. [[*ajtó*]]: λx.door(x)

c. [[*ajtó-nkéd*]]: λCov.λR<e, <v, t>>.λy.λe: PART(Cov, e + y).

**[λy'.λe'. Cov(y') & Cov(e') & y' is a door & R(y')(e')](y)(e)

d. [[*a fráterek*]]: ιx.(λx.friar(x))

e. [[*koldul*]]: λy.λx.λe.beg(e)&ag(e,x)&th(e,y)

f. [[*A fráterek ajtó-nkéd koldulnak.*]]:
λe.<e, C> ∈ **[λl'.λe'. Cov(l') & Cov(e') & door(l') & beg(e')&AG(e', ιx.(λx.brothers(x))) & LOC(e',l')],
where PART(Cov, e+l)

Cov: the contextually salient division (partition) of the N-denotation (and the eventuality) into subparts

Note already here that this has a quantificational flavour: all the relevant sublocations (doors) are such that a relevan subevent (of begging) took place in them: this is because what we have is a partition (non-overlapping subsets, with the union of them being equal to the whole).

Below, we map out the Old Hungarian empirical landscape of *–nkéd*-based pluractional adverbs in terms (i) types of eventualities, (ii) types of N-denotations and (iii) types of relations between the two.

2.1 Types of N-denotations

In Old Hungarian, the argument of *–nkéd* indicates a partition in terms of one of the following subtypes: by participant (agent, theme, goal etc.), by time or by location. In the case of participants, partitioning happens in terms of the subset-set relation or of the whole-part relation.

2.1.1 Partitioning by agent: typically, subsets of set of individuals

Agents being typically [+animate], the partitioning here happens into subsets of a set of individuals. Consider:

(16) *az nagy prímát elvégezvén az atyafiak kapitulumba fej-enkéd bemennek*
the big prime concluded the friars chapter.into head-PLACT enter
'having concluded the Prime, the friars enter the chapter one-by-one'
(Apor C., mid-15C, 1520)

In (16), the event of the friars as a group entering the chapter is divided into subevents, and the agent of the event (the set of the friars concerned) is partitioned into subsets by the N-denotation. *Fő* 'head' being a metonym for 'individual', the subsets are singleton sets (each containing a single friar). Informally:

(17)
entering subevent$_1$	<--->	friar$_1$
entering subevent$_2$	<--->	friar$_2$
entering subevent$_3$	<--->	friar$_3$
…	<--->	…
entering subevent$_n$	<--->	friar$_n$

Formally (in a Neo-Davidsonian even semantics framework):

(18) a. [[*Az atyafiak fejenként bemennek.*]]:

$\lambda e.<e, C> \in **[\lambda a'.\lambda e'.\ Cov(a') \& Cov(e') \& friar(a') \& enter(e') \& AG(e', a')]$,

where PART(Cov, e+a)

In Wu's (2023) framework (inspired by Champollion (2017)):

The friars entered head-by-head. (I analyse head as a sortal noun meaning 1 person.)

(19) $\exists \pi_x(e).\forall e' \in \pi_x(e).enter_\alpha(e') \wedge |\text{AGENT}(e')| = 1 \wedge \text{human}(\text{AGENT}(e'))$

The adverbial *fej-enkéd* (head-wise) contributes the meaning that there is a non-trivial partition (possibly but not necessarily temporal) of the event it modifies where each cell is an atomic entering event and the agent in each cell contains only one atomic part which is a human person. Since N(um)-*nkéd* is limited to mereological readings, in what follows, I will used the model of Beck and von Stechow (2007) for simplicity.

While in this particular case, world knowledge suggests that the subevents are temporally sequenced, this is not a burnt-in characteristic of *–nkéd*-based pluractionality (see below).

In addition to partitioning into singleton sets (N: *fő* 'head', *one* 'egy'), partitioning into sets of higher cardinality (N: *kettő* 'two', *ötven* 'fifty', *száz* 'hundred') and into sets characterized by shared quality (N: *talentum* 'talent') or group membership (N: *sereg* 'group', *rész* 'group, part', *fejedelmi ház* 'dynastic lineage') is also attested. (Cf. Table 9 in the Appendix and the detailed and annotated list of attestations in the electronic supplement.)

Since in the case of *egyenkéd* 'one-PLACT' and *fejenkéd* 'fő-PLACT', the subevents are distributed over individuals (i.e., singleton sets), it might be tempting to characterize *egyenkéd* and *fejenkéd* as distributivity operators. However, it is important to remember that the semantics of *egyenkéd* and *fejenkéd* is compositionally derived from the semantics of the nouns *fő* 'head, i.e. individual' and *egy* 'one' and of the pluractional suffix *–nkéd*. This means that staying true to Occam's razor, it is unwarranted to posit a separate category ('distributivity operator') for them (see Section 3 for a more detailed discussion).

2.1.2 Partitioning by theme or goal: subsets of set of individuals or mereological part-whole relation

Themes and goals may be [+animate] or [-animate], and therefore, partitioning in terms of subsets of individuals and the part-whole relation are both attested. Consider first:

(20) *ha valami könyvet lát vala ottan oda fut vala és a több*
if some book see PAST there there.to run PAST and the more
gyermökök módjára igen hányja vala levelönként
children in.fashion.of very leaf.through PAST page-PLACT
'if he saw a book there, he ran up to it and like the other children, he studied it intensively page by page'
(Debrecen C., 1519)

In (20), the event of Saint Thomas Aquinas studying the book is partitioned into subevents, and the theme of the event (the book as a whole) is partitioned by the N-denotation (*levél* 'leaf, letter, page') into pages

- Informally:

(21)
reading subevent$_1$	<--->	page$_1$
reading subevent$_2$	<--->	page$_2$
reading subevent$_3$	<--->	page$_3$
…	<--->	…
reading subevent$_n$	<--->	page$_n$

- Formally:

(22) [[*Szent Tamás hányja a könyvet levelenkéd.*]]:
λe.<e, C> ∈ **[λth'.λe'. Cov(th') & Cov(e') & page(th') & study(e') & AG(e', aquinas) & TH(e',th')], where PART(Cov, e+th)

(20) exemplifies the partitioning of the theme in terms of the mereological part-whole relation, with pages being the physical constituents of a book. In our corpus, in addition to *levél* 'page', partitioning is attested in terms of *íz* 'small body part', *tag* 'member, body part', *folt* 'bit' (a cognate of Modern Hungarian *falat* 'bite'), *apró* 'tiny' and *ige* 'word' (qua constituent part of a whole text).

Below, consider an example of a goal being partitioned in terms of a subset of a group of individuals:

(23) *[mely] eredet bűn szálla fej-enkéd mi reánk*
which origin sin descended head-PLACT us onto
'the aforementioned original sin descended upon us one by one'
(Tihany C., 1530-1532)

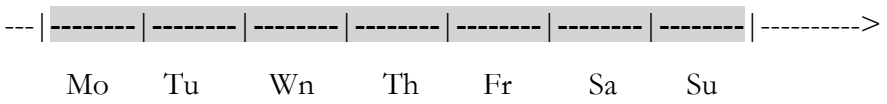
In (23), the event of the descent of original sin on humanity is divided into subevents, and the goal of the event (the set of humans) is partitioned into subsets by the N-denotation. *Fő* 'head' being a metonym for 'individual', the subsets are singleton sets (each containing a single human). Formally:

(24) [[*Eredet bűn száll fejenkéd mi reánk.*]]:
λe.<e, C> ∈ **[λg'.λe'. Cov(g') & Cov(e') & speaker^{+}(g') & descend(e') & TH(e', original.sin) & GOAL(e',g')], where PART(Cov, e+g)

2.1.3 Partitioning by time: subintervals (i.e., subsets) of the time of the eventuality

Partitioning in terms of the timespan of eventuality can also be modelled in terms of the subset-set relation. Representing time as a straight line, the temporal extension of a temporally uninterrupted eventuality corresponds to a line segment on this straight line, i.e., the set of all the timepoints falling within that line segment. Consider:

(25) *Mary was healthy last week.*



The temporal extension of an interrupted eventuality (one that can be divided into temporally distinct uninterrupted subevents) corresponds the the union of line segments (with each line segment corresponding to the temporal extension of the uninterrupted subevents):

(26) *Mary worked hard last week.*

(26) is not taken to mean that Mary worked in an uninterrupted fashion from Monday 00:00 to Friday 23:59. It is can be uttered truthfully if it is the case that each day of the week is such that a (possibly interrupted) working subevent took place on that day.

When *-nkéd* is applied to a noun denoting a time interval (in our corpus: *kor* 'time interval of unspecified length', *szempillantás* 'blink of an eye', *nap* 'day', *hónap* 'month' or *esztendő* 'year'), the eventuality is partitioned into subeventualities, and the time (temporal extension) of the eventuality is partitioned in terms of the N-denotation. Consider:

(27) *nap-onkéd azért siránkozik és szepeg vala [Sámson felesége]*
day-PLACT therefore lament and weep PAST Samson wife.3SG
'therefore the wife of Samson kept lamenting and crying from day to day'
(Jordánszky C., 1516-1519, Judges 14:17)

The interrupted event of lamenting and crying is being partitioned into subevents such that each subevent corresponds to a daily chunk of the temporal extension of the event. To see how this works, consider a simple scenario where the person concerned lamented and cried for a week, and two times per day: there was a morning weeping & crying uninterrupted subevent and an afternoon weeping & crying uninterrupted subevent:

(28) event = $\text{subevent}_{\text{MoAM}}$ + $\text{subevent}_{\text{MoPM}}$ + $\text{subevent}_{\text{TuAM}}$+$\text{subevent}_{\text{TuPM}}$ + …
+ $\text{subevent}_{\text{SuPM}}$

In (27), this event is partitioned in a way that that each subevent is such that its temporal extension is contained within a day, with the days taken together forming a partition of the whole week (the contextually given salient time period of which the temporal extension of the event forms a subset).

- Informally:

(29) $\text{subevent}_1 = \text{subevent}_{\text{MoAM}} + \text{subevent}_{\text{MoPM}}$ <---> day_1 (Monday)
$\text{subevent}_2 = \text{subevent}_{\text{MoAM}} + \text{subevent}_{\text{MoPM}}$ <---> day_2 (Tuesday)
$\text{subevent}_3 = \text{subevent}_{\text{MoAM}} + \text{subevent}_{\text{MoPM}}$ <---> day_3 (Wednesday)
… <---> …
$\text{subevent}_7 = \text{subevent}_{\text{MoAM}} + \text{subevent}_{\text{MoPM}}$ <---> day_7 (Sunday)

- Formally:

(30) [[*Sámson felesége nap-onkéd siránkozik.*]]:
λe.<e, C> ∈ **[λt'.λe'. Cov(t') & Cov(e') & lament(e') & AG(e', wife-of-samson) & time(e') ⊆ t'], where PART(Cov, e+t)

Note that the above means that every day within the time period concerned is such that a relevant subevent took place within it. This is in effect very similar to universal quantification over days, and indeed, as we will see later on in the section about New Testament concordances, where one translator applies *nap-onkéd*, another translator often applies the bona fide universal quantifier expression such as *minden napon* 'every day-SUP'. This, however, is not sufficient to justify an analysis of *nap-onkéd* and its ilk as bona fide universal quantifier expressions, since their quantificational import can be compositionally derived from the semantics of their elements: the pluractional suffix *–nkéd* and the N-expression denoting a time interval.

Consider a further example below:

(31) *kor-onkéd* *dagályosok* *voltatok*
time.interval-PLACT boastful were.you
'you have always been boastful' (lit. 'you were boastful from minimal time interval to minimal time interval')
(Jordánszky C., 1516-1519, Deut 31:27)

Koronkéd is frequently used in Old Hungarian texts (see Table 8 below and the electronic supplement), and the analysis of the texts in terms of context and concordances makes it clear that its contribution is almost identical to that of a universally quantified temporal expression such as *minden kor-on* 'always, lit. every time.interval-SUP'. While in Modern Hungarian, *kor* means 'age (both in the sense of lengthy time period and in the age of an individual)', in Old Hungarian, it had a less restricted meaning of 'time (period) of an unspecified length'. The semantics of (31) can be derived in the standard way: the state of being boastful is partitioned into substates, and the temporal extension of being boastful is also partitioned into time subintervals such that each substate corresponds to a time subinterval. Formally:

(32) [[*kor-onkéd dagályosak voltatok*]]:
λs.<s, C> ∈ **[λt'.λs'. Cov(t') & Cov(s') & boastful(s') & TH(s', addressee$_+$) & time(s') ⊆ t'], where PART(Cov, s+t)

The universal import is clear here as well: if every time subinterval of unspecified length is such that the state held in it, then it follows that the state held for the totality of the time period.

2.1.4 By location: sublocations (i.e., subsets) of the location of the eventuality

In cases where the N in an N-*nkéd* expression refers to a location, the eventuality is partitioned into subeventualities, and the location of the eventuality is partitioned into sublocations by the N-denotation, and there is a bijective relationship between subeventualities and sublocations. For a detailed example, consider (13) above. The nouns involved in such constructions in our corpus are the following: *ház* 'house',*ajtó* 'door', *ország* 'country', *tartomány* 'province', *város* 'town', *falu* 'village', *utca* 'street', *gyülekezet* 'congregation'. (See Table 11 and the electronic supplement for details)

2.2 Types of eventualities

The eventualities concerned in –*nkéd* constructions involve events (such as in (20) above) and also states (such as in (7) above).

Focusing on events, we can identify two strategies of the construction of the event-subevent structure which can be roughly characterized as top-down vs. bottom-up. Consider:

(33) *és kik ott valának mindenekre fej-enkéd szálla [a Szentlélek]*
and who there were all.unto head-PLACT descended the Holy.Spirit
the Holy Spirit descended upon each of them who were there
(Érsekújvár C., 1529-1531)

Here, arguably, the starting point is the single event of the descent of the Holy Spirit on the apostles at the first Pentecost which is then divided up into subevents in terms of the partition of the theme argument: the event-subevent structure is constructed in a top-down fashion.

The other strategy is exemplified below:

(34) *és az ő szülei felmennek vala esztendőnként Jeruzsálembe*
and the he parent.3SG.PL go.up PAST year-PLACT Jerusalem.into
húsvét napjára
Passover day.3SG.SUB
'and his parents went up to Jerusalem every year for the day of Passover'
(Pesti Bible, 1536, Lk 2:41)

Here, the starting point is a set of similar but distinct events (going up as a family to Jerusalem for the occasion of the Passover in Year 1, going up as family to Jerusalem for the occasion of the Passover in Year 2 etc.), from which a superevent of 'going up as a family to Jerusalem for the occasion of the Passover' is constructed in a bottom-up fashion. And it is this superevent that is then (re)partitioned into subevents.

As expected, the dividing line between these two strategies is blurred. Consider (35) below:

(35) *ennek utánna űtőlök fej-enkéd búcsút vőn*
this after from.them head-plact farewell took
'thereafter he bid farewell to them one by one'
(Kazinczy C., 1526-1541)

Whether (35) is to be analysed as (i) a single event of saying farewell to a group being divided into subevents or (ii) as several events of saying farewell to one person each being collated into a

superevent, is very much debatable. However, for our analysis, this distinction is not crucial: either way, in the end, we have a structure of one event being partitioned into subevents.

A similar distinction can be made when it comes to states. Consider:

(36) *[az üdvözültek] igen méltóságossok: mert istennek mind fejenkéd*
the beatified very dignified because God.DAT all head-PLACT
leányi és fiai
daughter.3SG.PL and son.3SG.PL
'[the saints] possess a high dignity, as they are all the daughters and sons of God'
(Sándor C., first quarter of 16th C)

The state of being God's child holds of each person separately: from these distincts states, a superstate of the group as a whole being in the state of being God's children is constructed in a bottom-up fashion, and it is this superstate that is being repartitioned into states.

Consider (37) below (also (31) above):

(37) *nap-onkéd ő szüleit tiszteli vala*
day-PLACT she parent.PL.3SG.ACC respect PAST
'he was being respectful to his parents from day to day (=every day=always)'

Here, the starting point is the uninterrupted state of being respectful to the parents, which is then divided into substates in a top-down fashion.

2.3 Types of eventuality-N-denotation relations

In Old Hungarian *–nkéd*-based pluractionality, the relationship between the set of subeventualities and the set of sub-N-denotations has to be a bijection, but otherwise, it is unrestricted. E.g., there is no requirement that the subeventualities be temporally ordered. Consider (5) above, reproduced here as (38)

(38) *az nagy prímát elvégezvén az atyafiak kapitulumba fej-enkéd bemennek*
the big prime concluded the friars chapter.into head-PLACT enter
'having concluded the Prime, the friars enter the chapter one-by-one'
(Apor C., mid-15C, 1520)

Here, the subevents are temporally ordered. However, while we can make this inference due to our world knowledge (a group of people typically cannot enter through a door simultaneously), this is not part of the semantics of the construction. Consider (11) above, reproduced here as (39):

(39) *[mely] eredet bűn szálla fej-enkéd mi reánk*
which origin sin descended head-PLACT us onto
'the aforementioned original sin descended upon us one by one'
(Tihany C., 1530-1532)

Here, the subevents take place simultaneously (or at least, they are not temporally ordered).

In addition to the standard pluractional construction discussed above, *-nkéd* in Old Hungarian also had the potential to encode pluractional comparisons (broadly construed, cf. Beck 2012) in the case of time-denoting Ns. Consider:

(40) *nap-onkéd kedig gyűl vala az híveknek ő számuk*
day-PLACT then increase PAST the faithful.DAT 3SG number.3PL

'The number of the faithful increased from day to day.'
(Jordánszky C., 1516-1519, Acts 5:13)

Such pluractional comparisons were the most frequent with *nap* 'day' (out of altogether 272 nap-onkéd constructions, 34 were pluractional comparisons) and less frequent with *kor* 'unspecified interval' (1/195) and *esztendő* 'év' (0/40). This probably has to do with the fact that day-to-day is the scale at which most natural changes are readily observable.[11]

Note that a large class of pluractional comparisons (broadly construed) can be collapsed into simple pluractionals or even universal quantification, exemplified below:

(41) a. *és* *nap-onként* *számmal* *bővelkednek* *vala* (Heltai Bible, 1565)
and day-PLACT number.with grow PAST
'and from day to day, their number increased'
b. *és* *minden* *napon* *az* *ő* *számuk* *növekedik* *vala* (Sylvester Bible, 1541)
and every day.on the 3SG number.3PL increase PAST
'and every day, their number increased'
(Acts 16:5)

Put simply, if (i) each subevent is such that it denotes an increase (or decrease) along the relevant scale and (ii) the subevents are temporally ordered and (iii) the starting value on the relevant scale for subevent t equals the closing value for subevent t-1, then it follows that there is increase taking place over the course of the whole event (which itself denotes an increase).

This means that such instances (where the eventuality being partitioned is an event denoting an increase or decrease) can be modelled using the standard analysis of pluractionality (discussed above): using Occam's razor, they do not necessitate the stipulation of a separate semantic type and as such, they might be called pseudo-[pluractional comparisons].

Note however that this unified analysis cannot be extended to cases where the eventuality is a state, such as:

(42) *Mari* *napról* *napra* *jobban* *érzi* *magát.* (Modern Hungarian)
Mary day.from day.to better feels herself.
'Mary is feeling better from day to day.'

Here, Mary's level of well-being is constant within each state: the increase in well-being takes place in-between the states.

Strikingly, in the Old Hungarian Corpus, the vast majority of *–nkéd*-type pluractional comparisons (26 out of 28) are clearly of the pseudo sort, and involve verbs denoting events of increase or decrease: *növekedik* 'grow' (8 counts); *gyarapodik* 'grow, increase' (6); *elfogyatkozik* 'diminish' (2); *bővelkedik* 'grow, widen, increase' (2); and *gyűl* 'increase', *sokasodik* 'increase in number', *sokasít* 'increase in number (tr.), *teljesedik* 'grow', *szaporít* 'increase in number, multiply', *megnehezedik* 'deteriorate health-wise', *elasz* 'wither', *megárad* 'swell' (1 each).

[11] Note that in some Bible translations, *nap-onkéd* was sometimes used as an intensifier in the case of a growth verb (often in addition to) μᾶλλον (καὶ μᾶλλον) 'more and more, increasingly', typically translated as *inkább* 'more' (See Table X for details.)

There are as few as altogether two instances that at first sight might count as true pluractional comparisons in our corpus. Consider first:

(43) *hogy az ti szeretetetek innét tova és nap-onként nagyobban*
that the you love.2PL here.from further and day-PLACT more
kimutassa magát az Isten ismeretében
manifest itself the God knowledge.3SG.in
'that your love from now onwards and day by day in a greater fashion should manifest itself in the knowledge of God'
(Sylvester Bible, Fil 1:9)

Curiously, however, *naponkéd* appears to be an insertion by the translator, as neither the Greek original, nor the Vulgate contains any corresponding element. In fact, it appears to have been a fairly common strategy especially of Sylvester and Heltai (but to a more limited extent, Jordánszky and Károli as well) to use *nap-onkéd* as a kind of intensifier in the case of events denoting increase/decrease (often in addition to the adverb μᾶλλον (καὶ μᾶλλον), translated as *inkább* 'more'. (See Table 4 in the concordances section, also Table 8 in the Appendix, as well as the electronic supplement.) This means that one might with some justification propose an adverbial semantics for these intensifier-*naponkéd*s, different from the general pluractional analysis, something akin to 'continuously, without interruption'.[12]

Consider the second potential case below:

(44) *És nap-onkéd különb különb csodák lésznek vala az szent testnél*
and day-PLACT various various miracles be.3PL PAST the holy body.at
'And from day to day, different miracles happened at the holy body.'
(Érdy C., 1526)

Különb in general is ambiguous between two readings: 'better' and 'different, various'. However, a survey of the way *különb-különb* is used in the Érdy Codex clearly shows that the authors of this Codex exclusively use *különb-különb* in the sense of 'different, various', consider e.g.:

(45) *különb különb nyelvő népek megértették mondását*
various various language.of peoples understood saying.3SG.ACC
'speakers of various languages managed to comprehend what he had said'
(Érdy C., 1526)

Here, it is clear that there is no degree comparison being made among the various languages. This suggests that (44) probably simply means that different miracles happened from day to day, i.e., no comparison is being made in the sense of the miracles becoming more and more excellent each day.

In conclusion, since there is only one very spurious case, it is safe to say that in all probability, *-nkéd* in Old Hungarian did not encode true pluractional comparisons.

3. Grammaticalization pathways taken and not taken (distr op., rate phrase)

3.1 No reinterpretation of *koronkéd, naponkéd* and *esztendőnkéd* as universal quantifier

[12] Note e.g. that *24-7* in colloquial English seems to have undergone such a change, and acquired the meaning of 'continuously'.

As we have seen above, *naponkéd* 'day-PLACT', *koronkéd* 'time.interval-PLACT' and *esztendő-nkéd* 'year-PLACT' did have a universal flavour. However, this can be straightforwardly derived from the meaning of the nouns concerned and the general semantics of *–nkéd* as a pluractional suffix. As Beck (2012) has argued, pluractional adverbial modification entails universal quantification over the members of the partition, which, being a cover, entails all relevant subsets. This means that the truth conditions that we arrive at are necessarily consistent with a universal adverbial quantification reading too (the so-called constant entailment effect, cf. also Beck & Gergel 2015). This means that staying faithful to the principal of Occam's razor, it is unjustified to posit a separate semantics for *naponkéd*, *koronkéd* and *esztendőnkéd*: our model for N-*nkéd* covers these too.

Note also that focusing on New Testament concordances, it becomes clear that with every translator, the bona fide universal quantifiers *minden nap(on)* and *minden kor(on)* coexist with *naponkéd* and *koronkéd*, sometimes even within the same sentence. Consider (see also Table 4 below for tabulated data):

(46) *nézem vala az én uramat minden-kor-on,*
look.at.1SG PAST the 1SG Lord.1SG.ACC every-time.interval-on
mert kor-onkéd én jogomra áll énnekem
because time.interval-PLACT 1SG right.hand.onto stands 1SG.DAT
'I am looking at my Lord at all times, as he stands to the right of me at all times.'
(Jordánszky C., 1516-1519, Acts 2:25)

Note also that the interchangeability of a time-based pluractional with a temporal universal quantifier is not limited to *–nkéd*-constructions. Consider (47) below:

(47) a. *kik* ***nap-ról*** ***nap-ra*** *az igaz lelket álnokságos tételményekkel kínozzák vala*
day.from day.to
(Jordánszky C., 1516-1519)
b. ***nap-onként*** *aggasztalja vala az ő igaz lelkét azoknak gonosz cselekedetén*
day-PLACT
(Sylvester Bible, 1541)
c. ***minden nap-on*** *az ő igaz lelkét azoknak gonosz cselekedetüket látván és hallván , gyötri vala*
every day-on
(Károli 1590)
d. **ἡμέραν** ἐξ **ἡμέρας** ψυχὴν δικαίαν ἀνόμοις ἔργοις ἐβασάνιζεν
day after day
(2Pt 2:8)

Just as one would not argue based on this interchangeability that *napról napra* is in fact a universal quantifier, one also should not make the same argument wrt to *naponkéd*.

As we will see in Section 7, the frequency of time *–nkéd* expressions has decreased rapidly in the Early Middle Hungarian period. This is probably due to the spread and consolidation of bona fide quantifiers (cf. Bende-Farkas 2015). This is borne out by relative frequency data gained from the New Testament translation concordances:

Bible translation	Date	*naponkéd* 'day by day'	*minden nap(on)* 'every day'	*napról napra* 'from day to day'	*mindenkoron* 'every time'	-	total	*naponkéd* 'day by day'	*minden napon* 'every day'
Jordánszky Codex	1516-1519	12	3	1	1	5	22	55%	14%
Pesti Bible	1536	3	2			3	8	38%	25%
Sylvester Bible	1541	14	8			5	27	52%	30%
Heltai Bible	1565	15	7			5	27	56%	26%
Károli Bible	1590	2	16			9	27	7%	59%
Káldi Bible	1626	2	14	1		10	27	7%	52%

Table 1: Pluractionals vs quantifiers

3.2 No reinterpretation of *fejenkéd, egyenkéd* as distributive operator

While *fejenkéd* 'head-PLACT'and *egyenkéd* 'one-PLACT' did have a contribution similar to distributive operators, it is unnecessary (and thus, unjustified), to analyse them as such. As we have discussed above, their quasi-distributive import can be compositionally derived from the meanings of *fő* 'head' and *egy* 'one' and the semantics of the pluractional suffix *–nkéd*. This means that staying faithful to the principle of Occam's razor, it is unjustified to posit a separate semantics for *fejenkéd* and *egyenkéd*: our model for N-nkéd covers these too.

Note also that generally speaking, just because two constructions have the same or similar import in terms of distributivity does not mean that they have the exact same semantics. Consider the original and different translations of the same locus (Mt 20:9):

(48) a. *minden-**ik*** *felvevé az ő pénzét* (Pesti)
everyone-DIST

b. ***ki-ki*** *mind fizetésül vén egy-egy garast* (Sylvester)
who-who

c. *azokis **fej-enként** tiz pénzt vőnek* (Károli)
head-PLACT

d. ἔλαβον **ἀνὰ** δηνάριον
receive.AOR.IND.ACT.3PL each denarius.ACC
'they each received one denarius'
(Mt 20:9)

In the original Koine Greek, distributivity is expressed via the preposition ἀνὰ (each). Károli renders this using an *–nkéd*-construction, while Sylvester applies a reduplicated indeterminate pronoun (Bende-Farkas 2015), whereas Pesti uses the distributive suffix *–ik* (É. Kiss and Tánczos 2018). While each strategy results in roughly the same meaning, it would not be justified to assign the same formal semantics to these elements. Similar diversity is exhibited in Jn 16:32 and Rom 12:5 (see the electronic supplement).

Finally, note that *egy-enkéd* 'one-PLACT' can actually co-occur with a bona fide distributivity operator, which is further evidence against it being a distributivity operator:

(49) *minden-ik-et* *egy-enkéd* *üdvözlé*
everyone-DIST one-PLACT greet.PAST.3SG
He greated each of them one-by-one.
(Teleki C., 1525-1531)

As we will see in Section 7 below, the frequency of *egy-enkéd* / *fej-enkéd* 'one-PLACT' has decreased rapidly in the Early Middle Hungarian period. This is probably explained by the fact that the

functional load of these elements as markers of distributivity has decreased in the very same period due to (i) the emergence of bona fide universal quantifiers which are inherently distributive (Szabolcsi 1997 a.o.) and (ii) the reinterpretation of the floating quantifier *mind* 'all' as inherently distributive (as argued by Bende-Farkas 2019, *mind* 'all' has not been distributive in Old Hungarian, however, it is undisputably distributive in Modern Hungarian).

There are altogether 95 instances of *egy-enkéd / fej-enkéd* in the corpus, and 18 of these are cases where there is also a floating quantifier, such as in (23) above, reproduced here as (50):

(50) *[az* *üdvözültek]* *igen* *méltóságossok:* *mert* *istennek* *mind* *fejenkéd*
the beatified very dignified because God.DAT all head-PLACT
leányi *és* *fiai*
daughter.3SG.PL and son.3SG.PL
'[the saints] possess a high dignity, as they are all the daughters and sons of God'
(Sándor C., first quarter of 16th C)

Once *mind* had been reinterpreted as inherently distributive, the distributive import of one-pluractionals became redundant.

3.3 The possible reinterpretation *-nkéd* as distributive operator in *minden N-nkéd* constructions

Sentences such as (51) below represent a challenge to our account. Consider:

(51) *de* *ez* *áldozatokban* *minden* *esztendő-nként* *emlékezet* *leszen*
but this sacrifices.in every year-PLACT remembrance will.be
az *bűnökről*
the sins.from
(Sylvester Bible, 1541, Heb 10:3)

The suffix *–nkéd* typically applies to bare nominals or numerals, and vanishingly rarely to adjective+noun combinations (such as *apró darab-onkéd* 'tiny piece-PLACT'), to adjectives (such as *apró-nkéd* 'tiny-PLACT') and to possessed nouns (*nemzetség-ük-önkéd* 'tribe-3SG-PLACT'). However, there are altogether 20 cases (out of a total of 724 *–nkéd*-constructions) where *–nkéd* applies to a universal quantifier+noun sequence: *minden nap-onkéd* 'every day-PLACT' (8), *minden esztendő-nkéd* 'every year-PLACT' (6), *minden város-onkéd* 'every town-PLACT' (2), *minden gyülekezet-enkéd* 'every congregation-PLACT' (1), *minden íz-enkéd* 'every bit-PLACT' (1), *minden ország-onkéd* 'every country-PLACT' (1), *minden sereg-enkéd* 'every group-PLACT' (1).

Minden+N is of a higher type (minimally <<e,t>,t>) than N (<e,t>), which makes the integration of these instances into our general account non-trivial. At least three possible accounts present themselves: (i) the type-lowering account, (ii) the translation interference account and (iii) the *–nkéd* as distributivity marker account.

It has been known for a long time that in Hungarian (and other languages as well), universal quantifier phrases can be interpreted at a lower type instead of or in addition to their 'native' type (Szabolcsi 1997), so that for example, *minden város* 'every town' can be interpreted as denoting its own maximal witness set (in essence, having the same denotation as bare *város* 'town'). It is thus possible that a phrase such as *minden város* 'every town' is type-ambiguous, and when combining with *–nkéd*, a suffix that only accepts operands of type <e,t>, it is this lower type that is being activated. However, this account leaves open the question as to why exactly this happens: if [[N-*nkéd*]] = [[*minden* N-*nkéd*]], why use the more complex expression in the first place?

This is where considering the potential interference of translation is relevant. As we will see below in the section on New Testament concordances, it is in general not the case that instances of *–nkéd* are the results of overly faithful translations of the original. However, specifically in case of *minden* N-*nkéd*, the influence of the original seems to be present. Consider first the texts where *minden* N-*nkéd* is attested:

Text	Date	Count	Translation of
Érdy C.	1526	4	Legenda Aurea
Apor C.	1485	1	Bible
Jordánszky C.	1516-1519	3	Bible
Sylvester Bible	1541	1	Bible
Károli Bible	1590	3	Bible
Heltai Bible	1565	2	Bible
Thewrewk C.	1531	1	Hortulus animae, Antidotarius animae
Érsekújvár C.	1529-1531	2	Legenda Aurea, Gesta Romanorum a.o.
Peer C.	16C1Q	1	?
Letters	1540	2	none

Table 2

It is striking that the vast majority of the texts are translations. Focusing on New Testament concordances (see the electronic supplement), it is also clear that in every case where one or more of the translations has *minden N-kéd*, the Greek or the Latin original contains an element corresponding to *every*:

Locus	minden N-nkéd	translation	Greek	Vulgate
Acts 14:23	minden gyülekezet-enkéd	Heltai	κατ' ἐκκλησίαν	per singulas ecclesias
Acts 15:36	minden város-onkéd	Jordánszky, Heltai	κατὰ πόλιν πᾶσαν	per universas civitates
Acts 20:23	minden város-onkéd	Károli	κατὰ πόλιν	per omnes civitates
Lk 2:41	minden esztendő-nkéd	Károli	κατ' ἐνιαυτὸν	per omnes annos
Heb10:3	minden esztendő-nkéd	Jordánszky, Sylvester, Károli	κατ' ἐνιαυτὸν	per singulos annos

Table 3

In contrast, note e.g. that καθ' ἡμέραν/cotidie 'daily, every day', which crucially lack an element corresponding to *every*, are never translated as *minden naponkéd* 'every day-PLACT'. The only attested translations in the New Testament are *naponkéd* (25) and *minden nap(on)* (38) and *minden kor(on)* (1).

This provides relatively strong (if circumstantial) evidence that *minden* N-*nkéd* is probably an interference from translation, made possible by the availability of the type lowering strategy discussed above.

A possible alternative to this type lowering account would be to assume that *minden N-nkéd* expressions are bona fide universal quantifier phrases, and *–nkéd* has the function of a distributive suffix. This is not outlandish: note e.g. that in Heb 10:3, where Jordánszky, Sylvester and Károli apply *minden esztendő-nkéd* 'every year-PLACT', Káldi uses *minden-ik esztendőben* 'every-DIST year.INE', i.e., the distributive suffix *–ik* 'DIST'. The low frequency of the construction and the fact that a purported *–nkéd* distributive suffix has no trace elsewhere, however, disfavours this analysis.

4. Excursus: the effect of translation, or rather, lack of (*-nkéd* ≠ *κατά* ≠ *per*)

The electronic supplement contains a detailed tabulation of all the New Testament locuses where at least on of the translations contained an *N-nkéd* expression, together with the Greek original and the Vulgate version. A comparison of these makes it clear that *–nkéd*-expressions are emphatically *not* verbatim translations of similarly constructed Greek or Latin originals (*κατά-* and *per*-expressions). By way of example, consider the locuses where at least one translator used *naponkéd* 'day-PLACT':

	καθ' ἡμέραν						πᾶσάν ἡμέραν						εἰς τὴν ἡμέραν						ἑκάστην ἡμέραν					
	J	P	S	H	Kr	Kd	J	P	S	H	Kr	Kd	J	P	S	H	Kr	Kd	J	P	S	H	Kr	Kd
naponkéd	9	3	5	6	1	1				1					1	1					1	1		
minden nap(on)		2	7	7	11	11	1		1		1	1	1				1	1	1				1	1
napról napra																								
mindenkoron	1																							
-	2	1	1		1	1																		

	ἡμέρᾳ καὶ ἡμέρᾳ						ἡμέραν ἐξ ἡμέρας						of inkább (μᾶλλον (κ)						tensifier of growth-v									
	J	P	S	H	Kr	Kd	J	P	S	H	Kr	Kd	J	P	S	H	Kr	Kd	J	P	S	H	Kr	Kd	J	P	S	H	Kr	Kd
naponkéd			1	1					1	1		1	1		3	3	1				1				2		1	1		
minden nap(on)					1						1																			
napról napra						1	1																							
mindenkoron																														
-															1	1	3	4	1	1		1	1	1	2	1	3	3	4	4

Table 4

While *καθ' ἡμέραν* 'through day.ACC.F.SG' looks similar to *nap-onkéd* 'day-PLACT'; it is not the case that *καθ' ἡμέραν* is mechanically translated into *nap-onkéd*, in fact, every translator applies *minden nap-on* 'every day-on'as an alternative strategy. It is also not the case that *nap-onkéd* is used exclusively as a translation of *καθ' ἡμέραν*. (Considering the potential effect of the Vulgate, it can be pointed out that the main counterpart of naponkéd is *cotidie* 'daily', which lacks any element potentially corresponding to *–nkéd*.)

The tenuousness of a strict structural correspondence between the suffix *–nkéd*, and the prepositions *κατά* 'through' and *per* 'throughout' is further underlined by the fact that *kor-onkéd* 'always' is a translation of *διὰ παντὸς* 'always, lit. through all.GEN.M.SG'(4), *ἀεὶ* 'always, lit. age.LOC.M.SG' (2) and *πάντοτε* 'always, lit. every sometimes' (1), none of which contains any trace of *κατά*. While the Latin counterpart, *semper* 'always', diachronically contains the element *-per* (*sem(el)* 'once' + *per* 'throughout'), it is dubious that this was transparent to the translator (note that the form *sem* is not attested in Classical Latin, *-per* is suffixal and not prepositional, and the meaning is also not particularly transparent ('once throughout' -> 'always').

Similarly, *egy-enkéd* 'one-PLACT' and *fej-enkéd* 'head-PLACT' also serve as the translation of a plethora of original expressions, many of which do not contain κατά or *per* at all (see electronic supplement).

And finally, note that that many of the texts containing *–nkéd*-expressions are not translations at all.[13]

5. Alternative expressions of pluractionality in Old Hungarian

-nkéd-suffixation was by no means the only way to express pluractionality in Old Hungarian. Competing alternatives inclue]:

- *N-ról N-ra* 'from N to N':add years in this section

(52) a. *nap-ról nap-ra az igaz lelket álnokságos* (Jordánszky C., 1516-19)
day-from day-onto the true spirit.ACC deceitful
tételményekkel kínozzák vala
act.PL.INS torment.3PL be.PST.3SG

b. *nap-onként hamis cselekedetekkel* (Káldi Bible, 1626)
day-PLACT fake act.PL.INS
kínozzák vala az igaz lelket
torment.3PL be.PST.3SG the true spirit.ACC
'From day to day, they vexed the righteous soul with unlawful deeds.'
(2Pt 2:8)[14]

- *N szerte* 'across N'

(53) a. *[nem] szűnnek vala meg […] hirdetni* (Sylvester Bible, 1541)
not cease.3PL be.PST.3SG PRT proclaim.INF
az Jézus Krisztust az templomban és ház-szerte.
the Jesus Christ.ACC the temple.INE and house-across

b. *nem szűnnek vala meg a Jézus* (Heltai Bible, 1565)
not cease.3PL be.PST.3SG PRT the Jesus
Krisztusnak […] hirdetésétől a templomba és ház-onként.
Christ.DAT proclamation.3SG.ABL the temple.INE and house-PLACT
(Acts 5:42)[15]
'They did not cease to preach Jesus Christ in the temple and from house to house.

- *N-ek szerte* 'across N-PL'

(54) a. *ennak okáért hagyálak tégedet Krétában,* (Sylvester Bible, 1541)
therefore leave.PST.1SG>2 you.ACC Crete.INE
hogy […] városok szerte püspököket válassz
that town.PL across bishop.PL.ACC elect.SUBJ.2SG

b. *ezért hagyálak tégedet Krétában,* (Heltai Bible, 1565)
therefore leave.PST.1SG>2 you.ACC Crete.INE
hogy […] város-onként véneket rendelnél
that town-PLACT elder.PL.ACC order.COND.2SG

[13] For a more general discussion of translation interference in Old Hungarian texts, cf. Egedi 2014.
[14] Sylvester and Heltai have *naponkéd* 'day-PLACT', Károli has *minden napon* 'every day-SUP'. Cf. also 2Cor 4:16.
[15] Jordánszky has *minden házon* 'every house-SUP', Károli *minden háznál* 'every house-ADE' and Káldi *házonkéd* 'house-PLACT'. Cf. also Lk 8:1.

(Tit 1:5)[16]
'I left you in Crete for this purpose, that you ordain elders town-by-town.'

- *N szerint* 'according to N'

(55) a. *köszönj* *te* *is* *mi* *barátainknak* (Jordánszky C., 1516-19)
greet.IMP.2SG you too 1PL friend.POSS.PL.1PL.DAT
személy szerint
person according.to

b. *köszöntsed* *a* *mi* *barátainkat* (Károli Bible, 1590)
greet.IMP.2SG the 1PL friend.POSS.PL.1PL.ACC
fej-enként
head-PLACT
'You should likewise greet our friends one-by-one.'
(3Jn 1:15)[17]

- *N-ek szerint* 'according to N-PL'

(56) a. *ő* *utat* *teszen* *vala* (Munich C., 1466)
3SG road.ACC make.3SG be.PAST.3SG
városok és kastélyok szerint *prédikálván […]*
town.PL and village.PL according.to preach.PART

b. *ő* *jár* *vala* *város-onként* (Károli Bible, 1590)
3SG go.3SG be.PAST.3SG town-PLACT
és falu-nként, prédikálván […]
and village-PLACT preach.PART
'He went from town to town and from village to village, preaching […]'
(Lk 8:1)[18]

- reduplication: *Num (és) Num* 'Num (and) Num'

(57) a. *hívá* *a* *tizenkettőt,* *és* *kezdé* (Munich C., 1466)
call.PST.3SG the twelve.ACC and begin.PST.3SG
azokat *ereszteni* *kett-en* *és* *kett-en*
those.ACC let.inf two-SUP and two-SUP

b. *előhívá* *az* *ő* *tizenkét* *tanítványit,* (Pesti Bible, 1536)
PRT.call.PST.3SG the 3SG twelve disciple.POSS.PL.3SG.ACC
kezdé *őket* *kibocsátani* *kettő-nként*
begin.PST.3SG 3PL.ACC PRT.emit.INF two-PLACT
'He called the twelve apostles and sent them on their ways two-by-two.'
(Mk 6:7)[19]

[16] Károli and Káldi have *városonkéd* 'town-plact'. Cf. also Acts 14:23, Acts 2:46, Acts 20:23 and Acts 8:3.
[17] Sylvester has *nevük szerint* 'name.POSS.3PL according.to', Heltai *fejenkéd* 'head-PLACT', Káldi nevenkéd 'name-PLACT'. Cf. also Acts 21:19.
[18] Jordánszky has *városokon és falvakon* 'town.PL.SUP and village.PL.SUP', Pesti *városokon és falvakon által* 'across towns and villages', Sylvester *város és faluszerte* ' town and village across', Heltai *városok és faluk által* 'town.PL and village.PL across', Káldi *városokat és kastályokat* 'town.PL.ACC and village.PL.ACC', cf. also Acts 14:23.
[19] Jordánszky has *ketten-ketten*, Sylvester *ketten ketten*, Heltai *ketten-ketten*, Károli *kettőnkéd*, Káldi *kettőnkéd*. Cf. also Lk 10:1, Lk 9:14 and Mk 6:39-40.

A full map of all things pluractional in Old Hungarian is beyond the scope of this paper.

6. The modern landscape: fragmentation

While our focus in this paper has been Late Old to Early Middle Hungarian, we offer a few preliminary descriptive remarks on the contour of N(um)-*nkéd* expressions in Modern Hungarian.

6.1 Time –*nkéd* expressions:

N-*nkéd* here is idiosyncratically, lexically constrained, in competition with the suffix –*nta* (a pluractional suffix limited to time expressions):

(58) a. *(három) másodperc-enként / (három) *másodperc-ente* 'second by second, every 3 seconds'
b. *(három) perc-enként / (három) *perc-ente* 'minute by minute, every 3 minutes'
c. *(három) órá-nként / (három) *órá-nta* 'hour by hour, every 3 hours'
d. *(három) ?nap-onként / (három) nap-onta* 'day by day, every 3 days'
e. *(három) *het-enként / (három) het-ente* 'week by week, every 3 weeks'
f. *(három) *hav-onként / (három) hav-onta* 'month by month, every 3 months'
g. *(három) év-enként / (három) év-ente* 'year by year, every 3 years'

Consider also times of day:

(59) a. *reggel-enként / reggel-ente* 'morning by morning'
b. *esté-nként / *esté-nte* 'night by night'
c. *délután-onként / *délután-onta* 'afternoon by afternoon'
d. *hétfő-nként / *hétfő-nte* 'each Monday'
e. *hétvégé-nként / *hétvégé-nte* 'weekend by weekend'
f. **nyar-anként / ?nyar-anta* 'each summer'
g. **ősz-önként / *ősz-önte* 'each autumn'

Kor-onként survives, but in the sense of *kor* as a longer period or epoch:

(60) *változtattunk […] bizonyos szövegeken […]*
change.PST.1PL certain text.PL.SUP
hiszen minden darab bizonyos koronként
since every piece certain period-PLACT
meg kell, hogy újuljon.
PRT must.3SG that renew.SUBJ.3SG
'We changed certain parts of the text as every play has to be renewed after a considerable time has passed.'

6.2 Location –*nkéd* expressions:

These appear to be fairly limited in Modern Hungarian:

(61) a. *Régen a tejesember ház-ról ház-ra járt.*
earlier the milkman house-ELA house-SUB go.PAST.3SG
b. **Régen a tejesember ház-anként járt.*
earlier the milkman house-PLACT go.PAST.3SG
'The milkman used to go from house to house.'

(62) a. *Falu-ról falu-ra változik a részvételi arány.*
village-ELA village-SUB change.3SG the participation rate

b. *?Falv-anként változik a részvételi arány.*
village-PLACT change.3SG the participation rate

They are freely available with unit expressions:

(63) a. *Kilométer-enként / 100 méter-enként állt egy rendőr.*
kilometre-PLACT 100 meter-PLACT stand.PST.3SG a police.officer
'A police officer was stationed at every kilometre / 100 metres.'
b. **Sark-onként / *Ház-anként állt egy rendőr.*
corner-PLACT house-PLACT stand.PST.3SG a police.officer
intended: 'A policeman was stationed at every corner / house.'

6.3 Part-whole *–nkéd* expressions:

These are freely available in Modern Hungarian:

(64) a. *Ház-anként bontot-t-ák le a lakótelepet.*
house-PLACT dismantle.PST.3PL PRT the estate.ACC
'The housing estate was dismantled house by house.'
b. *Szál-anként fogom kitépni a maradék hajamat.*
strand-PLACT will.1SG PRT.tear.INF the remaining hair.1SG.ACC
'I will tear out my remaining hair strand by strand.'
c. *Versszak-onként tanultam meg a memoritert.*
verse-PLACT learn.PST.1SG PRT the poem.
'I learnt the poem verse by verse.'

6.4 Participant-related subset-set *–nkéd*-expressions

These are possible but more limited than in Old Hungarian. (Possibly because the floating quantifier *mind* 'all' and universal quantifiers of the *minden*-paradigm are inherently distributive so the functional load of *egy-enkéd* 'one-PLACT' is lower.)

(65) a. *Az óvodások csoport-onként levonultak az udvarra.*
the pre-schooler.PL group-PLACT PRT.MARCH.PST.3PL the court.SUB
'The pre-schoolers walked down to the yard in groups.'
b. *Poirot egy-enként elbeszélgetett a gyanúsítottakkal.*
Poiro one-PLACT PRT-talk.PST.3SG the suspect.PL.INS
'Poirot had a chat with the suspects one-by-one.'

Participant-related subset-set *–nkéd*-expressions do not work very well with states:

(66) a. *fej-enként […] egymás másikunknak tagjai vagyunk*
head-PLACT each.other other.1PL.DAT member.POSS.PL.3SG be.1PL
'We are each of us members of one another.' (Sylvester, Rom 12:5)
b. **fej-enként *egy-enként egymás tagjai vagyunk* (Mod. H.)
head-PLACT / one-PLACT each.other member.POSS.PL.3SG be.1PL
intended: 'We are each of us member of one another.'
c. *mind egymás tagjai vagyunk* (Mod. H.)
all each.other member.POSS.PL.3SG be.1PL

'We, every one of us, are members of one another.'

In events, there appears to be an asymmetry: *-nkéd* works fairly well with themes but not with agents (though the presence of a distributive universal makes the appearance of a pluractional somewhat marked, cf. 68b):

(67) a. *ennek utánna űtőlök fej-enkéd búcsút vőn* (Kazinczy C.)
thereafter 3PL.ELA head-PLACT farewell.ACC take.PST.3SG
b. *ezután egy-enként elbúcsúzott tőlük* (Modern H.)
thereafter one-PLACT PRT.bid.farewell.PST.3SG 3PL.ELA
'After this, he said farewell to them each.'

(68) a. *mindezekről nem kell mostan szólni egy-enként* (Sylvester B., Heb 9:5)
all.this.PL.ELA not must.3SG now talk.INF one-PLACT
b. *mindezekről nem kell most ʔegy-enként beszélni* (Modern H.)
all.this.PL.ELA not must.3SG now one-PLACT talk.INF
'There is no need to talk about each of these things.'

(69) a. *melyek ha egy-enként megírattatnának* (Heltai Jn 21:25)
which.PLif one-PLACT PRT.write.PASS.COND.3PL
b. *amiket ha egy-enként megírnának* (Modern H.)
what.ACC if one-PLACT PRT.write.COND.3PL
'which, if each of them was written down, …'

(70) a. *ti is egy-enként azt műveljétek* (Heltai, Ef 5:33)
2PL too one-PLACT that.ACC do.IMP.2PL
'therefore each of you should do this'
b. **ti is egy-enként tegyétek ezt* (Modern H.)
you too one-PLACT do.IMP.2PL this.ACC
intended: 'Therefore, each of you should do this.'

The intended meaning of (70a) can be most naturally rendered using the distributive floating universal quantifier *mind* 'all'.

6.5 Rate phrases

Strikingly, while in Old Hungarian, *fej-enkéd* 'head-PLACT' was a synonym of *egy-enkéd* 'one-PLACT', in Modern Hungarian, it is reserved for so-called rate phrases:

(71) *A katonák kaptak fej-enként három tucat biztosítótűt.*
the soldier.PL get.PST.3PL head-PLACT three dozen safety.pin.ACC
'The soldiers received 3 dozen safety pins each.'

(72) *A fiúk adtak a leányoknak fej-enként három szál rózsát.*
the boy.PL give.PST.3PLthe girls.DAT head-PLACT three piece rose.ACC
'The boys gave 3 roses to each girl.'

This interpretation is available with locations as well as collective nouns:

(73) *Szobánként / tanszék-enként beállítottunk két vázát.*
room-PLACT department-PLACT PRT.install.PST.1PL two vase.ACC
'We installed two vases per room / department.'

In the Old Hungarian Corpus, there are altogether 4 instances where a rate phrase interpretation of *fej-enkéd* is possible:

(74) a. *fejenként egy-egy napi művet adának őnekik* (Sylvester, Mt 20:9)
head-PLACT one-one daily work.ACC give.PST.3PL3PL.DAT
'They gave them each one day's work.'

b. *azok is fejenként tíz pénzt vőnek.* (Károli, Mt 20:10)
those too head-PLACT ten money.ACC take.PST.3PL
'They too received 10 denarii each.'

c. *egyenként az kapuk egy-egy drágaköből vannak* (Károli, Acts 21:21)
one-PLACT the door.PL one-one gem.ELA be.3PL
'each gate is made of one (kind of) gem'

d. *Júdásnak nemzetéből fej-enkéd és ház-ankéd* (Jordánszky, Num 26:22)
Judas.DAT nation.ELA head-PLACT and house-PLACT
meg számozván lének hetven hat ezeren öt százan
PRT count.PART be.PST.3PL seventy six thousand.SUP five hundred.SUP
'From the tribe of Judah, 76.500 were enumerated by head and by house.'

Each case can be analysed in terms of our general account for *–nkéd.*

6.6 A complication: non-surjective pluractionals in Modern Hungarian?

In Modern Hungarian, some N-nként expressions receive a quasi-existential adverbial reading:

(75) a. *Idő-nként esni fog.*
time-PLACT rain.INF will.3SG
✓ 'It will rain now and then.'
✗ 'It will always rain.'

b. *Hely-enként élénk lesz a nyugatias szél.*
place-PLACT vivid be.FUT.3SG the westerly wind
✓ 'In some places, the west wind will be strong.'
✗ 'Everywhere, the west wind will be strong.'

c. *Az idősek eset-enként félreértik a számukra*
the elderly.PL case-PLACT misunderstand.3PL the benefit.3PL.SUB
kijelölt kijárási időszak lényegét.
designated curfew period essence.3SG.ACC
✓ 'The elderly sometimes (in some cases) misunderstand the essence of the designated curfew relaxation.'
✗ 'The elderly always (in every case, from case to case) misunderstand the essence of the designated curfew relaxation.'

d. *Alkalm-anként a dolgok nem mennek terv szerint.*[20]
occasion-PLACT the thing.PL not go.3PL plan according.to
✓ 'Occasionally (in some occasions), things do not go to plan.'
✗ 'Always (in all occasions, from occasion to occasion), it is the case that things do not go to plan.'

[20] *Eset-enként* and *alkalm-anként* can also appear in rate phrases:
(i) *Eset-enként tízezer forintba kerül a szűrővizsgálat.*
case-PLACT ten.thousand forint.ILL cost.3SG the screening
'The procedure costs ten thousands forints per case.'
(ii) *Alkalmanként 12 ezer forintot fizettem.*
occasion-PLACT 12 thousand forint.ACC pay.PST.1SG
'I payed twelve thousand forints per occasion.'

There are two things to note here. First, this phenomenon is limited to this handful of Ns. So for example, *órá-nként* can only mean 'every hour, from hour to hour', and not 'some hours, but not others'. Second, for each of these expressions, we can easily find instances with an overt modifier expressing an irregularity of frequency:

(76) a. *A nagytestű kutyámat bizonyos időnként*
the large.bodied dog.1SG.ACC certain time-PLACT
beengedem, hogy átmelegedjen.
PRT.let.1SG that PRT.warm.SUBJ.3SG
'From time to time, I let my dog inside so that she can get warm.'

b. *Bizonyos időköz-önként, 5-8 év-ente*
certain time.interval-PLACT 5-8 year-PLACT
célszerű […] munkahelyet váltani.
expedient workplace.ACC change.INF
'After a certain time has elapsed, every 5 to 8 years, it makes sense to get a new job.'

c. *A mérnökök a plafonra bizonyos hely-enként*
the engineer.PL the ceiling.SUB certain place-PLACT
korongokat is felragasztottak.
disc.PL.ACC too PRT.glue.PST.3PL
'In somw places, the engineers fastened discs to the ceiling.'

d. *Egyes helyenként még 80 km/h körüli széllökés is várható.*
certain place-PLACT even 80 km/h around wind.gust too expected
'In some places, as strong as 80 km/h wind gushes are expected.'

e. *Bizonyos esetenként előfordul olyan, hogy az ENTERSys program*
certain case-PLACT happen.3SG such that the ENTERSys programme
elküldi a számlát, de valamiért nem kapunk vissza
PRT.send.3SG the invoice.ACC but for.some.reason not get PRT
választ.
answer.ACC
'In some cases, it happens that the ENTERSys programme sends out the invoice but for some reason, we do not get an answer back.'

f. *Létezik olyan beállítás, hogy ne mutassa*
exist.3SG such setting that not show.SUBJ.3SG
mindig az olajszintet, csak bizonyos alkalmanként?
always the oil.level.ACC only certain occasion-PLACT
'Is there a setting where it does not always show the oil level, only sometimes?

Note that such overt modification of *–nkéd*-expressions is productive in general:

(77) a. *Órán-ként ellenőrizni kell a hőmérsékletet.*
hour-PLACT check.INF must.3SG the temperature.ACC

b. *Néhány órán-ként ellenőrizni kell a hőmérsékletet.*
some hour-PLACT check.INF must.3SG the temperature.ACC

So the most straightforward analysis is that *időnként/helyenként/esetenként/alkalmanként* have incorporated a silent modifier expressing irregularity, which can optionally be spelled out overtly. This is more economical than the alternative, the stipulation that there exists a non-surjective *–nkéd*$_2$.

7. Conclusion

Based on a detailed exploration of evidence from the Old Hungarian corpus, we argued that N(um)-*nkéd* pluractional adverbials in Late Old and Early Middle Hungarian were (i) mereological-only, (ii) they could be associated with the agent, theme, time or location of the eventuality, (iii) they modified states as well as events and (iv) they could not instantiate pluractional comparisons across substates. These findings are an important addition to the emerging cross-linguistic typology of pluractional adverbials, especially in terms of the mereological-scalar dichotomy: in addition to (i) context and (ii) the type of the N(um)-denotation, (iii) the morphosyntactic makeup of the pluractional also has to be taken into account. Adopting a diachronic approach also enabled us to shed light on a somewhat neglected aspect of pluractional adverbials: their functional load, especially in terms of the division of labour vis-à-vis universal quantifiers ('day-by-day' vs. 'every day') and distributive operators ('all the boys one-by-one' vs. 'each boy'). By observing changes playing out in the Late Old Hungarian to Early Middle Hungarian as evidenced in corpora, we showed that the development and spread of bona fide universal quantifiers and of the partitive-distributive suffix *–ik* indeed happened in tandem with a sharp reduction of the frequency of the relevant types of pluractional adverbials.

8. Appendix

8.1 Texts without any *–nkéd*-attestations

It is not surprising that most of the texts in the Miscellaneous Old Hungarian Texts section[21] of the Old Hungarian Corpus lack any *–nkéd*-attestations: these are very short texts, often just a couple of lines or just a single line.

Focusing on the Old Hungarian Codices section, we can observe that 35 out of 47 have *–nkéd*-attestations. Of the 12 that lack *–nkéd*-attestations:

- most of them are relatively short (Birk C., Bod C., Gyöngyösi C., Christina Legend, Pressburg C.), or very short (Máriabesnyő Fragment, Miskolc Fragment, Piry Membrane, Simor C.)
- or belong to the Hussite Bible (Vienna Codex and Munich Codex): while the codices themselves date from the middle third of the 15th century and 1466, respectively, the texts are believed to date from the first half of the 15th century [Note that Apor C., also the Hussite Bible, contains a single instance of *naponkéd* – Apor C. includes texts other than the Hussite Bible, but this attestation is from the Hussite Bible part, the Psalms.]
- or are old: the Jókai C. (around 1440, original may date from around 1370)

Tentative explanations:

- dialectal variation: the translators of the Hussite Bible spoke an *–nkéd*-less dialect
- *-nkéd* is in general a 15th-C. development: older texts (first half of 15C, second half of 14C lack it)

8.2 The general picture

[21] http://omagyarkorpusz.nytud.hu/en-fragments.html

Period/Text	Time	Location	Subset-Set	Part-Whole	*Total*	Corpus size	Rel. frequency
pre-1476						134 575	0,000%
1476-1526	154	27	30	9	*220*	986 633	0,022%
1526-1540	308	12	29	12	*361*	876 508	0,041%
Sylvester (1541)	25	1	14	1	*41*	187 694	0,022%
Heltai (1565)	20	7	9		*36*	156 519	0,023%
Károli (1590)	5	7	19		*31*	162 244	0,019%
Káldi (1626)	8	6	20		*34*	176 625	0,019%
Total	*520*	*60*	*121*	*22*	*723*	2 680 798	

Table 5 (corpus size: number of tokens, originals, without punctuation marks)

Note first that a direct comparison of the frequency of *–nkéd*-expressions over the whole time period is not possible for the simple reason that in general, the texts in each line/period differ in terms of size and also in terms of composition. However, a direct comparison is possible between the four Middle Hungarian Bible translations.[22] Also, it is possible to examine how the share of different types of *–nkéd*-expressions changes over time:

Period/Text	Time	Location	Subset-Set	Part-Whole	*Total*
pre-1526	70%	12%	14%	4%	100%
1526-1540	85%	3%	8%	3%	100%
Sylvester (1541)	61%	2%	34%	2%	100%
Heltai (1565)	56%	19%	25%		100%
Károli (1590)	16%	23%	61%		100%
Káldi (1626)	24%	18%	59%		100%

Table 6

The following general conclusions can be drawn:

- The use of *–nkéd* expression to distribute the subevents over time shows a decreasing tendency. (Note that in Modern Hungarian, this use is even more limited.)
- The use of *–nkéd* expressions to distribute the subevents over subsets of affected participants shows an increasing tendency. (In Modern Hungarian, this survives, although with a more restrictive semantics.)
- Part-whole was an infrequent construction throughout the period. Its absence in the Bible translations is probably accidental (note the very low figures in the Old Hungarian texts, which are considerably larger), as this use survives in Modern Hungarian.

Looking at the relative frequencies of the types of *–nkéd* expressions, a more fine-grained picture emerges:

Period/Text	Time	Location	Subset-Set	Part-Whole	*Total*
pre-1476					
1476-1526	0,016%	0,003%	0,003%	0,001%	*0,022%*
1526-1540	0,035%	0,001%	0,003%	0,001%	*0,041%*
Sylvester (1541)	0,013%	0,001%	0,007%	0,001%	*0,022%*
Heltai (1565)	0,013%	0,004%	0,006%		*0,023%*
Károli (1590)	0,003%	0,004%	0,012%		*0,019%*
Káldi (1626)	0,005%	0,003%	0,011%		*0,019%*

Table 7

[22] In the data below, only the New Testament part of the Bible-translations is taken into account: for the simple reason that the Old Hungarian Corpus only includes the New Testament part of these translations.

- The relative frequency of *–nkéd*-expressions rises from the second half of the 15th century until the middle of the 16th century, and a declines from then onwards.
- Subset-set *–nkéd* expressions form an exception to this general trend: their frequency rises throughout the entire period.
- The relative frequency of time *–nkéd* expressions drops rapidly at the end of the 16th century.

8.3 Time –nkéd-expressions

Period/Text	*kor* 'time interval'	*szempillantás* 'blink of an eye'	*óra* 'hour'	*nap* 'day'	*éjnap* 'night and day'	*hónap* 'month'	*esztendő* 'year'	total
1476-1525	73	1		71	1		8	154
1526-1540	121		7	158			22	308
Sylvester (1541)	1		1	19		1	3	25
Heltai (1565)			1	16		1	2	20
Károli (1590)				2			3	5
Káldi (1626)				6			2	8
Total	195	1	9	272	1	2	40	520

Table 8

The most striking tendency here concerns *kor-onkéd* 'always', which practically disappears in the texts after 1540, while *nap-onkéd* persists (although with a decreasing frequency). This might be related to meaning change affecting *kor*, it becoming limited to meaning 'an extended period of time' or 'age of a person'.

8.4 Subset-set *–nkéd* expressions

Period/Text	*fő* 'head'	*egy* 'one'	numeral (*kettő* 'two', *ötven* 'fifty", *száz* 'hundred')	group noun (*sereg* 'group', *nemzetség* 'tribe', *rész* 'group', *fejedelmi ház* 'dynasty')	property (*név* 'name', *talentum* 'talent')	Total
1476-1525	25	3		2		30
1526-1540	15	10	2	2		29
Sylvester (1541)	5	6	3			14
Heltai (1565)	1	8				9
Károli (1590)	3	11	4	1		19
Káldi (1626)		8	5	4	2	20
Total	49	46	14	9	2	121

Table 9

As we have seen above, the frequency of subset-set *-nkéd* expressions rises throughout the entire period. However, a closer look reveals that the *fej-enkéd* followed a different trajectory: its relative frequency increases until the middle of the 15th century and it starts to decrease from then onwards. This may be connected to the fact that *fej-enkéd* was, at some point, reinterpreted as a dedicated rate expression (a usage that survives in Modern Hungarian):

Period/Text	*fő* 'head'	*egy* 'one'	numeral (*kettő* 'two', *ötven* 'fifty", *száz* 'hundred')	group noun (*sereg* 'group', *nemzetség* 'tribe', *rész* 'group', *fejedelmi ház* 'dynasty')	property (*név* 'name', *talentum* 'talent')	Total
1476-1525	0,0025%	0,0003%		0,0002%		0,0030%
1526-1540	0,0017%	0,0011%	0,0002%	0,0002%		0,0033%
Sylvester (1541)	0,0027%	0,0032%	0,0016%			0,0075%
Heltai (1565)	0,0006%	0,0051%				0,0058%
Károli (1590)	0,0018%	0,0068%	0,0025%	0,0006%		0,0117%
Káldi (1626)		0,0045%	0,0028%	0,0023%	0,0011%	0,0113%

Table 10

8.5 Location *–nkéd*-expressions

Period/Text	*ház* 'house'	*ajtó* 'door'	*ország* 'country'	*tartomány* 'province'	*város* 'town'	*falu* 'village'	*utca* 'street'	*gyülekezet* 'congreg-ation'	Total
pre-1526	21	4			1		1		27
1526-1540	4	1	2	1	3		1		12
Sylvester	1								1
Heltai	4				2			1	7
Károli	3				3	1			7
Káldi	5				1				6
Total	*38*	*5*	*2*	*1*	*10*	*1*	*2*	*1*	*60*

Table 11

Nothing much can be said here because of the low figures.

8.6 Part-whole *–nkéd*-expressions

Period/Text	*íz* 'small body part'	*tag* 'member, body part'	*folt* 'bit'	*apró darab* 'tiny piece'	*apró* 'tiny (adjective)'	*levél* 'leaf, page'	*ige* 'word'	Total
1476-1525	3	2	3		2	1	1	9
1526-1540	9			1	1		2	12
Sylvester (1541)	1							1
Heltai (1565)								
Károli (1590)								
Káldi (1626)								
Total	*13*	*2*	*3*	*1*	*3*	*1*	*3*	*22*

Table 12

Nothing much can be said here because of the low figures. While the construction is not attested in most of the Middle Hungarian Bible translations, this probably does not indicate its absence in the period. Note that frequencies of this construction were always low (see Table X), so its absence in a mid-size codex may be accidental. Note also that this construction is alive and well in Modern Hungarian.

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