From head noun to quantifier in English, Slovak, and Polish pseudopartitives

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1. Introduction

The pseudopartitive (PsP) is a family of binominal constructions where the first noun, N1, alters the denotation of the second noun, N2, in some way. In quantity PsPs, N1 resembles a quantifier:

(1) **A lot of books** were damaged in the flood.
= 'Many books were damaged in the flood.'

In the cognitive-functional tradition, the PsP has been identified as **a locus of change**, supporting **a shift from lexical head noun to quantificational modifier** (e.g. Traugott 2008, Brems 2011, Verveckken 2016, Langacker 2009).

In the generative tradition, the N1 of the PsP has been identified as **'functional'** or **'semi-lexical'** (van Riemsdijk 1998, Vos 1999, Stavrou 2003, Hankamer & Mikkelsen 2008, Klockmann 2017, a.o.), which, following Cavirani-Pots (2020), can be taken as a symptom of grammaticalization.

This talk:

- We hypothesize that the PsP is a locus of change from N to Q for quantifying N1s.
- We look at grammaticalization synchronically through a corpus study, where we contrast emerging, in progress, and advanced quantifying N1s in English, Slovak, and Polish.
- We propose a grammaticalization cline which strips a noun of its nominal features in the transition to a quantifier. This cline follows a similar path across the three languages, but differences arise due to variation in the morphosyntax of the languages.

2. The pseudopartitive

2.1 The construction

Alexiadou, Haegaman & Stavrou (2007) identify several properties of the PsP, which we assume.

Property #1: The N1 "designate[s] a certain quantity or amount or number, taken from the denotation of the lexical noun [N2]" (Alexiadou et al. 2007: 402). The N1 is relational, requiring an N2 to quantify or measure.

(2)	a.	*A lot	entered		the shop.	*English*
	b.	*Množstvo	vošlo	do	obchodu.	*Slovak*
	c.	*Mnóstwo	poszło	do	sklepu.	*Polish*
		Quantity	went.N.SG	to	store	

Property #2: The N2 is mass or plural, never singular. This can be modelled semantically as cumulativity or divisibility (Vos 1999).

(3)	a.	A lot of	water	/ mistakes	/ *mistake	*English*
	b.	Množstvo	vody	/ chýb	/ *chyby	*Slovak*
	c.	Mnówsto	wody	/ błędów	/ *błądu	*Polish*
		Quantity	water.GEN	/ mistakes.GEN	/ *mistake.GEN	

Property #3: N2 is not a full DP. As a result, determiner and quantifier material is prohibited, while modificational material (APs, PPs) is permitted. The realization of this property may vary in the Slavic languages, depending on whether a D-layer is present (cf. the NP vs. DP debate in Slavic).

(4) *DP material on N2 (unacceptable/odd under PsP reading [partitive reading ok])*

a.	*A lot of the mistakes			*English*
b.	?Množstvo	tých	chýb	*Slovak*
c.	?Mnówsto	tych	błędów	*Polish*
	Quantity	those.GEN	mistakes.GEN	

(5) *QP material on N2 (unacceptable)*

a.	*A lot of	two	mistakes	*English*
b.	*Množstvo	dvoch	chýb	*Slovak*
c.	*Mnówstwo	dwóch	błędów	*Polish*
	Quantity	two.GEN	mistakes.GEN	

(6) *Modifer material on N2 (acceptable)*

a.	A lot of	horrible	mistakes	*English*
b.	Množstvo	hrozných	chýb	*Slovak*
c.	Mnówsto	okropnych	błędów	*Polish*
	Quantity	horrible.GEN	mistakes.GEN	

Many analyses of Germanic PsPs (though not English) assume a **monoprojectional approach**, in which N1 and N2 are part of the same extended projection (van Riemsdijk 1998; Hankamer & Mikkelsen 2008; Alexiadou et al 2007). We extend this assumption to all three languages (following Stickney 2009, Klockmann 2017, 2020, a.o.), despite the *of* and genitive case.

The monoprojectional approach gives a principled explanation for properties 2 and 3: if N1 and N2 form part of the same extended projection, then N2 must be "small" (e.g. ClP in Borer 2005), which blocks singular N2s, determiner material and quantifier material.

2.2 English PsPs

English PsPs are well-studied in the literature, though most studies have investigated relatively grammaticalized N1s like *lot* (Keizer 2007, Traugott 2008, Langacker 2009, Brems 2011, Klockmann 2017), *pile* (Brems 2011), and *heap* (Brems 2011). We report here on what is known about such N1s in the literature.

Active morphosyntactic features: English is a morphologically poor language. Verbal agreement tracks person and number in the present tense, with most distinctions syncretic. Demonstratives and nouns inflect for number. Pronouns inflect for case, number, and gender.

PsPs:

English PsPs require an *of* to intermediate between N1 and N2, *couple* being an exception:

(7) a. a lot *(of) books
    b. a couple (of) books

Some quantifying N1s can pluralize (*lot*), but not all (*bunch*) (Brems 2011, Klockmann 2017):

(8) a. lots of books
    b. *bunches of books

Verbal agreement targets N2 (Keizer 2007, Brems 2011, Klockmann 2017):

(9) a. A lot of books were/*was damaged.
    b. Lots of power was/*were lost that day.

The DP cannot be definite (Brems 2011, Klockmann 2017, 2020):

(10) *the lot of books (collective reading only)

Mini-conclusion: The presence of *of* and the indefinite article resemble nominality; however, patterns of verbal agreement and definiteness do not.

2.3 Slovak and Polish PsPs

There is a limited literature on Polish PsPs and no literature we could find on Slovak PsPs. Polish PsPs appear as sporadic mentions in the generative literature, Rutkowski (2007) being an exception. More extensive discussion is found in non-generative approaches, e.g. Schabowska (1967), Herda (2019a,b), Benigni & Latos (2024). We report here based on this minimal literature in combination with native speaker intuitions. We have selected the N1 *kopa* 'heap' in Slovak and *kupa* 'heap' in Polish for illustration.

Active morphosyntactic features: Slovak and Polish are morphosyntactically rich languages. Verbs mark person, number, and in the past tense, gender, while nouns and their satellites (adjectives, demonstratives) inflect for case, gender and number.

PsPs:

N2 surfaces as genitive, while N1 takes on the case of the case context (usually):

(11)	a.	S	det'mi	je	kopa	roboty.	*Slovak*
	b.	Z	dziećmi	jest	kupa	roboty.	*Polish*
		With	children	is	heap.NOM	work.GEN	
		'It's a lot of work with children' (PL: Herda 2019b, p. 150; SK: translation, authors)					

For some N1s, the N1 surfaces in an accusative form as a subject (Herda 2019a,b); this is only noticeable with singular feminine N1s due to a NOM-ACC syncretism elsewhere.

(12)	a.	Prešlo	už	kopu	rokov [...]	*Slovak*
	b.	Minęło	już	kupę	lat [...]	*Polish*
		Passed.N.SG(DEF)	already	heap.ACC	years.GEN	

‘A lot of years have passed...’ (PL: Herda 2019b, p. 150; SK: translation, authors)

For subject-verb agreement, if N1 is nominative, verbal agreement is (usually) with N1 (below), but with an accusative N1, verbal agreement is default (above).

(13)	a.	Na	stole ležala	kopa	kníh.	*Slovak*
	b.	Na	stole leżała	kupa	książek.	*Polish*
		on	table lay.F.SG	heap.F.SG.NOM	book.GEN	

‘A heap of books was lying on the table.’ (PL: Herda 2019a, 24; SK: translation, authors)

Mini-conclusion: Agreement and case patterns (the accusative aside) appear to match the patterns of lexical nouns. The accusative case with default agreement pattern is more reminiscent of numeral patterns, which require default agreement and have been argued to be inherently accusative (e.g. Miechowicz-Mathiasen 2012, p. 8).

(14)	a.	Päť	dievčat/mačiek	prišlo.	*Slovak*
	b.	Pięć	dziewczyn/kotów	przyszło.	*Polish*
		Five	girls.GEN /cats.GEN	came.N.SG	

‘Five girls/cats came.’ (PL: Miechowicz-Mathiasen 2012: p. 8; SK: translation, authors)

2.4 Hypotheses and research questions

Hypothesis: PsPs are a locus of grammaticalization from lexical noun to quantifier. N1s will vary depending on where they are in their grammaticalization, i.e. from emerging noun-y N1s to advanced quantifier-y N1s.

Properties: We operationalize “noun-y” and “quantifier-y” in terms of noun-like and quantifier-like properties. This includes things like agreement patterns, case patterns, determiner patterns, and modifier patterns. In this talk, we focus on **verbal agreement patterns**, but are actively researching these other properties as well.

Research questions:

- Is there a shift from N1 to N2 as verbal agreement target in English PsPs? If so, how and when does this shift occur?
- Is there a shift from N1 as the verbal agreement target to default verbal agreement in Slovak and Polish PsPs? If so, how and when does this shift occur?
- Is there a shift from N1 as nominative to N1 as accusative in Slovak and Polish subject PsPs? If so, how and when does this shift occur? Does this shift interact with the shift in verbal agreement?

3. Methodology

3.1 Choice of corpora

The following corpora were used in this study:

(15) Table 1: Corpora

Lang.	Corpus	Size	Source
English	Corpus of Contemporary American English	1.1 billion	Davies 2008-
Slovak	Web component of Slovak National Corpus	5.3 billion	JÚĽŠ SAV 2022
Polish	pltenten19 (Sketch Engine)	4.2 billion	Jakubíček et al 2013

Web corpora were included to minimize the influence of prescriptivism on a written format.

3.2 Choice of N1

- **Goal:** To investigate N1s in varying stages of grammaticalization
- **Problem:** It's not possible to know what stage an N1 is in until it's been investigated!
- **Our solution:** Find a semantic domain rich enough to give us a variety of N1s to choose from → **water nouns** (*a flood of ideas, a sea of faces, a wave of invaders,* ...)

Method:

We generated a list of water nouns in English (35 items), translated these into Slovak and Polish, and checked in COCA, SNK, and NKJP (Polish National Corpus) whether they occurred in PsPs.

N1s were excluded if:

- PsP examples were too infrequent.
- N2 collocates were largely limited to fixed expressions.
- Searches produced too many false positives (e.g. *rieka*$_{SK}$*/rzeka*$_{PL}$ 'river' which included many river name false positives in Slovak and Polish)
- The N1 was neuter in Slovak and Polish (confound for identifying agreement target)

In addition, N1s mentioned as quantifiers in grammars were considered for investigation (e.g. Kačala et al 2003; Swan 2003). The N1s investigated include:

(16) Table 2: N1s

English	Slovak	Polish	Gloss
wave	vlna	fala	'wave'
	prúd		'current'
torrent		potok	'torrent'
stream		strumień	'stream'
	príval	napływ	'surge/tide'
	nával		'surge'
		przepływ	'flow'
		dopływ	'flow'
flood	záplava		'flood'
ocean			'ocean'
sea			'sea'
	kopa	kupa	'heap/pile'

3.3. Data extraction and coding

English, all agreement patterns:

- Search query target: N1 of N2 $\text{VERB}_{\text{agreeing}}$ (false positives manually filtered out)
- Coding: N1, N2, & V number (also, determiners, modifiers, etc.)
- Counting: N1 & N2 must differ in number

Slovak, Polish, default agreement pattern (nom/acc N1):

- Search query target: $\text{N1}_{\text{NOM/ACC}}$ N2_{GEN} $\text{V}_{\text{PAST.N.SG}}$ / $\text{V}_{\text{PAST.N.SG}}$ $\text{N1}_{\text{NOM/ACC}}$ N2_{GEN} with up to two modifiers on N2 and up to five words between the PsP and verb (false positives manually filtered out or estimated)
- Counting: True hits were counted or estimated.

Slovak, Polish, N1 agreement pattern:

- Search query target: N1_{NOM} N2_{GEN} $\text{V}_{\text{PAST.F/M.SG/PL}}$ / $\text{V}_{\text{PAST.F/M.SG/PL}}$ N1_{NOM} N2_{GEN}, with up to two modifiers on N2 and up to five words between the PsP and verb
- Counting: Large numbers of hits, so exhaustive counts and estimates not attempted.

4. Results

4.1 Results for English N1s

Table 3 summarizes the verbal agreement data. There are two agreement patterns: agreement with N1 (N1_agr), permitted with both singular and plural N1s, and agreement with N2 (N2_agr), found only with singular N1s.

(17) Table 3: English verbal agreement data

N1.SG	N1_agr(SG)	N2_agr(PL)	N1.PL	N1_agr(PL)	N2_agr(SG)
flood	31	9	floods	2	0
wave	131	41	waves	55	0
sea	12	4	seas	2	0
torrent	10	3	torrents	5	0
stream	67	34	streams	31	0
ocean	1	1	oceans	4	0

Examples:

(18) **Pattern A (N1_agr)**
a. A **wave** of layoffs **has** apparently hit the video game studio Telltale (COCA)
b. **Waves** of immigration **have** washed over the continent before. (COCA)

(19) **Pattern B (N2_agr)**
Now, a new wave of **couples are** eloping for a very different reason. (COCA)

4.2 Results for Slovak and Polish N1s

Three agreement patterns were found in the data:

- Pattern 1 (nom_agr): N1 is nominative and the verb displays full agreement.
- Pattern 2 (nom_def): N1 is nominative and the verb displays default agreement.
- Pattern 3 (acc_def): N1 is accusative and the verb displays default agreement.

Table 4 summarizes the distribution of patterns. Patterns which occurred frequently are reported with a ✓. Patterns which occurred infrequently are reported with an exact value. Where an N1 is syncretic for nominative and accusative, the Pattern 2 and 3 cells are merged.

(20) Table 4: Slovak & Polish verbal agreement data

<table>
<tr><th>Lang.</th><th>N1</th><th>Gloss</th><th>nom_agr</th><th>nom_def</th><th>acc_def</th></tr>
<tr><td>SK</td><td>vlna</td><td>‘wave’</td><td>✓</td><td>8</td><td>0</td></tr>
<tr><td></td><td>prúd</td><td>‘current’</td><td>✓</td><td colspan="2">5</td></tr>
<tr><td></td><td>príval</td><td>‘surge/tide’</td><td>✓</td><td colspan="2">2</td></tr>
<tr><td></td><td>nával</td><td>‘surge’</td><td>✓</td><td colspan="2">2</td></tr>
<tr><td></td><td>záplava</td><td>‘flood’</td><td>✓</td><td>1</td><td>0</td></tr>
<tr><td></td><td>kopa</td><td>‘heap’</td><td>✓</td><td>210</td><td>350 (est.)</td></tr>
<tr><td>PL</td><td>fala</td><td>‘wave’</td><td>✓</td><td>8</td><td>0</td></tr>
<tr><td></td><td>potok</td><td>‘torrent’</td><td>✓</td><td colspan="2">2</td></tr>
<tr><td></td><td>strumień</td><td>‘stream’</td><td>✓</td><td colspan="2">0</td></tr>
<tr><td></td><td>napływ</td><td>‘surge/tide’</td><td>✓</td><td colspan="2">4</td></tr>
<tr><td></td><td>przepływ</td><td>‘flow’</td><td>✓</td><td colspan="2">0</td></tr>
<tr><td></td><td>dopływ</td><td>‘flow’</td><td>✓</td><td colspan="2">1</td></tr>
<tr><td></td><td>kupa</td><td>‘heap’</td><td>✓</td><td>41</td><td>160 (est.)</td></tr>
</table>

A few comments on these patterns:

- Both SV and VS order were observed with all patterns, with no apparent correlations.
- While the nom_agr pattern allowed both singular and plural N1s, the nom_def and acc_def seemed restricted to singular N1s (with only two counterexamples in Polish).
- Pre-modifiers were found with the nom_agr pattern, minimally with nom_def pattern, and not at all for the acc_def pattern. Pre-modifiers mostly targeted N1.

Examples:

(21) **Pattern 1 (nom_agr)** ***Slovak***

a. Avšak rastúca **vlna** ochorení **ne-vysvetľovala** všetko.
However growing wave.F.SG.NOM illnesses.GEN NEG-explained.F.SG everything.ACC
‘However, the growing wave of illnesses did not explain everything.’ (SNK Web 7.0)

b. **Kopa** detí **mala** radosť.
Heap.F.SG.NOM children.GEN had.F.SG happiness.ACC
‘A lot of children had fun.’ (SNK Web 7.0)

(22) **Pattern 1 (nom_agr)** ***Polish***

a. W kwietniu **przyszła** pierwsza **fala** nienawistnych komentarzy
In April came.F.SG first wave.F.SG.NOM hate.GEN comments.GEN
'The first wave of hate comments came in April.' (plTenTen19)

b. Moze[*sic*] nie było epicko ale **była** **kupa** śmiechu
Maybe not was.n.sg epic.n.sg.nom but was.f.sg heap.f.sg.nom laughs.gen
'Maybe it wasn't epic but it was a lot of fun' (plTenTen19)

(23) **Pattern 2 (nom_def)** ***Slovak***

a. Druhá **vlna** zberu dát **bolo** vykonané [...]
Second wave.F.SG.NOM collection.GEN data.GEN was.N.SG conducted
'The second wave of data collection was conducted...' (SNK Web 7.0)

b. **Kopa** detí **zažilo** rekonštrukciu bojov [...]
Heap.F.SG.NOM children.GEN experienced.N.SG reconstruction.ACC fights.GEN [...]
'A lot of children experienced a reconstruction of the fights...' (SNK Web 7.0)

(24) **Pattern 2 (nom_def)** ***Polish***

a. Narastająca **fala** strajków nie **było** [...] przyczyną braku
Growing wave.F.SG.NOM strikes.GEN not was.N.SG cause.INST lack.GEN
towarów
goods.GEN
'The growing wave of strikes was not the cause of a shortage of goods.' (plTenTen19)

b. Oj, **było** **kupa** śmiechu
Oh, was.N.SG heap.F.SG.NOM laughs.GEN
'Oh, it was a lot of fun' (plTenTen19)

(25) **Pattern 3 (acc_def)** ***Slovak***

Kopu ľudí s tým **malo** problémy.
Heap.F.SG.ACC people.GEN with that had.N.SG problems.
'A lot of people had problems with that.' (SNK Web 7.0)

(26) **Pattern 3 (acc_def)** ***Polish***

Kupę kasy **poszło** w błoto.
Heap money went.N.SG in mud.LOC
'A lot of money was spent (lit. 'went into the mud')' (plTenTen19)

Summary of main findings:

- All N1s freely permitted Pattern 1 (nom_agr).
- Water N1s sporadically allowed Pattern 2 (nom_def). For most N1s, this pattern is syncretic with Pattern 3 (acc_def), but for those N1s where it is not, cases of Pattern 3 were not found.
- The N1 *kopa*$_{SK}$/*kupa*$_{PL}$ permitted both Pattern 2 (nom_def) and Pattern 3 (acc_def), though Pattern 3 appears more frequently.
- Pattern 2 has not been reported previously and is a novel finding of our study.

5. Analysis

We propose a grammaticalization cline from N to Q where agreement patterns are a direct reflection of the status of N1 as “noun-y” or “quantifier-y”. This grammaticalization cline is based on Cavirani-Pots’ (2020) cline for grammaticalizing auxiliary verbs, adapted to nominals.

(27) Table 5: Stages of grammaticalization

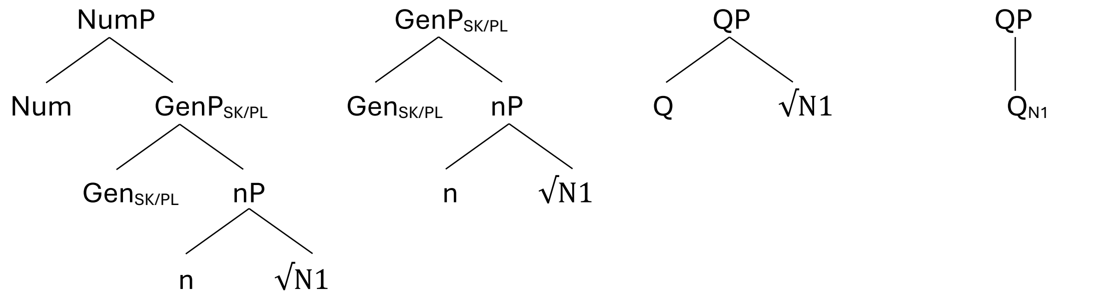
Stage	N1 type	Description
0	Lexical	N1 is a noun in NP, with a literal meaning. It controls verbal agreement.
1a	Emerging	N1 is a noun in NP, with its size component of meaning foregrounded. It controls verbal agreement.
1b	In progress	N1 is a noun in NP. It has lost number and cannot control verbal agreement.
2	Advanced	N1 is a noun in QP. It has lost gender in Slovak and Polish and cannot control verbal agreement.
3	Functional	N1 is a quantifier in QP. It cannot control verbal agreement.

The transition from Stage 0 to 1 (and beyond) involves a **meaning** change, evidenced via shifts in the set of N2 collocates. We did not collect N2 collocate data, but this shift is well-documented (e.g. Brems 2011, Verveckken 2016, Herda 2019a,b, Benigni & Latos 2024).

(28) Literal > Figurative > Quantificational
an ocean of salt water (Stage 0) > *an ocean of grass* (Stage 1-2?) > *an ocean of boxes behind me* (Stage 2-3?)

The transitions from Stage 1 to 2 to 3 are a **syntactic** change, involving a loss of nominal features and eventually, a full loss of nominality. This is depicted for the N1 below, omitting the N2:

(29) Stage 1a (emerging) > Stage 1b (in progress) > Stage 2 (advanced) > Stage 3 (functional)



5.1 Morphosyntax: Agreement, number, and case

Verbal agreement is sensitive to the morphosyntax of N1, with only fully nominal N1s (Stage 0, 1a) capable of controlling verbal agreement. With the loss of nominality (Stages 1b, 2, 3), N1 ceases to be a verbal agreement target. The mapping of structures to agreement patterns for the three languages is shown below.

(30) Table 6: Mapping of verbal agreement patterns to structures

Lang.	**Stage 0**	**Stage 1a**	**Stage 1b**	**Stage 2**	**Stage 3**
Slovak	nom_agr		nom_def	acc_def	
Polish	nom_agr		nom_def	acc_def	
English	N1_agr		(no Gen)	N2_agr	

Verbal agreement with a deficient N1 is resolved differently, which we take to relate to differences in the case systems:

- Slovak and Polish resort to default verbal agreement. N2 is cased as genitive and cannot serve as an agreement target. With neither N1 nor N2 available, the verb must default.
- English resorts to N2 agreement. The marker *of* is not a true preposition or case marker (see Stickney 2009, Klockmann 2017, 2020), so agreement can target N2.

Verbal agreement patterns also correlated with **N1 number**, where plural N1s in English required N1_agr and plural N1s in Slovak and Polish were largely only found in the nom_agr pattern. This is in line with our analysis, which would only permit a semantically plural N1 in Stages 0 and 1a.

Slovak and Polish also showed a **case shift** for N1, with N1 appearing in either nominative or accusative with default agreement (nom_def > acc_def). We take this to relate to the shift from *n* as a categorizer of N1 (nom_def) to Q as its categorizer (acc_def).

Why? Still working on that. But, ...

- It's been observed that some quantifiers are fossilized in the accusative form in Polish (Miechowicz-Mathiasen 2012, Herda 2019a,b), e.g. *trochę* 'a bit' and *parę* 'a few', which have no nominative forms as quantifiers (e.g. **trocha, *para* 'a few' but *para* 'pair').
- Miechowicz-Mathiasen (2012) argues for a null accusative-assigning preposition in Polish, an analysis developed also in Lyskawa (2020).
- So, there is some connection between accusative and being a quantifier in Polish.
- We know of no research on the topic in Slovak, and a similar correlation may or may not exist (work in progress).

5.2 Modification in Slovak and Polish

We see some interesting interactions between modifier agreement and verbal agreement in Slovak and Polish. In both languages, a modifier and verb can appear in agreement with N1. This is the nom_agr verbal agreement pattern with full modifier agreement.

(31) a. ...kde ma **čakala** **veľká** **kopa** papierov ***Slovak***
...where me.ACC wait.F.SG.PAST big.F.SG.NOM heap.F.NOM papers.M.GEN
'...where a large heap of papers was waiting for me' (SNK Web 7.0)

b. W ostatnich latach **cała** **kupa** krajów ***Polish***
In last years whole.F.SG.NOM heap.F.NOM countries.GEN
odeszła od $$$
left.N.SG from $$$
'In recent years, a whole bunch of countries walked away from the US dollar.' (plTenTen19)

But we also identified cases of **mixed agreement**, where the modifier showed a singular feminine form, and the verb default agreement (6 examples in Slovak; 11 examples in Polish). This is the nom_def verbal agreement pattern with full modifier agreement.

(32) a. pred pódiom sa **zhromaždilo** **obrovská** **kopa** ***Slovak***
before podium 3.PL.REFL collected.N.SG huge.F.SG.NOM heap.F.NOM
ľudí.GEN a spontánne odmeňovali Samsona potleskom.
people.GEN and spontaneously rewarded.PL Samson applause
'before the podium, a huge heap of people collected and spontaneously rewarded Samson with applause' (SNK Web 7.0)

b. ...że **czelało** na mnie **cała** **kupa** cukinii ***Polish***
...that waited.N.SG for me whole.F.SG.NOM heap.F.NOM zucchini.GEN
'...that a whole heap of zucchini was waiting for me.' (plTenTen19)

Both patterns can even be found within the same sentence.

(33) **Celá** **kopa** ľudí sa po chvíli ***Slovak***
Whole.F.SG.NOM heap.F.NOM people.GEN 3.PL.REFL after a.while
premiestnila do banketovej miestnosti, kde s nimi **prišlo** aj
moved.F.SG to banquet room where with them came.N.SG also
druhá **kopa** nápojov v skle a plechovkách .
second.F.SG.NOM heap.F.NOM beverages.GEN in glass and cans
'A whole heap of people have after a while moved into the banquet room where with them came also a second heap of beverages in glass and cans.' (SNK Web 7.0)

We did not find any cases of modification in the acc_def pattern in either language.

Though the available data is minimal, we suggest these modification patterns reflect N1's stage:

- Stage 0, 1a: N1is fully nominal and controls both verbal and modifier agreement.
- Stage 1b: N1 is partially nominal (gender but not number). This can be resolved for a modifier, but not a verb.
- Stage 2, 3: No data found. Modification appears to be dispreferred.

Note, however, that there are some unclear cases yet, so more research is needed. In contrast to the previous examples, the modifier here appears to be predicative, not attributive.

(34) Aby ne-bolo prvoradé kopa.F.SG žrádla. ***Slovak***
So NEG-was.N.SG primary.N.SG heap.F.NOM fodder.N.GEN.
'So the heap of fodder would not be the most important (thing).' (SNK Web 7.0)

6. Conclusions

- PsPs have been identified as a locus of change from N to Q. We investigated this hypothesis through a corpus study of quantifying N1s in English, Slovak, and Polish.
- English N1s were found to allow both N1 and N2 agreement, with N2 agreement only in cases where N1 was singular.

- Slovak and Polish N1s were found to allow both N1 agreement and default agreement, with the N1 surfacing as either nominative or accusative with default agreement.
- We proposed a grammaticalization cline which involves a gradual, but discrete loss of nominality (Traugott & Trousdale 2010). This loss of nominality creates a deficient N1 which cannot control verbal agreement, with differing effects – N2 agreement in English and default agreement in Slovak and Polish.

Further work: We are actively investigating case patterns with Slovak and Polish PsPs: Do N1s pattern with nouns or quantifiers? Do we see correlations between case patterns and the verbal agreement patterns described here?

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