

## Two types of quantifier particles: Quantifier-phrase internal vs. heads on the clausal spine\*

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**Abstract** The paper discusses two types of quantifier particles in Hungarian that both participate in reiterated constructions. One type follows and the other precedes its host, which makes it easy to compare them. The particles that follow their hosts are argued to be heads on the clausal spines of independent propositions. *Host+particle* does, but need not, occur in reiterations, and the particles do not build quantifier words. In contrast, the particles that precede their hosts are argued to be quantifier-phrase internal. *Particle+host* must occur in reiterations, and the particles build quantifier words. The two types of reiterated constructions also differ in having their own distinctive internal “connectives” and in forming strict vs. non-strict negative concord expressions. The paper focuses on syntax, with some attention to semantics. It argues for propositional coordination for both types, and propositional quantification for the second type. Constituent-size reiterations are derivable via ellipsis, raising the question whether they are necessarily so derived. The paper concludes with data from Bosnian, French, Japanese, Malayalam, Mandarin, Persian, Russian, Sinhala, Telugu, and Turkish, which indicate the cross-linguistic interest of recognizing the two types of particle constructions.

**Keywords** particle, quantifier, additive, disjunctive, reiteration, Hungarian

### 1. Introduction

There is a substantial literature on English *both\_and*, *either\_or*, *whether\_or*, and *neither\_nor* constructions, especially relating to how the possibly mismatched positions of *either* and *or* come about and how the position of *either* correlates with the scope of the disjunction. The Hungarian (Turkish, Russian, Telugu, etc.) counterparts present a somewhat different descriptive profile that has received less attention. Here the particles take the same shape in all the junct, occur at the same structural height in all the junct and, in a subset of the cases, are obligatorily present in all the junct.<sup>1</sup> Moreover, the same particles may show up as additive or negative concord elements and as building blocks of quantifier words. They are quantifier particles in the sense of Szabolcsi (2015).

The reiterated quantifier particle constructions are propositional (type *t*) coordinations, Junction Phrases in the sense of den Dikken (2006). They involve ellipsis or structure-sharing when they look like constituent coordinations. In the focus of the paper is the fact that they come in two distinct types. The difference pertains to syntactic structure and, accordingly, to the way the meanings are composed. It cannot be predicted from the basic truth-conditional

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<sup>1</sup> The neutral cover term *junct* for conjunct and disjunct is borrowed from Mitrović (2014); to match, the term *coordination* will serve as a cover term for conjunction and disjunction.

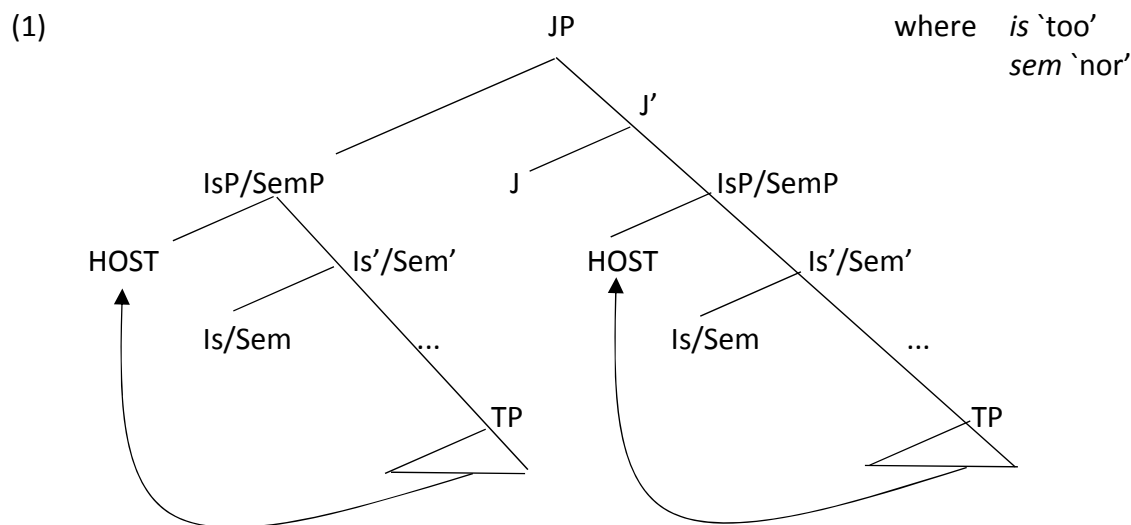
semantics. The overall meanings of the two constructions may be similar or identical, and the same particle may participate in both constructions.

In one type, the particles are heads on the clausal spine, with a focus-accented constituent of the complement in their specifier. In the other type, the particles are uninterpreted and realize a silent propositional quantifier on each junct. Propositional quantification was introduced in Kratzer & Shimoyama (2002) for cases where the set of propositions quantified over are alternatives generated by an indeterminate pronoun. Our case aligns with this nicely, but here the propositions quantified over are those expressed by the juncts.

The bulk of the paper analyzes data from Hungarian, a language in which particles in the first type follow and those in the second type precede their hosts, making the distinction especially convenient to keep track of. The detailed investigation of Hungarian is followed by a look at ten languages that likewise exhibit reiterated quantifier particle constructions, some of them plausibly both types. These data are interesting, among other things, because they raise questions about how to provide a unified semantics for the particles in their various roles. More generally, they bear on the syntax of the logical operators that make up some of the critical scaffolding of sentence meanings.

Below is a preview of the analyses and the Hungarian diagnostics they are based on.

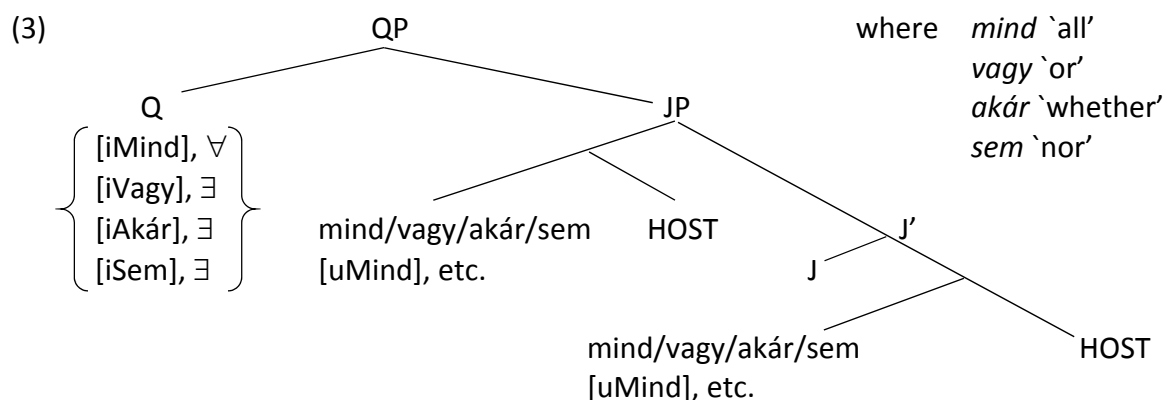
(1)-(2) represent the type where each particle is argued to be a head on the clausal spine, with a focus-accented constituent of the complement in its specifier. The reiteration is a coordination of self-contained propositions. For readability, the schematic Junction Phrase in (1) shows just two juncts:



For example,

- (2) a. A hó is esik, a szél is fúj, a gyerek is nyűgös.  
 the snow too falls the wind too blows the child too cranky  
 `The snow is falling, likewise the wind is blowing, and likewise the child is cranky'
- b. A hó is ellenünk ~~van~~, a szél is ellenünk van.  
 the snow too against-us is the wind too against-us is  
 `The snow, as well as the wind, is against us'

The type in (3)-(4) has not, to my knowledge, been scrutinized in the literature on Hungarian or other languages. The reiterated construction is argued to represent one big quantifier, interpreted in terms of propositional quantification in the spirit of Kratzer & Shimoyama (2002). The overt particles are uninterpreted and merely signal the presence of a contentful but unpronounced quantifier. Again, for readability, the JP schema in (3) shows just two junct:



For example,

- (4) a. Vagy a hó esik, vagy a szél fúj, vagy a gyerek nyűgös.  
 or the snow falls or the wind blows or the child cranky  
 `Either the snow is falling, or the wind is blowing, or the child is cranky'
- b. Vagy a hó esett, vagy az eső esett.  
 or the snow fell or the rain fell  
 `Either the snow or the rain was falling'

Section 2 motivates the proposed analyses with reference to the descriptive properties in (5). Throughout the paper, reiterations will be referred to as “tuples” for short.

(5)

Head on the clausal spine, cf. (1)-(2) <i>is, sem</i>	Quantifier-internal, cf. (3)-(4) <i>mind, vagy, akár, sem</i>	see section
particle follows host	particle precedes host	2.1
need not be part of a tuple	must be part of a tuple	2.2
tuple-internal connective: <i>és</i> `and'	tuple-internal connective: <i>pedig</i>	2.3
doesn't build quantifier words	builds quantifier words	2.4
builds non-strict negative concord items	builds strict negative concord items	2.5

To make parsing the data easier for the reader, Section 2 focuses on examples like (2b) and (4b), with superficially constituent-size junct, temporarily pushing the propositional aspect to the background as much as possible.

Sections 3 and 4 flesh out the syntax of the two types in terms of propositional coordination and propositional quantification. The treatment of ellipsis connects to Valmala (2012, 2013) regarding two types of Right Node Raising, and to Hirsch (2017) regarding constituent coordination as vP-coordination. The basics of the semantics are outlined.

Section 5 explains how the syntactic difference between the two constructions correlates with strict vs. non-strict negative concord in Hungarian. Chierchia (2013) proposed that non-strict NC involves a null functional head NEG with an *n*-word in its specifier. Szabolcsi (2016) adapted this proposal to Hungarian, identifying the *sem* in (1) as an overt counterpart Chierchia's NEG and as a spell-out of *is* under clause-mate negation. In contrast, the *sem* in (3) naturally instantiates strict NC.

Section 6 links the present investigation to a programmatic proposal in Szabolcsi (2015) to offer a unified semantics for the various uses of quantifier particles. The question is how the syntactic differences affect the prospects of unification. This section lays out new data from nine languages, with many examples of both types of quantifier particles, placing the discussion into a wider cross-linguistic context.

Finally, some comments on how the particles are glossed. Finding transparent glosses is not trivial, because English does not have identical reiterating particles, irrespective of linear order, but the reader still deserves some crutches.

The universal quantifier particle *mind*, which also serves as a floating quantifier, is glossed as 'all', although 'all' may look awkward in combination with singulars.

The free-choice particle *akár* is etymologically related to *akar* 'want,' a cross-linguistically not unusual situation (Haspelmath 1997). Abrusán (2007) analyses *akár* as 'even' in one non-reiterated use. Neither of these connections yield appealing glosses, so 'whether' will be used in its unconditional sense (Rawlins 2013).

The remaining glosses are more straightforward, with an eye on better-known Indo-European counterparts. *Vagy\_vagy* 'or\_or' builds jointly exhaustive and mutually exclusive disjunctions, much like Russian *ili\_ili* and French *ou\_ou* (Spector 2014). The negative concord item *sem\_sem* 'nor\_nor' is reminiscent of Russian and French *ni\_ni*. The fact that *is\_is* 'too\_too' builds distributive conjunctions is paralleled by Russian *i\_i* and Romanian *și\_și*; like *is*, *i* and *și* also serve as additive particles.

The tuple-internal connective *pedig* mentioned in (5) will be glossed as *pedig*. Although Section 6 points out various cross-linguistic counterparts, no morpheme of English presents itself as a good gloss option.

## 2. Systematic differences between *is*-type and *mind*-type particles

This section demonstrates that the two constructions and the particles in them are syntactically quite different. It enumerates arguments for the structures in (1) and (3) above. Sections 3 and 4 will follow with theoretical aspects of the syntax and the semantics.

### 2.1 Constituent order: Particle follows vs. precedes host

We begin with the most straightforward difference between the two types of particles, already highlighted Section 1: one type follows and the other precedes its host. Hungarian orthography mandates a comma between the members of the iterations. The commas will help structure the examples for the reader, so they are retained.

## (6) Particle follows host

- a. Kati **is**, Mari **is** `K as well as M'  
 Kati too Mari too
- b. Kati **sem**, Mari **sem** `neither K nor M'  
 Kati nor Mari nor

## (7) Particle precedes host

- a. **mind** Kati, **mind** Mari `both K and M'  
 all Kati all Mari
- b. **vagy** Kati, **vagy** Mari `either K or M, not both'  
 or Kati or Mari
- c. **akár** Kati, **akár** Mari `whether/either K or M'  
 whether Kati whether Mari
- d. **sem** Kati, **sem** Mari `neither K nor M'  
 nor Kati nor Mari

When they occur in subject position, all of these trigger singular agreement on the verb, which is generally the case even with simple conjunctions in Hungarian:

- (8) a. Kati és Mari aludt. `K and M slept'  
 Kati and Mari sleep-past.3sg
- b. Kati is, Mari is aludt. `K as well as M slept'  
 Kati too Mari too sleep-past.3sg
- c. Mind Kati, mind Mari aludt. `Both K and M slept'  
 all Kati all Mari sleep-past.3sg

2.2 *Host+particle is happy on its own; particle+host must be part of a tuple*

The bluntest sign of a significant syntactic difference is that reiteration is optional in one type but mandatory in the other. Compare *is* (9a) with *mind* (10a). *Kati is* 'Kati too' by itself is perfect in both preverbal and postverbal position (and similarly for *Kati sem* 'Kati nor'), whereas *mind Kati* 'all Kati' by itself is entirely unacceptable in both preverbal and postverbal position. It must come in tuples (pairs, triples, etc.).

## (9) Host+particle -- happy on its own

- a. Kati is aludt. Aludt Kati is.  
 Kati too slept slept Kati too
- b. Kati sem aludt. Nem aludt Kati sem.  
 Kati nor slept not slept Kati nor

## (10) Particle+host -- must be part of a tuple

- a. \*Mind Kati aludt. \*Aludt mind Kati.  
 all Kati slept slept all Kati

b.	*Vagy	Kati	aludt. <sup>2</sup>		*Aludt	vagy	Kati.
	or	Kati	slept		slept	or	Kati
c.	*Sem	Kati	nem aludt. <sup>2</sup>		*Nem	aludt	sem Kati.
	nor	Kati	not slept		not	slept	nor Kati
d.	*Akár	Kati	aludt, nem számít. <sup>3</sup>		*Aludt	akár	Kati, ...
	whether	Kati	slept, not matters		slept	whether	Kati

The same is true of *vagy*, *sem*, and *akár* (10b,c,d), although confounds from what I believe represent different constructions may make the strings acceptable when particle+host occurs in the preverbal position (the postverbal versions are inescapably bad). See the footnotes; fn. 2 pertains to two examples. For the purposes of this paper, all the examples in (10) are ungrammatical.

These contrasts unambiguously point to a global difference between the two constructions, postulated in (1) and (3). Even though the particles that follow their focused hosts (*is*, *sem*) participate in “reiterated” constructions, those arise from the coordination of independent and self-sufficient propositions. In contrast, in the case of the particles that precede their hosts (*mind*, *vagy*, *sem*, and *akár*), grammar must ensure that the hosts form a tuple.

### 2.3 Different optional connectives inside the tuples

Reiterated constructions of both types optionally contain what I will call “connectives” -- but

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<sup>2</sup> It was pointed out in Szabolcsi (2015: 165) that English *or* has a unary use; I now add that *neither/nor* does too. The same holds for Hungarian *vagy* and *sem*. Consider the following discourses:

- (i) A: Mary liked the soup.  
B: Or (perhaps) KATE liked it.
- (ii) A: Mary didn't like the soup.  
B: Nor did KATE.

In both cases, B's response re-evaluates what A just said. It incorporates A's assertion into a (positive or negated) disjunction, so to speak. This use is restricted to the sentence-initial position, and (ii) clearly involves inversion. Furthermore, overt linguistic antecedents are required, as in (i)-(ii). Imagine that we see Mary taste the soup and spit it out. In this context, (iii) is acceptable, but (iv) with inversion is not.

- (iii) Kate didn't like it, either.
- (iv) \* Nor did Kate like it.

Hungarian *vagy Kati* and *sem Kati* have similar uses when they occur preverbally. In this paper I do not offer an analysis for these data in English or Hungarian, but I contend that they are different from the entirely neutral and unconstrained varieties with *Kati is* and *Kati sem*.

<sup>3</sup> Hungarian reiterated *akár* may form either plain free-choice expressions licensed by a possibility modal or unconditionals. The ungrammatical past episodic example in (10d) aims to be an unconditional. As (v) shows, free choice with a modal is acceptable in the unary version. But, unlike in the reiterated *akár\_akár* version, an additional particle (*is*) or very high stress is required. *Akár Kati* and *akár Kati is* are critically distinct. This paper investigates the variant without *is*.

- (v) a. ? Akár KATI alhat itt. vs. Akár Kati, akár Mari alhat itt.  
b. Akár Kati is alhat itt. \* Akár Kati is, akár Mari is alhat itt.  
'Even Kati can sleep here' 'Either Kati or Mari can sleep here'

different connectives, *és* vs. *pedig*. *És* is the default Junction head corresponding to *and* (Szabolcsi 2015).<sup>4</sup> It optionally occurs in iterations with particles that follow the host, confirming that those iterations are vanilla conjunctions. The optionality of *és* is due to the fact that Hungarian generally allows asyndetic (connectiveless) conjunctions. *Pedig* requires a more elaborate introduction, see below.

We first demonstrate that *és* and *pedig* are not interchangeable and do not combine. (11)-(12) illustrate the lack of interchangeability and combinability with particle *sem*, whose two versions offer minimal pairs. Afterwards only the grammatical examples are given, see (13)-(14). Notice that unlike *és*, *pedig* intervenes between the particle and the host.

- (11) a. Kati sem **és** Mari sem  
 b. \* Kati sem, Mari pedig sem  
 c. \* Kati sem, pedig Mari sem  
 d. \* Kati sem **és** Mari pedig sem
- } host+*sem* co-occurs with *és* 'and'

- (12) a. sem Kati, sem **pedig** Mari  
 b. \* sem Kati, sem **és** Mari  
 c. \* sem Kati **és** sem Mari  
 d. \* sem Kati **és** sem pedig Mari
- } *sem*+host co-occurs with *pedig*

(13) Host+particle optionally co-occurs with *és*

- a. Kati is (**és**) Mari is 'K as well as M'  
 b. Kati sem (**és**) Mari sem 'neither K nor M'

(14) Particle+host optionally co-occurs with *pedig*

- a. mind Kati, mind (**pedig**) Mari 'both K and M'  
 b. vagy Kati, vagy (**pedig**) Mari 'either K or M, not both'  
 c. akár Kati, akár (**pedig**) Mari 'whether/either K or M'  
 d. sem Kati, sem (**pedig**) Mari 'neither K nor M'

To my knowledge, the connective *pedig* has not been discussed in the modern literature on Hungarian (although data of the type of (14) are cited in Lipták 2001).

*Pedig* has what seem to be two distinct versions.<sup>5</sup> One version, which may be called adversative, occurs in clause-initial position and can be translated as 'even though' or 'despite the fact'. The present paper will not be concerned with this version.

<sup>4</sup> In many languages, the particle 'too' and the connective 'and' are homophonous, e.g. Russian *i*, Romanian *și*. Hungarian *is* 'too' is historically a reduction of *és* 'and'. (*És* and *is* have not been interchangeable for many centuries.) I do not believe that the analysis should pursue this connection. As Szabolcsi (2017) points out, *is* also has an indispensable role in productively building negative polarity and free choice items. It is difficult to imagine that the J head or the conjunction 'and' has any relevance there. *Is* and *és* will thus be kept apart. The relation between these items, in Hungarian and cross-linguistically, is left for future research.

<sup>5</sup> The Historical-Etymological Dictionary states that modern-day *pedig* collapses earlier *pedig*, *penig*, and *kedig*. But no information is readily available about the difference between these, and I never encountered *penig* and *kedig* in the wild.

- (15) Mari elkésett, pedig Peti figyelmeztette.  
 `Mari was late, even though Peti warned her’

The *pedig* that interests us follows the topic in the last member of a propositional coordination or list, and its contribution can be approximated as ‘on the other hand’ or ‘however’ or ‘lastly’. It marks the last member of a set of two or more partial answers to an overt or covert question, and thus indicates that the answer is now complete. *Pedig* is an entirely opaque element. It will be glossed as *pedig*, for lack of a non-misleading option.

- (16) [Where are the kids?]  
 Kati otthon van, Mari (\***pedig**) az iskolában, Peti (**pedig**) úszóedzésen.  
 `Kati is at home, Mari (\*pedig) at school, Peti (pedig) at swim practice’

- (17) [Where did you go in recent days?]  
 Kedden haza, szerdán (\***pedig**) az iskolába, pénteken (**pedig**) úszni.  
 `On Tuesday, home, on Wednesday (\*pedig) to school, on Friday (pedig) to swim’

In the reiterated particle construction, *pedig* occurs in the second (or last) member of the iteration, intervening (as noted above) between the particle and its host. Its interpretation is very much in the same spirit as in its sentential use illustrated in (16)-(17).<sup>6</sup> For example,

- (18) Ki van otthon? `Who is at home?’
- a. Mind Kati, mind Mari, mind **pedig** Peti (otthon van).  
 all Kati all Mari all pedig Peti (at-home is)  
 `Each of Kati, Mari, and, lastly, Peti’
- b. Vagy Kati, vagy Mari, vagy **pedig** Peti (van otthon).  
 or Kati or Mari or pedig Peti (is at-home)  
 `Either Kati or Mari or, lastly, Peti’

The interpretation of *pedig* jibes with the fact that it occurs in that construction which always comes in tuples. The tuple as a whole provides an answer to an overt or implicit question under discussion, enumerating propositions that serve as partial answers. If *pedig* is present, the list is complete. The particle *mind* ‘all’ tells us that all the propositions in the tuple are true; *vagy* ‘or’ tells us that one of them is true. In the next subsection we will see this even more vividly.

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<sup>6</sup> According to Esipova (2016, 2017), Russian *a* has two similar functions: adversative and a marker of the last member of a set of partial answers. In contrast to *pedig*, Russian *a* is in first position both in full clauses and in reiterated constructions. This will be illustrated in Section 6.2.

M. den Dikken (p.c.) informs me that Dutch *tenslotte* ‘finally’ is a functional counterpart of *pedig*, and it occurs in “neither\_nor” disjunctions in positions in which it cannot be treated as a constituent with the nominal string that follows it (as shown by V2). He provides the following naturally-occurring example:

- (i) omdat zij noch de hunnen, noch zichzelf, noch tenslotte hun eigen leven ontzien hebben  
 because they neither the theirs nor themselves nor finally their own life spared have

Note though that *tenslotte* transparently means ‘lastly’, while H. *pedig* and R. *a* are pure particles.



## 2.4 Particles that precede their hosts build quantifier words, those that follow do not

Hungarian forms its quantifier words by combining particles with indeterminate pronouns. They are built with the particles that are confined to tuples. Those particles precede their hosts both in the reiterated construction and in combination with indeterminate (“wh-”) pronouns. *Vala-* is an allomorph of *vagy*.

- (19) Particle precedes host <sup>7, 8</sup>
- |    |  |                                    |
|----|--|------------------------------------|
| a. | mind-en-ki, mind-en(*-mi), mind-en-hol | `everyone, everything, everywhere' |
| b. | vala-ki, vala-mi, vala-hol             | `someone, something, somewhere'    |
| c. | akár-ki, akár-mi, akár-hol             | `whoever, whatever, wherever'      |
| d. | sen-ki, sem-mi, se-hol                 | `no one, nothing, nowhere'         |

Tying these together with the findings of the previous subsection, compare:<sup>9</sup>

- (20) mind Kati, mind Mari, mind (pedig) Peti    ≈    mindenki    etc.  
 all Kati all Mari all pedig Peti    everyone

In contrast, the particle *is* that follows its host does not form quantifier words, in either order -- see (21a). The NC particle *sem* of course does participate in quantifier words but, given the double life it leads, there is every reason to believe that the items in (21b) are simply instances of (19d).

- (21) Host precedes particle
- |        |   |
|--------|---|
| a. *   | is-ki / ki-is, is-mi / mi-is, is-hol / hol-is |
| b. [*] | sen-ki, sem-mi, se-hol                        |

*Is* participates in the composition of NPIs and FCIs, see (22), but in that case it combines with a full quantifier word, which is a different matter (see Szabolcsi 2017).

- (22) vala-ki is and akár-ki is    `anyone, NPI'  
 someone too    whoever too

<sup>7</sup> The role of the *-en* morpheme in *minden* is unknown. The gap in *\*minden-mi* extends to all *m*-based indeterminate pronouns: *\*minden-melyik* (but *mindegyik* ‘each’), *\*minden-milyen* (but *mindenféle* ‘every kind’), and *\*minden-mikor* (but *mindig* and *mindenkor* ‘always’). These gaps do not concern us.

<sup>8</sup> *Minden* forms strictly distributive quantifier phrases with count nouns, but also co-occurs with mass nouns, and floating *mind* is possible in both cases (Csirmaz & Szabolcsi 2012: section 3.8.1).

- |         |                                     |    |  |
|---------|-------------------------------------|----|--|
| (i) a.  | Minden doboz nehéz.                 | b. | A doboz-ok mind nehez-ek.                |
|         | every box heavy                     |    | the box-pl all heavy-pl                  |
|         | `Every box is heavy (individually)' |    | `The boxes are all heavy (individually)' |
| (ii) a. | Minden víz elpárolgott.             | b. | A víz mind elpárolgott.                  |
|         | all water evaporated                |    | the water all evaporated                 |
|         | `All (the) water evaporated'        |    | `The water all evaporated'               |

*Mind(en)* can be preceded by *nem* ‘not’ and the only possible meaning is ‘not every/not all’.

<sup>9</sup> The first to notice such correspondences was Hunyadi (1987).

The data just reviewed converge with the observations above. *Mind*-type particles must be part of a reiterated construction that is semantically equivalent to a quantifier, and they also form actual quantifier words with the indeterminate pronouns that correspond to the same domains as their hosts. *Is*-type particles on the other hand do not have to be part of a reiterated construction; when they are, those are “accidental” coordinations. They do not build quantifier words.

## 2.5 *Strict vs. non-strict negative concord items*

At this point we have evidence for the overall structures of the two constructions and for the quantificational role of *mind*-type particles; less so for the nature of *is* and the *sem* that patterns with *is* (follows its host). Negative concord (NC) provides some fine-grained evidence about those syntactic details.

The negative concord particle *sem* (more colloquially: *se*) occurs in both constructions under investigation but, interestingly, builds different kinds of NCIs in the two cases.

Hungarian is a negative concord language that is usually thought to be of the strict type, where the sentential negation marker *nem* is always mandatory, as in Russian. But Surányi (2006) showed that Hungarian NC is a hybrid: there is a set of NC-expressions that do not co-occur with *nem* when they are in preverbal position, mimicking non-strict NC languages like Italian. Consider the n-expressions *senki* ‘n-one’ and *senki sem* ‘n-one nor’ in preverbal position (which distinguishes strict vs. non-strict negative concord) and in postverbal position (which does not distinguish them). All three examples below mean ‘No one slept’. We see that *senki* has the distribution of a strict NCI like Russian *nikto*, whereas *senki sem* has the distribution of a non-strict NCI like Italian *nessuno*.

- |      |              |            |              |               |                |                |                     |               |                             |
|------|--------------|------------|--------------|---------------|----------------|----------------|---------------------|---------------|-----------------------------|
| (23) | <b>Senki</b> | <i>nem</i> | aludt.       | vs.           | * <b>Senki</b> | aludt.         | pre-V -- strict NC  |               |                             |
|      | n-one        | not        | slept        |               | n-one          | slept          | requires <i>nem</i> |               |                             |
| (24) | <b>Senki</b> | <b>sem</b> | aludt.       | vs.           | * <b>Senki</b> | <i>sem</i>     | <i>nem</i>          | aludt.        | pre-V -- non-strict NC      |
|      | n-one        | nor        | slept        |               | n-one          | nor            | not                 | slept         | rejects <i>nem</i>          |
| (25) | <i>Nem</i>   | aludt      | <b>senki</b> | <b>(sem).</b> | vs.            | * <i>Aludt</i> | <i>senki</i>        | <i>(sem).</i> | post-V -- strict/non-strict |
|      | not          | slept      | n-one        | nor           |                | slept          | n-one               | nor           | require <i>nem</i>          |

I observe that the two types of reiterated *sem* construction differ in that the “particle precedes host” one builds a strict NC expression, and the “particle follows host” one builds a non-strict one.

- |      |            |             |            |            |                 |        |                      |      |             |      |             |                           |
|------|------------|-------------|------------|------------|-----------------|--------|----------------------|------|-------------|------|-------------|---------------------------|
| (26) | <b>Sem</b> | Kati,       | <b>sem</b> | Mari       | *( <i>nem</i> ) | aludt. | pre-V, strict NC     |      |             |      |             |                           |
|      | nor        | Kati        | nor        | Mari       | not             | slept  | requires <i>nem</i>  |      |             |      |             |                           |
| (27) | Kati       | <b>sem,</b> | Mari       | <b>sem</b> | (* <i>nem</i> ) | aludt. | pre-V, non-strict NC |      |             |      |             |                           |
|      | Kati       | nor         | Mari       | nor        | not             | slept  | rejects <i>nem</i>   |      |             |      |             |                           |
| (28) | <i>Nem</i> | aludt       | <b>sem</b> | Kati,      | <b>sem</b>      | Mari   | /                    | Kati | <b>sem,</b> | Mari | <b>sem.</b> | post-V, strict/non-strict |
|      | not        | slept       | nor        | Kati       | nor             | Mari   |                      | Kati | nor         | Mari | nor         | require <i>nem</i>        |

In other words,

(29) **sem** Kati, **sem** Mari    ≈    **sen**-ki                    strict NCI, cf. *nikto*  
       nor Kati nor Mari            n-one

(30) Kati **sem**, Mari **sem**    ≈    sen-ki **sem**                    non-strict NCI, cf. *nessuno*  
       Kati nor Mari nor            n-one nor

Notice that in the strict NC version, the particle *sem* precedes its lexical hosts as well as the indeterminate pronoun *ki* ‘who, viz. human’ that it combines with, whereas in the non-strict NC version *sem* follows its lexical hosts as well as the n-word *senki* that it combines with.

Szabolcsi’s (2016) proposes a unified analysis for the hybrid negative concord facts involving *senki* and *senki sem*. It will be briefly reviewed and extended to the new data in Section 5. At this point, we note that Szabolcsi treats the *sem* in the non-strict NC construction as an overt counterpart of Chierchia’s (2013) NEG, a functional head that invokes an abstract negation above its projection. The account of the contrast in (29)-(30) converges with the overall syntactic analyses for the two constructions.

## 2.6 Interim summary

The preceding subsections substantiated the claim that the “host+particle” and “particle+host” reiterations are syntactically distinct, over and beyond linear order. Reiterations of “host+particle” represent the coordination of two or more independent propositions, with or without ellipsis. Since each of the propositions can stand on its own, reiteration is not mandatory. This contrasts with the case of “particle+host”, where reiteration is mandatory, and the construction can be seen as providing a set of partial answers to a question. The quantifier particles indicate whether each, some, or none of those partial answers is true; addition of *pedig* to the last junct marks the set as constituting a complete answer. Finally, with the particle *sem* the first type constitutes non-strict and the second, strict negative concord expressions. We anticipated that this squared with the claim that the particles following their hosts are heads on the clausal spine, whereas the particles preceding their hosts spell out a (propositional) quantifier.

Having presented and compared the basic data of the two constructions, Sections 3 and 4 zoom in on each construction in turn. Discussion of negative concord is relegated to Section 5.

## 3. *Is* ‘too’ and *sem* ‘nor’ are heads on the clausal spine

The syntactic role of *is/sem* can be conveniently explicated in terms of the feature-checking theory of quantifier scope. See among others Beghelli & Stowell (1997), Szabolcsi (1997), É. Kiss (2002), Brody & Szabolcsi (2003), Lipták (2005), and an overview in Szabolcsi (2010: Chapter 11). On this view, in Hungarian, members of a sequence of functional heads overtly attract operator phrases to their specifiers. Because the movement is overt, it is reflected in linear order

at spell-out. Linear order directly maps to c-command, determining the relative scope of the operators (with some complications extensively discussed in Brody & Szabolcsi 2003).<sup>10</sup>

For example, the Ref(erential) head attracts definites and indefinites, and the Dist(ributive) head attracts universals and existentials that receive a distributive interpretation in its specifier. Revising her earlier FocP analysis, Horvath (2010, 2013) adds an unpronounced EI head (EI for exclusive identification) right above the final landing site of the verb. EI attracts a phrase modified by *csak* ‘only’ or by an unpronounced EI-operator to its specifier. These latter operators in turn attach to focus-accented phrases, accounting for the well-known correlation of focus accent, preverbal position, and exhaustive interpretation in Hungarian.

*Is* ‘too’ has been recognized as a head that attracts a focus-accented phrase to its specifier since Brody (1990). The *sem* that follows its host is the negative concord variant of *is* and has the same property. In principle, two analyses are possible. (i) IsP and SemP are operator phrases that occupy the specifier of some unpronounced functional head H somewhere in the Ref>Dist>Neg>EI>Neg sequence in the clausal spine. H might be Dist for IsP, and a variant of Neg that has the properties of Chierchia’s (2013) NEG for SemP. Alternatively, (ii) *Is* and *Sem* themselves are functional heads in the clausal spine.

Some reasons to prefer (ii) are as follows. First, phrase-internal operator particles invariably precede their sisters in Hungarian:

- (31) a. *csak Mari* ‘only Mari’, *vagy tíz* ‘some ten = approx. ten’, *majdnem tíz* ‘almost ten’  
 b. *minden-ki* ‘everyone’, *vala-ki* ‘someone’  
 c. *mind Kati mind Mari* ‘both K and M’, *vagy Kati vagy Mari* ‘either K or M’

The particles *is* and *sem* would be the only phrase-internal particles to follow their sisters if analysis (i) were chosen.<sup>11</sup> Second, focus-sensitive particles always allow for broad focus, even when only a focus-accented constituent of the larger unit appears in their specifier. Recall (2a), repeated as (32); the example works equally well with *sem* in the place of *is*.

- (32) A hó **is/sem** esik, ... a gyerek **is/sem** nyűgös.  
 the snow too/nor falls ... the child too/nor cranky  
 ‘The snow is falling, likewise the child is cranky’ /  
 ‘The snow isn’t falling, likewise the child isn’t cranky’

<sup>10</sup> Kayne (1998) proposes that Beghelli & Stowell’s (1997) LF-movements are overt movements.

<sup>11</sup> Horvath (2013) observes that *csak* either precedes the focused XP (as in (31a)) or immediately follows the verb. She explicitly argues that in the latter case, *csak* is an overt version of the clausal EI-head, and not a stranded EI-operator. Her representations for two synonymous sentences are as follows:

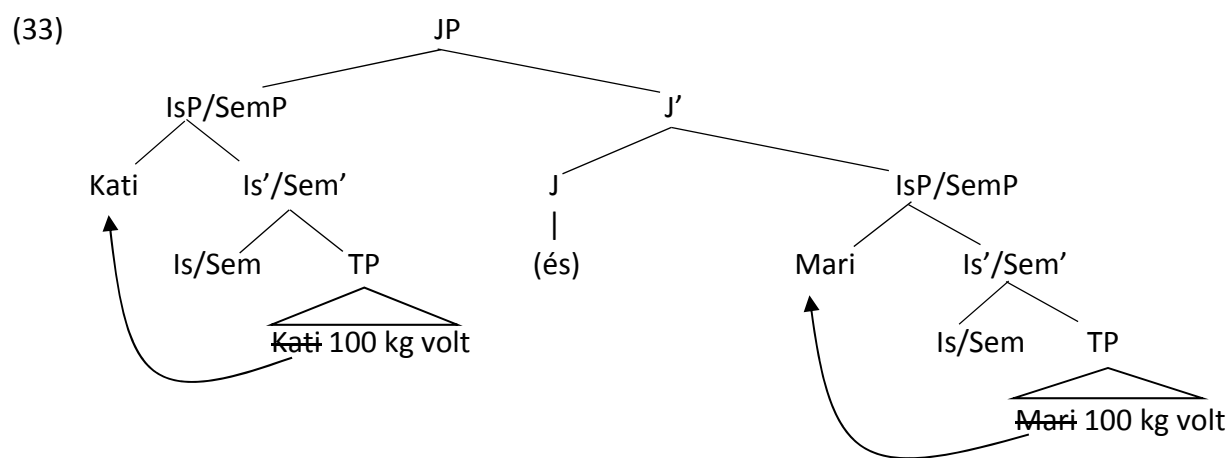
- (i) Mari **csak** KATINAK<sub>j</sub> mutatta [be t<sub>v</sub> Lacit t<sub>j</sub>].  
 Mari only Kati-dat showed.3sg PRT Laci-acc  
 ‘Mari only introduced Laci only to KATI.’  
 (ii) Mari KATINAK<sub>j</sub> mutatta **csak** [be t<sub>v</sub> Lacit t<sub>j</sub>].  
 Mari Kati-dat showed.3sg only PRT Laci-acc  
 ‘Mari only introduced Laci only to KATI.’

My analysis of *is/sem* as a clausal head is congruent with Horvath’s (ii) above.

Here each *is* and *sem* operates on a full proposition, which is better understood if they are heads with those propositions in their complements; this is only possible on analysis (ii). Third, the negative existential/locative verb *nincs* becomes *sincs* precisely in contexts where *nem* is replaced by *sem*. Likewise, A. Lipták (p.c.) suggests that complex particles such as *még-is/még-sem* ‘nevertheless,’ *de-hogy-is* ‘of course not’ are compounded clausal heads, corroborating that status for *is* and *sem*.

The fact that *Kati is* and *Kati sem* can appear in either preverbal or postverbal position, see (9), might seem problematic for the clausal head analysis of *is/sem*. But Szabolcsi (1997) and Brody & Szabolcsi (2003) argued that the sequence of operator heads (except for Neg) repeats itself above each of TP, vP, VP, etc. Of these, only the highest sequence is preverbal at spell-out. Analysis (ii) does not require anything beyond this assumption.

As was anticipated in Section 1 and confirmed in Section 2, iterations of “host+*is/sem*” are Junction phrases containing independent propositions, each of which can stand alone.<sup>12</sup> The Junction head is optionally pronounced. When the complements of *Is/Sem* are identical, both backward and forward ellipsis are possible. Importantly to us, segments like *Kati is/sem (és) Mari is/sem*, which may seem like constituent coordinations, straightforwardly result from backward ellipsis in clausal coordination, cf. (34a).



- (34) a. [<sub>JP</sub> Kati **is/se** ~~100 kg volt~~ [<sub>J'</sub> (és) [Mari **is/se** 100 kg volt]]]  
 Kati too/nor and Mari too/nor 100 kg was  
 ‘Kate as well as Mary was 100 kg’ / ‘Neither Kati nor Mari was 100 kg’
- b. [<sub>JP</sub> Kati **is/se** 100 kg volt [<sub>J'</sub> (és) [Mari **is/se** ~~100 kg volt~~]]]  
 Kati too/nor 100 kg was and Mari too/nor  
 ‘Kate as well as Mary was 100 kg’ / ‘Neither Kati nor Mari was 100 kg’

Comments on the semantics are in order; they are presented with reference to *is* ‘too’, but carry over to its negative concord variant *sem* ‘nor’.

<sup>12</sup> In line with the fact that the junctives are independent clauses, the presence of *is/sem* in the first junctive is not obligatory. In its absence, the structure is similar to *Kate was asleep, and Mary too was asleep*.

*Is`too'* is an additive particle. It introduces the presupposition that a focus-alternative of the proposition it combines with (i.e., the asserted prejacent) is true.<sup>13</sup> Following Kobuchi-Philip (2009), in the reiterated construction the two or more propositions mutually satisfy each other's presuppositions, and thus the construction as a whole does not project any presupposition to the global context. Here, *Kati is 100 kg volt* presupposes that someone other than Kati was 100 kg, which is satisfied by the assertion about Mari. And vice versa, *Mari is 100 kg volt* presupposes that someone other than Mari was 100 kg, which is satisfied by the assertion about Kati. Brasoveanu & Szabolcsi (2013) address a theoretical problem that arises here. Effortless presupposition satisfaction usually works left-to-right, but here it is computed symmetrically. They propose that the additive requirements introduced by *is* and its cross-linguistic relatives are in fact post-suppositions in the sense of Brasoveanu (2013). In brief, they are not-at-issue requirements whose satisfaction is delayed within a local domain. Therefore, the junct wait for one another, and mutual satisfaction is possible. If however nothing in the local domain satisfies the additive requirement, it projects to the global context, and becomes a traditional presupposition.

Szabolcsi (2015: Section 3.1.2) discusses of the behavior of what she calls MO particles in some detail, exemplified by Hungarian *is*, Russian *i*, and Japanese *mo*. In all these languages, the reiterated construction implies a perceived similarity in the junct. In the case of broad focus, the conjoined propositions are implied to bear on the same salient issue in a uniform way (typically, as all favorable or all unfavorable). To wit, example (2) could be used to present the snow's falling, the wind's blowing, and the child's being cranky as congruent facts bearing on whether we should start heading home. The expressions *as well as* and *likewise* in the idiomatic translations correspond to this not-at-issue contribution.<sup>14</sup>

Szabolcsi (2015) also observes that reiterated examples like (34a) and their cross-linguistic relatives are always interpreted distributively. (34a) can only mean that Kati and Mari individually weigh 100 kg; it cannot mean that they do so collectively. The explanation comes from the additive requirement (post-supposition). If the joint weight of Kati and Mari were 100 kg, the contextual requirement would not be satisfied. The mere presence of the same particle on multiple DPs does not by itself impose this requirement. Japanese *A-to B-to`A-with B-with = A and B'* allows for both distributive and collective readings; *to* is a reiterating particle but, semantically, not a "MO particle".

#### 4. *Mind, vagy, akár* and pre-host *sem* are quantifier-internal particles

Reiterations involving particles that precede their hosts involve a JP structure as well, but as a complement of an unpronounced propositional quantifier. The discussion will proceed as follows. 4.1 presents the structure, with some remarks regarding how the particles get realized on the junct. 4.2 clarifies the neutrality of the J head. 4.3 introduces the gist of the semantics in terms of propositional quantification, as in Kratzer & Shimoyama (2002). 4.4 investigates propositional vs. constituent coordination, bringing in new data pertaining to Right Node Raising.

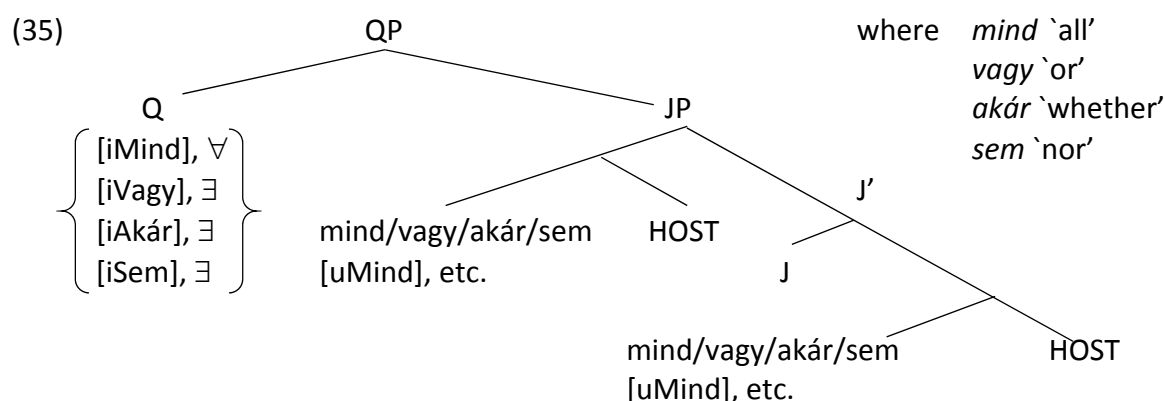
<sup>13</sup> For a derivation of the additive presupposition of English *too* and Hungarian *is*, based on focus alternatives, see Szabolcsi (2017).

<sup>14</sup> These observations are in the spirit of the Parallel discourse relation Asher & Lascarides (2003) attribute to *too*, but go further in view of the reiterated construction.

#### 4.1 JP as a complement of an unpronounced quantifier

Section 2 enumerated descriptive arguments to the effect that the structure of *mind\_mind*, *vagy\_vagy*, *akár\_akár* and (strict NC) *sem\_sem* constructions is different from that of *is\_is* and (non-strict NC) *sem\_sem* ones. The junct obligatorily come in tuples, each junct bears the same particle, and the connective *és* ‘and’ cannot be added. (*Pedig* might be a J head, with the initial quantifier particle adjoining to it, or it may be internal to the last junct. This paper uses *pedig* primarily as a diagnostic tool and does not attempt to settle its syntax.)

I argue that a JP structure is involved but, unlike in (33), it is the complement of an unpronounced but contentful quantifier that is overtly realized in the form of identical particles on each of the junct. The syntactic relation between Q and the particles can be seen as feature-checking, as indicated in (35), which repeats (3).



Feature checking is a standard tool, and it captures the idea that Q is contentful, whereas the particles merely signal its presence. Feature checking ensures that each and every junct carries the appropriate particle if it is subject to an ATB-style condition.<sup>15</sup>

An alternative tool might be borrowed from Case concord, discussed in Bayırlı (2017), based on Pesetsky (2013). Case concord is specifically pertinent, because Case originates outside DP, not on the Num head (like plural) or on the N head (gender). The realization of the Q-feature can be seen to spread to the coordinates in the manner of Feature Assignment, subject to the intervention of phasal domains:

#### (36) Feature assignment (FA)

- a. Copying: when  $\alpha$  merges with  $\beta$ , forming  $[\alpha \alpha \beta]$ , the grammatical features of  $\alpha$  are immediately copied on  $\beta$
- b. Realization: ... and are realized as morphology on all lexical head items dominated by  $\beta$

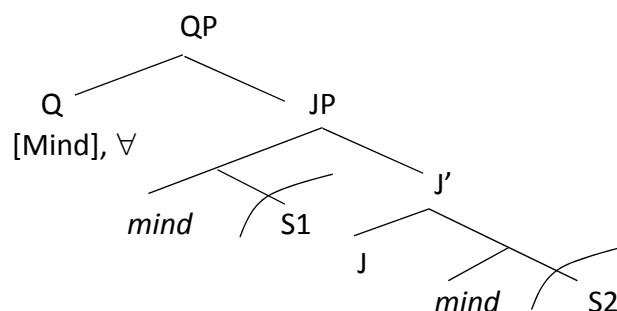
<sup>15</sup> Den Dikken (2006) argues that in English *either\_or*-type constructions, *either* and *or* are not heads but maximal projections adjoined to the junct. My analysis of Hungarian is similar in not treating *vagy* as a head. English differs from Hungarian in that *either* is distinct from *or*, and *either* is optional. But *\*either p, q* and *\*either p and q*, etc. are not grammatical, so English also requires some efficient regulation.

## (37) Phasal domains

The overt manifestation of concord is suppressed by the intervention of phasal domains.

Imitating Bayırlı's notation, we may instantiate *mind\_mind* constructions as follows, with the arc indicating a domain that is not penetrated by the copied particles. Read *S* as a variable over appropriate categories.

## (38)



This paper will simply work on the assumption that some well-attested syntactic mechanism can account for the realization of the Q feature in the form of particles on each of the juncts.

4.2 *Towards interpretation: Junction merely forms tuples (sets)*

Den Dikken (2006) employs JP for *either\_or*, *neither\_nor*, and *both\_and* structures. He does not specify what semantic contribution, if any, the J head makes, but his use of J in these varied cases indicates that it is meant to be semantically neutral. To make that idea precise, Szabolcsi (2015) couples JP with a proposal by Winter (1995). On that view, J merely forms an ordered tuple of the juncts. It is neither a conjunction, nor a disjunction. The tuple is converted to a set and, by default, an unpronounced operation interprets it as a conjunction, just as an unmarked sequence of sentences in a text is interpreted conjunctively. Additive (MO-)particles reinforce the conjunctive interpretation; in their presence, it is not merely a default. This is what happens in (33) above. But other particles on the juncts may override the default. Szabolcsi (2015) discusses KA-particles that invoke an unpronounced disjunctive operation. She argues that disjunctions are overtly marked, precisely because the conjunctive default needs to be overridden.

In what follows, I will likewise assume that J itself doesn't make JP a conjunction or a disjunction. It merely forms an ordered tuple, or set, of the juncts. What semantic operation is performed is determined by the particles on the juncts (i.e. by the unpronounced Q whose presence they signal).

4.3 *Unpronounced Q is a contentful propositional quantifier*

Recall from Section 2.4 that the same particles that appear in (35) also form quantifier words with indeterminate pronouns, yielding the parallelisms below, and similarly for *akár* and *sem*:<sup>16</sup>

<sup>16</sup> The “≈” is motivated by the fact that the reiterated *vagy\_vagy* construction is exhaustive (see Spector 2014 on *soit\_soit*), whereas *valaki* is a vanilla indefinite like *someone*. However, Szabolcsi (2015: section 3.2.5) points out that in many languages, reiterated disjunctions are not exhaustive: such are Sinhala (Slade 2011), Malayalam and Kannada (Jayaseelan, p.c.), as well as English *either\_or* on many of its uses.



(39) Mind Kati, mind Mari, mind (pedig) Peti alszik ≈ Mindenki alszik.  
 all Kati all Mari all pedig Peti sleeps everyone sleeps

(40) Vagy Kati, vagy Mari, vagy (pedig) Peti alszik ≈ Valaki alszik.  
 or Kati or Mari or pedig Peti sleeps someone sleeps

The parallelism recalls an insight from Kratzer & Shimoyama (2002) and Kratzer (2005), presented for quantifier words that are built in the same way as *mindenki* and its brothers.

“Suppose we ... assumed that Indo-European indefinites, too, associated with independent quantificational operators. Their distinctive morphology might then tell us something about the nature of those operators. It might indicate syntactic agreement with matching non-overt propositional operators, as proposed in Beghelli and Stowell (1997) and thus create syntactic behavior not found with Japanese indeterminate pronouns. That speakers of Latvian, German, or Spanish, for example, perceive the pronouns and determiners of the *kaut-*, *irgendein* or *algún* series as existentials would now no longer mean that those expressions are themselves existentials. Their existential look would be the overt expression of syntactic agreement with propositional  $[\exists]$ , the true carrier of existential force. Those indefinites might have an uninterpretable but pronounced  $[\exists]$  feature, then, that must enter an agreement relation with a matching interpretable feature that happens to be unpronounced.”  
 (Kratzer 2005: 131)

The propositional quantifiers referred to above are defined as follows:

- (41) a.  $[\exists](A) = \{\text{the proposition that is true in all worlds in which some proposition in } A \text{ is true}\}$   
 b.  $[\forall](A) = \{\text{the proposition that is true in all worlds in which every proposition in } A \text{ is true}\}$

Kratzer and Shimoyama apply (41) in the interpretation of sentences with quantifier words. There,  $A$  is the set of propositional alternatives generated off of indeterminate pronouns (*-who*) in Hamblin-style alternative semantics: the set of propositions such that, for any human there is, the proposition that this human sleeps is in the set.

(42)  $[[\text{-who sleeps}]_{w,g}] = \{ p: \exists x [\text{human}(x)(w) \ \& \ p = \lambda w'. \text{sleeps}(x)(w')] \}$

In our case,  $A$  is the set of propositions that JP assembles from the junctives in it, as described in 4.2 above. Hamblin semantics can be used but does not play any particular role.<sup>17</sup>

(43)  $\{ \lambda w. \text{sleep}(kati)(w), \lambda w. \text{sleeps}(mari)(w), \lambda w. \text{sleeps}(peti)(w) \}$

---

While exhaustivity needs to be accounted for, it is not an inescapable property of reiterated disjunctions. It is with this grain of salt that I take *vagy\_vagy* and *valaki* to be approximate counterparts.

<sup>17</sup> One of the anonymous reviewers notes that there is a large literature that points out problems with scope and binding in Kratzer & Shimoyama’s version of alternative semantics and offers solutions. An early piece is Shan (2004), and a very recent one is Charlow (2017).

For example, with particle *mind* ‘all’ attached to the junct, the matching Q is  $\forall$ , and the result is the proposition that is true in all worlds where each of “Kati sleeps”, “Mari sleeps”, and “Peti sleeps” is true.

Note that at the end of the day the following two sentences have the same truth conditions:

- (44) a. Mind Kati (alszik), mind Mari (alszik), mind Peti alszik.  
       all Kati sleeps all Mari sleeps all Peti sleeps  
       b. Kati is (alszik), Mari is (alszik), Peti is alszik.  
       Kati too sleeps Mari too sleeps Peti too sleeps

The reason is that “every proposition in  $\{p,q,r\}$  is true” is logically equivalent to “ $p$  is true, and  $q$  is true, and  $r$  is true”. The overall meaning of these sentences leaves us in the dark as to how that meaning might be composed. Only detailed analysis can help. This is especially important to bear in mind if one investigates a language in which, for some reason or other, even linear order does not distinguish between the two types of particles.

#### 4.4 Propositional coordination and quantification

We have arrived at propositional quantification from two directions. On the one hand, Kratzer & Shimoyama use it for the equivalents of *Someone/Everyone sleeps*, for reasons related to Hamblin semantics. (In this paper, we are not specifically concerned with quantifier words.) On the other hand, the ellipsis-free versions of “particle+host” reiterations are straightforward representatives of propositional quantification.

- (45) a. Mind a nap kisütött, mind (pedig) a szél elállt.  
       ‘Each of {the sun came out, the wind died down} is true’  
       b. Vagy a hó esik, vagy (pedig) a szél fúj.  
       ‘Just one of {the snow is falling, the wind is blowing} is true’  
       c. Akár a hó esik, akár (pedig) a szél fúj, bajban vagyunk.  
       ‘No matter which of {the snow is falling, the wind is blowing} is true, we are in trouble’  
       d. Sem a hó nem esik, sem (pedig) a szél nem fúj.  
       ‘Not one of {the snow is falling, the wind is blowing} is true’

In other examples, the particles seemingly attach to smaller constituents (*Mind Kati, mind Mari alszik*, etc.). Starting with the introduction, I suggested that these are obtained by the optional ellipsis of shared material. The examples below provide further evidence that ellipsis or structure-sharing must be involved in some of the examples where the junct are not complete propositions. I first illustrate the phenomenon with comparable examples from English:

- (46) a. Bring me both the blue \_ and the green bottles.  
       b. Bring me either every blue \_ or every green bottle.  
       c. Neither at least five blue \_ nor more than six green bottles were provided.
- (47) a. Invite both the left- \_ and the right-handed children.  
       b. Invite either every left- \_ or every right-handed child.  
       c. Neither at least five left- \_ nor more than six right-handed children participated.

These examples bring to mind Right-Node Raising, which is often handled by movement. But neither *bottle(s)* in (46), nor *-handed child(ren)* in (47) could be shared by the two junctives as a result of rightward across-the-board extraction. I thank A. Lipták (p.c.) for directing me to work by V. Valmala that solves the problem. Using Right Node Raising as a pre-theoretical cover term, Valmala (2012, 2013) distinguishes “focal-pivot right-node raising” and “non-focal pivot right-node raising” and argues that the confusingly mixed properties of RNR can be neatly sorted out once this distinction is made. Valmala proposes a set of diagnostics; see his work for details. Below I give a bird’s eye review.

“Focal-pivot RNR” obtains when the shared string (the pivot) has focus accent. Focal pivots are always extractable expressions. For example:

(48) I brought \_ from the kitchen and put \_ on the table A TEN-POUND BIRTHDAY CAKE.

“Non-focal pivot RNR” obtains when the last element before the pivot is focused and the pivot crucially is not. In this case the pivot may or may not be an extractable expression; non-extractable ones can only participate in this latter kind of RNR. (46) and (47) would be examples. Valmala argues that here the gap is not a result of movement; instead, interpretation is in-situ. He considers two possible mechanisms: ellipsis or structure-sharing (multidominance), without committing to a choice. I will not address this theoretical issue, and simply use the label ellipsis.

As A. Lipták (p.c.) observes, Hungarian never moves constituents to the right to be assigned stress, even pretheoretically and non-anti-symmetrically speaking, and so it does not exhibit focal-pivot RNR, although it allows non-focal-pivot RNR of the same string:

(49) a. \* Peti hallott \_ és Mari olvasott \_ MINDEN NOBEL-DÍJASRÓL.  
       Peti heard \_ and Mari read \_ every Nobelist-about  
       b. Peti HALLOTT \_ és Mari OLVASOTT minden Nobel-díjasról.

Turning to the quantifier particle constructions, Hungarian exhibits a huge variety that exemplify the “non-focal pivot RNR” case. Verb-initial (50b), (51b) and (52) plausibly involve leftward across-the-board extraction of the verb, and (51b), the subsequent merger of negation.

(50) a. **Mind** egy MAGAS \_\_ **mind** hat ALACSONY gyerek-et meghívtam.  
       all one tall all six short child-acc invited-1sg  
       ‘I invited both one tall and six short children’  
       b. Meghívtam **mind** egy MAGAS \_\_ **mind** hat ALACSONY gyerek-et.  
       invited-1sg all one tall all six short child-acc

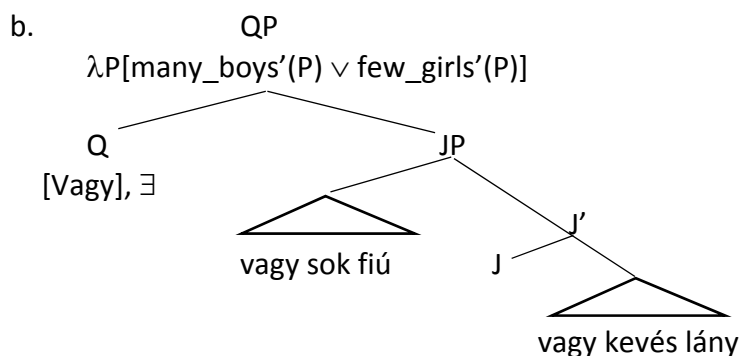
(51) a. **Sem** a JOBB- \_\_ **sem** a BAL-kezes gyerekek nem sírtak.  
       nor the right- nor the left-handed child-pl not cried-3pl  
       ‘Neither the right- nor the left-handed children cried’  
       b. Nem sírtak **sem** a JOBB- \_\_ **sem** a BAL-kezes gyerekek.  
       not cried-pl nor the right- nor the left-handed child-pl

(52) Adjál vagy minden fiúnak négy KÉK \_  
       give-2sg or every boy-to four blue

vagy minden lánynak hat ZÖLD golyót.  
 or every girl-to six green marble-acc  
 `Give either every boy four blue \_ or every girl six green marbles`

The above examples most likely derive from propositional coordination and quantification. The question arises whether the simpler ones involve DP-level (generalized quantifier) coordination and quantification, e.g.,

(53) a. Vagy sok fiú, vagy kevés lány aludt.  
 or many boy or few girl slept  
 `Either many boys or few girls slept`



At least two works have recently called into question the availability of phrase-level coordination, arguing for conjunction reduction: Schein (2017) and Hirsch (2017). Schein's arguments primarily come from plurals and event semantics. Hirsch investigates semantically simpler cases and proposes that syntactic well-formedness and the availability of certain scope relations are best understood if coordinate structures are derived from vP-coordination, coupled with well-attested mechanisms for ellipsis, e.g. gapping. Importantly, he notes that as soon as generalized quantifiers are coordinated, semantically speaking we have propositional (type *t*) coordination (though not necessarily full-clausal coordination). Therefore, in the domain of data that he investigates, the general unavailability of constituent coordination must be a syntactic matter.

The same argument extends to the question of (53). If the formation of the generalized-quantifier level JP and QP is not possible even for such an innocent-looking case, that probably has to do with what syntactic mechanisms are available. At this point I cannot pinpoint any syntactically disastrous effects that would emerge if (53b) were allowed to co-exist with the various possibilities for ellipsis. However, the data discussed in this paper will offer new grounds for hypothesis testing.

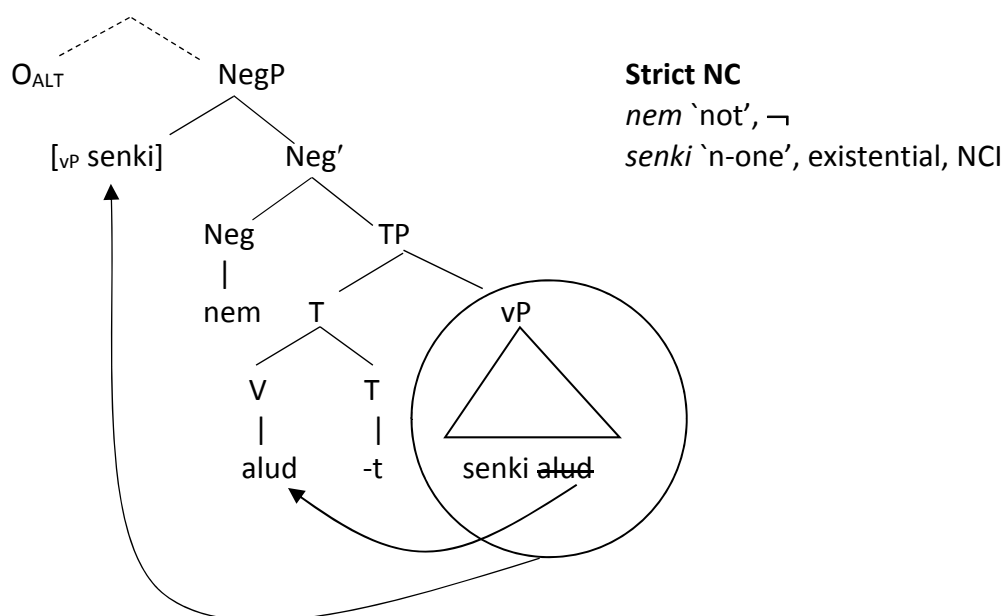
## 5. Negative concord

Finally, we come back to the strict vs. non-strict negative concord facts observed in 2.5. To attack them, we must first know how NC works in Hungarian.

Szabolcsi (2016) proposes a unified account of the hybrid negative concord data in (23)-(24), as follows. *Senki* 'n-one' is an existential that must occur within the immediate scope of clause-

mate semantic negation. The negation may be contributed by the Neg head *nem* 'not'. The requisite scope relation automatically holds when *senki* is in postverbal position, cf. (25). When *senki* occurs preverbally, as in (23), it is in the specifier of the Neg head *nem*. It moves there by remnant movement, by itself or possibly along with another NCI or a minimizer like *egy szemhunyás* 'a wink'. Remnant movement reconstructs, so the moved item or sequence continues to be in the scope of *nem*.

(54) *Senki nem aludt* 'No one slept'

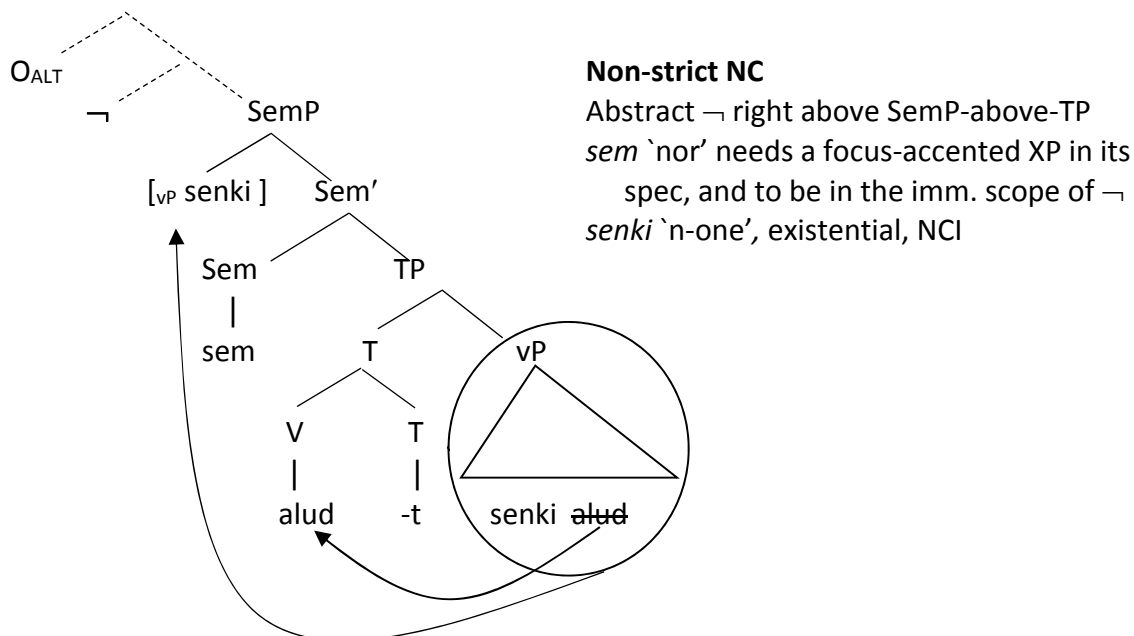


The structure in (54) contains a phonetically null operator  $O_{ALT}$ . Szabolcsi (2016) follows Chierchia's (2013) explanation of why negative polarity and negative concord items must be within the immediate scope of a suitable decreasing operator (here: negation). The explanation is that these items have obligatorily active alternatives, which by definition must be exhausted.  $O_{ALT}$  is an exhaustifier. The exhaustification of positive alternatives leads to a contradiction, but the exhaustification of negated alternatives is innocuous. See Chierchia (2013) for details.

Crucially, Szabolcsi (2016) also adopts, and adapts, Chierchia's analysis of non-strict, Italian-style negative concord. Chierchia argues that Italian has a phonetically null functional head that he calls NEG that has two critical properties: (i) it must agree with an NCI in its specifier, (ii) it is capable of invoking a contentful but abstract (disembodied) negation,  $\neg$  at the edge of its projection. Preverbal *nessuno* 'n-one' sits in the specifier of null NEG, and the contradiction  $O_{ALT}$  would produce is averted by the disembodied negation,  $\neg$ .

Szabolcsi (2016) argues that in examples like (32), Hungarian *sem* 'nor' is an overt counterpart of Chierchia's NEG, and so a functional head above TP.

(55) *Senki sem aludt* 'No one slept'



One aspect of this analysis that is important to us is that the *sem* 'nor' that follows its host is now established as a functional head on the clausal spine. Szabolcsi (2016) identifies *sem* 'nor' as the negative concord counterpart of *is* 'too'. Both *is* and *sem* are focus-sensitive and therefore attract focus-accented elements to their specifiers (not restricted to NCIs).

We can now turn to the negative concord structures that involve reiterations. The reiterated construction in (56) represents non-strict negative concord, because it is a conjunction of two clauses, with ellipsis in the first. Each of those clauses contains the functional head *Sem* with a focus-accented DP in its specifier and an abstract negation, cf. (55). It effectively says, 'Kati didn't sleep and likewise Mari didn't sleep'.

(56) Kati **sem** ~~aludt~~ (és) Mari **sem** aludt. cf. Sen-ki **sem** aludt. non-strict NC  
 Kati nor aludt and Mari nor slept n-one nor slept  
 'Neither Kati (slept), nor Mari slept' 'No one slept'

The reiterated construction in (57) represents strict negative concord. *Sem Kati, sem Mari* being analogous to *senki* 'n-one', (57) contains one large existential quantifier over propositions, within the scope of *nem* 'not'. It effectively says, 'It is not the case that there is a true proposition in the set {Kati slept, Mari slept}'.

(57) a. Nem aludt **sem** Kati, **sem** (pedig) Mari. cf. Nem aludt senki. strict NC  
 not slept nor Kati nor pedig Mari not slept n-one  
 'Neither Kati slept, nor Kati slept' 'No one slept'

b. **Sem** Kati, **sem** (pedig) Mari nem aludt. cf. **Sen**-ki nem aludt.  
 nor Kati nor pedig Mari not slept n-one not slept  
 'Neither Kati slept, nor Mari slept' 'No one slept'

(57a) can be derived by across-the-board movement of the verb from *sem Kati alud-*, *sem (pedig) Mari alud-*, adjoining it to T, with the subsequent merging of *nem* ‘not’. In (57b), those steps are followed by remnant movement of *sem Kati*, *sem (pedig) Mari* to the specifier of *nem*.

The two particles *sem* ultimately compose the same meanings, in two different ways. The strict/non-strict distinction is a consequence of the structures. In particular, the non-strict NC property is due to the fact that the *sem* that follows its host is a counterpart of Chierchia’s NEG head that is capable of invoking an abstract negation. The *sem* that is instantiated preceding its host on every member of a tuple is an existential quantifier that requires to be in the scope of negation but is not capable of pulling one out of thin air; hence the need for overt *nem*, a hallmark of strict negative concord.

In sum, the negative concord facts square with the analyses of the two constructions discussed in Sections 3 and 4.

As a supplement, I comment on strict-NC iterations that include the verb (i.e. where the verb is not ATB extracted, cf. (57)). These are notoriously complicated and difficult to account for in Russian, for example (e.g. Tiskin 2017). In Hungarian, pattern (58) without *nem* ‘not’ only exists as a frozen idiomatic expression that preserves a stage of the Jespersen cycle from more than 500 years ago (É. Kiss 2015), whereas the parallel pattern in Russian is the only possible one:

- |      |   |   |
|------|---|---|
| (58) | Peti se lát, se hall.<br>Peti nor sees nor hears<br>`Peti neither sees nor hears =<br>too excited to perceive anything’ | R. Petja ni (*ne) el, ni (*ne) pil.<br>Petja nor not ate nor not drank<br>`Petja neither ate nor drank’ |
|------|---|---|

Modern Hungarian differs from Russian: *nem* ‘not’ invariably appears on each verb.

- (59) Peti sem nem evett, sem (pedig) nem ivott.  
 Peti nor not ate nor pedig not drank  
 `Peti neither ate nor drank’

What explains the obligatory *sem nem* sequences? Predicate clefting, i.e. contrastive topicalization of the verb, as in (60), could be the source (Szabolcsi 1981: 145). It provides truth-conditionally vacuous material that *sem* can attach to:

- (60) Peti sem enni nem evett, sem (pedig) inni nem ivott.  
 Peti nor eat-inf not ate nor pedig drink-inf not drank  
 `As for eating, Peti didn’t eat, as for drinking, he didn’t drink’

(60) exhibits the same *sem X nem VERB*, *sem Y nem VERB* pattern as (61), and if the not-finite verbs *enni* and *inni* are silently present in (59), then (59) does, too:

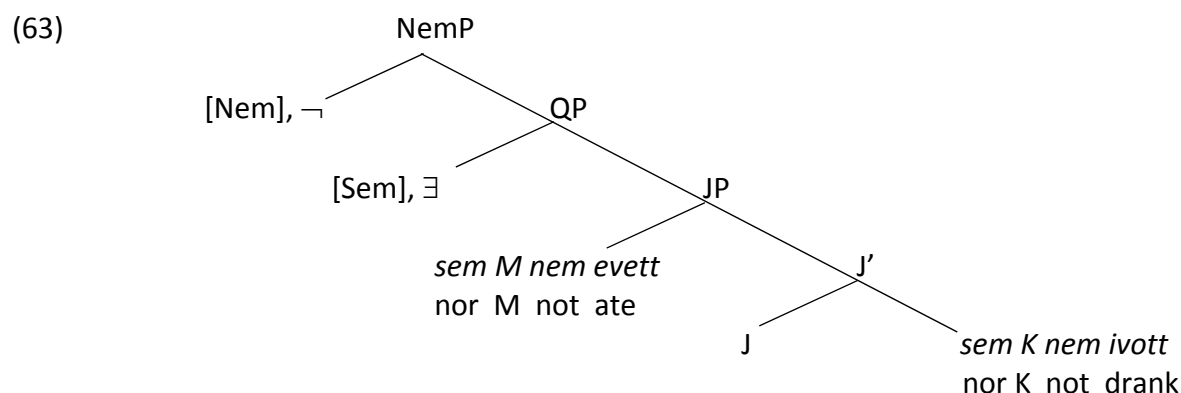
- (61) Sem Mari nem evett, sem (pedig) Kati nem ivott.  
 nor Mari not ate nor pedig Kati not drank  
 `Neither Mari ate, nor Kati drank’

Now the puzzle, shared by (60) and (61), is this. The *sem sem* construction is a propositional existential QP that must be within the immediate scope of negation. Consider two conceivable sources that are ungrammatical as they stand. If the source of (61) is (62a), then each *sem* is

within the scope of its own *nem*, but it is not clear how the *sem\_sem* QP is ever formed. If the source is (62b), it is not clear how a subsequently merged *nem* will insert itself into the two juncts. Thus, (62a,b) are not promising. A similar paradox is pointed out in Tiskin (2017).

- (62) a. (\*) [JP [nem evett sem Mari] [J' [nem ivott sem Kati] ]  
           not ate nor Mari not drank nor Kati  
       b. (\*) [NegP nem ... [QP [JP [sem Mari evett] [J' [sem Kati ivott] ]]] ]  
           not nor Mari ate nor Kati drank

A possible solution may be to extend the propositional QP structure in (35) to a propositional NemP structure, as in (63). On this assumption, *nem* is present in both juncts but, just like *mind*, *vagy*, *akár* and (strict NC) *sem*, it merely signals the presence of an unpronounced but contentful operator. It is an open question why the intervening [Sem] does not prevent [Nem] from reaching its target via feature checking or concord.



The unpronounced [Nem], ¬ and the overt, contentless *nem* morphemes will immediately remind the reader of Zeijlstra's (2004) proposal for strict negative concord, under which *nem* would be [uN], to be checked by a null [iN] operator interpreted as ¬. Szabolcsi (2016) argues against such an analysis. First, the assumption that the overt sentential negation marker is uninterpreted leaves its mandatory presence unexplained. Second, because strict and non-strict negative concord co-exist in Hungarian, the two types cannot be distinguished by uninterpreted vs. contentful sentential negation markers. The straightforward choice is to have a unitary, contentful *nem*. Notice that the problem that arises in (59), (60), and (61) is fairly specialized; it has to do with the presence of *nem* in all the juncts of a reiterated strict NC construction when the verb stays in the juncts. It remains to be seen if the problem eventually necessitates a major revision, or it can be handled more locally. Since Russian presents a similar paradox, a good solution should extend cross-linguistically.<sup>18</sup>

<sup>18</sup> Jeretič (2017) addresses the optionality of *ne* in Turkish; Turkish NC patterns differently from Hungarian and quite possibly differently from Russian, cf. Tiskin (2017).



## 6. Cross-linguistic significance

### 6.1 Cross-linguistic questions

Languages like Japanese and Malayalam have particles that occur in all of the following three constructions (possibly also in others):

- |      |    |                          |                           |                             |
|------|----|--------------------------|---------------------------|-----------------------------|
| (64) | a. | dare-mo, dono-kyouju-mo  | `everyone, every prof'    | (Szabolcsi et al. 2014:142) |
|      | b. | John-mo Mary-mo          | `John as well as Mary'    | (Szabolcsi et al. 2014:146) |
|      | c. | kare-mo                  | `also/even he'            | (Szabolcsi et al. 2014:139) |
| (65) | a. | aar-um, eppoozh-um       | `anyone, always'          | (Jayaseelan 2001:65)        |
|      | b. | John-um Bill-um Peter-um | `John and Bill and Peter' | (Jayaseelan 2001:64)        |
|      | c. | oru kúTTi-(y)um          | `a child also'            | (Jayaseelan 2011:281)       |

The existence of the above paradigms in historically unrelated languages suggests that they do not result from accidental homonymy. See especially Slade (2011) and Mitrović (2014) for arguments against homonymy, grounded in synchronic and historical comparisons. Szabolcsi et al. (2014) and Szabolcsi (2015) argued that a truly compositional analysis must offer a unified semantics for the full range of each particle's occurrences. While arguing for a unified analysis, Szabolcsi also pointed out the need for finer distinctions:

“Shimoyama (2006, p. 147) suggests that *mo* ‘every/any’ and *mo* ‘too/even’ are distinct, in view of the fact that an intervening *mo* ‘too’ does not block the association of an indeterminate pronoun within a relative clause with *mo* ‘every’ outside the relative clause. Shimoyama does not specify exactly how the two *mo*'s have to be distinct in order not to interfere with each other. But the fact that Hungarian covers the territory of *mo* with two distinct segments, *mind* and *is*, would be consonant with Shimoyama's suggestion that there is a difference. See [2], repeated as [51]:

- |      |    |                |           |                                |
|------|----|----------------|-----------|--------------------------------|
| [51] | a. | mind-en-ki     | dare-mo   | `everyone/anyone'              |
|      | b. | mind A mind B  | A-mo B-mo | `A as well as B, both A and B' |
|      |    | A is (és) B is |           | `A as well as B, both A and B' |
|      | c. | A is           | A-mo      | `A too/even A'                 |

The relation between *mind* and *is* has not been investigated, and I have nothing useful to add here. But, *mind A mind B* is synonymous with *A is (és) B is*. This suggests that, by transitivity, *mind(enki)* and *is* legitimately belong under the same semantic umbrella.” Szabolcsi (2015: 183)

The present paper undertook the investigation of the relation between *mind* and *is*, set in the context of larger sets of Hungarian particles. The results show that, at least in Hungarian, there is no unbroken syntactic line from the unary particle to the quantifier: the difference between *is* and *mind* has proved to be syntactically significant. *Is* ‘too’ is analyzed as a head on the clausal spine, which is in line with its distribution displayed in [51]. This converges with its treat-

ment in Szabolcsi (2015). The analysis of *mind* is novel. *Mind* `all' is analyzed as a quantifier-internal particle, also in line with its distribution displayed in [51]. But, despite the syntactic divergence, the truth-conditional equivalence of *is\_is* and *mind\_mind* that was critical for the semantic concerns of Szabolcsi (2015) remains in place.

Naturally, the syntactic difference does not only matter for syntax. It matters for compositional semantics, i.e. for how the possibly shared meanings are composed.

This situation calls for further research directed at the division of labor in this area of the syntax/semantics interface. What is the best way to strike the theoretical balance between the syntactic differences and the semantic similarities, within one language and across languages? Is it justified to generalize over the clausal head and the quantifier-internal versions in languages where the same particle morphemes show up in both roles? Are the reiterated constructions actually syntactically ambiguous in some of those languages, even if there is no difference in linear order that might draw attention to the possibility of a structural ambiguity? How to deal with this overarching question in languages that are largely similar to Malayalam, Japanese, and Hungarian in the pertinent respects, but quantifier words are generally not built from *wh*-pronouns and independently active particles?

Below I illustrate the interest of these questions with reference to Persian and Turkish on the one hand, and Telugu and Japanese on the other. This is followed in Section 6.2 by a survey of data from a broader range of languages that have both types of particle construction.

The possibility of syntactic ambiguities is highlighted by the *sem* data discussed in the foregoing sections. The right-hand column of (66) recaps how *sem* parallels both *mind* and *is*:

(66) a.	mind-en-ki	‘everyone’	--	sen-ki	‘n-one’
b.	mind X mind Y	} ‘X as well as Y’	--	sem X sem Y	} ‘neither X nor Y’
	X is Y is		--	X sem Y sem	
c.	X is	‘X too’	--	X sem	‘nor X’
d.	*mind X		--	*sem X	

Now consider Persian in the right-hand column of (67) (A. Kahnemuyipour, p.c.):

(67) a.	mind-en-ki	‘everyone’	--	[har kas, harki]	‘everyone’
b.	mind X mind Y	} ‘X as well as Y’	--	ham X ham Y	} ‘X as well as Y’
	X is Y is		--	X ham Y ham	
c.	X is	‘X too’	--	X ham	‘X too’
d.	*mind X		--	*ham X	

(67b,c,d) make it plausible that Persian *ham* plays the syntactic roles of both Hungarian *is* and Hungarian *mind*, even though there is a gap in (67a): Hungarian *mind* builds *mindenki* `everyone' (and serves as the floating quantifier *mind* `all'), whereas Persian *ham* does neither.

Turkish, in turn, borrows *herkes* and *hem X hem Y* from Persian (B. Kamali, p.c.), but has *dA* for a clausal head (Kamali & Karvovskaya 2013):

(68) a.	mind-en-ki	`everyone'	--	[her-kes]	`everyone'
b.	mind X mind Y	} `X as well as Y'	--	<b>hem X hem Y</b>	} `X as well as Y'
	X is Y is		--	<b>X dA Y dA</b>	
c.	X is	`X too'	--	<b>X dA</b>	`X too'
d.	*mind X		--	<b>*hem X</b>	

Again, the syntactic parallelisms in (68b,c,d) seem solid.

Since Persian *ham X* and Turkish *hem X* are unacceptable outside tuples (in contrast to *X ham* and *X dA*), the *ham/hem* that occur in *ham/hem X ham/hem Y* are probably not counterparts of Hungarian *is* `too'. Given the discrepancies in (67a)-(68a), it would be rash at this point to jump to the conclusion that they are synonymous with Hungarian *mind* `all'. This is why the solid parallelisms are qualified as syntactic. However, although Persian has no quantifier word \**ham-ki* `everyone', the noun *hame* `all' forms universal quantifier phrases with count and mass nouns and serves as a floating quantifier (Toosarvandani & Nasser 2017: 666, 683-4, 690).<sup>19</sup> This is quite similar to the behavior of *mind(en)*, illustrated in fn. 8. If *ham* and *hame* are at least historically related, then it is possible that the *ham* that precedes its host more generally parallels *mind(en)*, in contrast to the *ham* that follows its host and parallels *is*. Naturally, the gaps with quantifier words require a systematic explanation, and the compositional interpretation needs to be developed.

Now consider the relation between clausal head particles and the universal quantifier particles from another angle. In Sections 2 and 3, it was observed that Hungarian *is* `too' does not build quantifier words with wh-pronouns (\**is-ki*, \**ki-is*); this was taken to be one argument for its clausal head, as opposed to QP-internal, character. The same holds for counterparts in Russian, for example (see 6.2), but not in Japanese (Shimoyama 2011) or Telugu (Balusu 2016):

(69)	dare-mo	`anyone, NCI' or `everyone'	(Japanese)
	Akira-mo	`Akira too/even Akira'	

(70)	eppuD-uu	`ever, NCI' or `always'	(Telugu)
	evar-uu	`anyone, NCI' but *`everyone'	
	Ravi-uu	`Ravi too/even Ravi'	

How can the Japanese and Telugu data be made sense of now, given our syntactic vigilance?

Balusu (2016) proposes that the Telugu particle *-VV* (harmonizing long vowel) primarily forms polarity sensitive expressions with wh-pronouns, and the availability of the universal reading is a result of subsequent exhaustification (limited to *eppuD-uu* in Telugu). If the same

<sup>19</sup> (i) a. Man hame=ye ketâb=â=ro xarid-am.  
I all=EZ book=PL=ACC buy.PST-1SG  
b. Man ketâb=â=ro hame xarid-am.  
I book=PL=ACC all buy.PST-1SG  
'I bought all the books / the books all' (Toosarvandani & Nasser 2017: (58))

(ii) Hame=ye yax âb shod=e.  
all=EZ ice water become.PTCP=be.PRS.3SG  
'All the ice melted.' (Toosarvandani & Nasser 2017: (57))

analysis can be extended to Japanese and the generally available universal reading for *wh+mo* is obtained by exhaustification, then it may be possible to maintain that both *-VV* and *-mo* are heads on the clausal spine that have the ability to accommodate *wh*-pronouns in their specifiers. That would in turn provide a link to the analysis of the Hungarian string *senki sem*, analyzed with *senki* in the specifier of the clausal head *sem*; see the discussion of (55) in section 5:

(71) [<sub>SemP</sub> sen-ki            [<sub>Sem'</sub> sem    [...]]]            `non-strict NCI'  
           n-who                    nor

Similarly, Hungarian *is* accommodates existential pronouns in its specifier, with the effect of creating weak negative polarity items, cf. (22), repeated below:

(72) [<sub>ISp</sub> vala-ki            [<sub>IS'</sub> is    [...]]]            `anyone, NPI'  
           some-who                    too  
       [<sub>ISp</sub> akár-ki            [<sub>IS'</sub> is    [...]]]            `anyone, NPI'  
           whether-who                    too

It remains an open question why Telugu *-VV* and Japanese *-mo* combine with bare *wh*-pronouns and Hungarian *is/sem* with ones that have (uninterpreted) existential particles. (Note that *senki sem* and *valaki/akárki is* are strings, not single “quantifier words”.)

Szabolcsi (2017) proposes a semantics for Hungarian *is/sem* that subsumes the additive, scalar, negative polarity and free choice readings. In brief, *is/sem* seeks out a set of alternatives induced by its host and activates them. These may be focus alternatives or subdomain/scalar alternatives. Activation in the sense of Chierchia (2013) entails that the alternatives must be incorporated into the meaning of the sentence by way of some strengthening (e.g. exhaustification) mechanism, typically with the assistance of further, overt or covert operators. According to Szabolcsi (2017), English *too* and *either* fall under the same generalizations, although they apparently specialize in working with focus-alternatives. This is in the same spirit as Balusu (2016), although the latter only investigated combinations with *wh*-pronouns.

With this last ingredient added and generalized cross-linguistically, it appears that the apparently contradictory properties of *-mo* and *-VV* can be reconciled.

## 6.2 A survey of Bosnian, French, Japanese, Mandarin, Persian, Russian, Sinhala, Telugu and Turkish

The present paper cannot undertake a thorough descriptive and theoretical investigation of the questions raised above, but as a starting point, this subsection presents the results of a small cross-linguistic survey. The data establish the prevalence of two distinct constructions, even though cross-linguistically, the distinction does not track the relative order of the particles and their hosts.

The data were solicited from semanticists and syntacticians.<sup>20</sup> The survey did not ask them to commit to syntactic or semantic analyses, although sometimes I was able to rely on their

<sup>20</sup> I am grateful for data and discussion to R. Balusu (Telugu), M. Esipova (Russian), P. Jeretič (French, Turkish), B. Kamali (Turkish), J. Kornfilt (Turkish), A. Kahnemuyipour (Persian), H. Li (Mandarin), M. Kobuchi-Philip (Japanese), B. Slade (Sinhala), and D. Veselinović (Bosnian). The survey was not meant to be broad; instead, it hoped to benefit from the related expertise of the sources.

closely related publications; see especially Balusu (2016), Esipova (2016), Jeretič (2017), Kamali & Karvovskaya (2013), Kobuchi-Philip (2009), and Slade (2011). The data typically came in the form of full sentences, but the summary below distills them into schemas. We did not try to track down all the pertinent constructions in the given languages, so the important distinction is between one or more representative, or no representative, of each type.

Each of Bosnian, Japanese, Mandarin, Persian, Russian, Modern Colloquial Sinhala, Telugu, and Turkish appears to have a counterpart of Hungarian *is\_is* 'too\_too'. Some particles have restrictions on the size of the propositional (i.e. type *t*) hosts they combine with.<sup>21</sup> Whether the particle precedes or follows its host is not cross-linguistically consistent and thus not diagnostic. Instead, the diagnostic properties are the following:

(73) Heads on the clausal spine, TOO\_TOO

- a. The particle need not be part of a tuple, cf. *Mari is aludt* 'Mari too slept' is happy on its own.
- b. Where an optional connective is possible in iterations, it can occur between all of the juncts (not only before the last junct), and it is typically plain 'and'.

Consider the following schematic data; comments follow below. Three juncts are displayed to bear out one critical difference between the two types of reiterated constructions. (Underlining indicates a harmonizing vowel.)

(74) TOO\_TOO

	X		Y		Z	no tuple?	plain 'and'
Hungarian	X is	(és)	Y is	(és)	Z is	✓ X is	X és Y
Telugu	X- <u>VV</u>	(mariu/ inkaa)	Y- <u>VV</u>	(mariu/ inkaa)	Z- <u>VV</u>	✓ X- <u>VV</u>	X mariu/ inkaa Y
Japanese	X mo	(? soshite)	Y mo	(soshite)	Z mo	✓ X mo	X soshite Y
Bosnian	i X	(? a)	i Y	(a)	i Z	✓ i X	X i Y
Russian	i X	*	i Y	*	i Z	✓ i X	X i Y
Persian	X ham	*	Y ham	*	Z ham	✓ X ham	n/a
Turkish	X-d <u>A</u>	*	Y-d <u>A</u>	*	Z-d <u>A</u>	✓ X-d <u>A</u>	X ve Y
Sinhala	X-(u)y	*	Y-(u)y	*	Z-(u)y	✓ X-(u)y	n/a
Mandarin	ye X	*	ye Y	*	ye Z	✓ ye X	X he Y

<sup>21</sup> In Japanese and many other languages, particles generally do not occur in coordinations of tensed clauses (coordination is at the vP level). Hungarian and Russian do not share this property with Japanese; see examples in Szabolcsi (2015: 182). I consider this to be an independent issue. Likewise, some languages may have specialized entity-type conjunctions that produce plural individuals (Mitrović & Sauerland 2016). In all the constructions discussed in this paper, the predicate strictly distributes to each junct, so this does not seem to be a factor here. On the other hand, in Russian (and possibly Bosnian), *i DP1 i DP2* 'both DP1 and DP2', while semantically distributive, requires or prefers plural inflection on the verb, casting some doubt on *i* 'too' being invariably a clausal head. Following Valmala (2012), this fact might be described in terms of RNR using ATB extraction as opposed to in-situ interpretation. The other languages in the sample either do not have number agreement on the verb, or (like Hungarian and Turkish) have singular agreement when the subject is a coordination or has a numeral. The Slavic data must be scrutinized in the future.

In multiple languages, no optional connective is possible. This does not entirely correlate with whether `too' is homophonous with `and' in the table. Moreover, Mitrović & Sauerland (2016: 482) cite Macedonian [*i Roska*] *i* [*i Ivan*] `both Roska and Ivan'.

Whether the optional connective (if one exists) may appear between all the junct is a somewhat delicate matter. Notice that in English, *John and Mary and Bill* is grammatical but dispreferred in comparison with *John, Mary and Bill*. For the same reason, the single *and* may indicate the completion of the list, but that is probably a Gricean inference. The Japanese and Bosnian data can be interpreted in the same way, but caution is in order.

Almost all the languages in the sample have one or more `either\_or' constructions that seem to exemplify quantifier-phrase internal particles. As above, whether the particle precedes or follows its host is not cross-linguistically consistent. The diagnostic properties are the following:

(75) Quantifier-phrase internal OR\_OR

- a. The particle and its host must be part of a tuple.
  - b1. The optional connective, if it exists, is typically a specialized item that has contrastive or adversative uses, similarly to Hung. *pedig* discussed in the paper. It occurs only before the last junct and indicates that the list is complete.
  - b2. Alternatively, the optional connective is an exclusive disjunction particle and can occur between all the junct.
- c. The same particle often forms an indefinite (existential quantifier word) with a wh-pronoun. (The epistemic specificity properties are not examined here.)

Consider the following schematic data; comments follow below. The optional connective often intervenes between the particle and its host, indicated by a caret (^) in the column for junct Z.<sup>22</sup>

(76) OR\_OR

	X		Y		Z	`someone'	plain `or'
Hungarian	vagy X akár X	* *	vagy Y akár Y	(pedig) (pedig)	vagy ^ Z akár ^ Z	vala-ki akár-ki [FCI]	X vagy Y
Turkish	ya X	*	ya Y	(dA)	ya ^ Z	-	X veya Y
Bosnian	ili X	*	ili Y	(pak)	ili ^ Z	-	X ili Y
Russian	ili X libo X to li X to li X	* * * *	ili Y libo Y to li Y to li Y	(zhe) (zhe) (zhe) (a)	ili ^ Z libo ^ Z to li ^ Z to li Z	- kto-libo - -	X ili Y
Persian	ya X	*	ya Y	*	ya Z	-	n/a
Sinhala	X hari X də	* *	Y hari Y də	* *	Z hari Z də	kauru-hari kau-də	X hari Y hari
Mandarin	huozhe X yaome X	* *	huoze Y yaome Y	* *	huozhe Z yaome Z	- -	X huozhe Y * X yaome Y

<sup>22</sup> Russian uses two distinct contrastive "connectives", *a* vs. *zhe* (only *zhe* intervenes between the particle and the host). M. Esipova (p.c.) comments that *a* goes with conjunctive (*to*) constructions (all junct have to be true), and *zhe* with disjunctive ones. On the other hand, *i\_i* and negative concord *ni\_ni* are not contrastive, so they are not compatible with either *a* or *zhe*.

Telugu	leedaa X X-ainaa X-kaanii X-oo X-oo	* (leedaa) (leedaa) (leedaa)	leedaa Y X-ainaa Y-kaanii Y-oo Y-oo	* (leedaa) (leedaa) (leedaa)	leeda Z Z-ainaa Z-kaanii Z-oo Z-oo	evaru-ainaa evaru-kaanii evaru-oo	X leedaa Y  X-oo Y-oo
Japanese	X-ka X-demo	(??aruiwa) (??aruiwa)	Y-ka Y-demo	(aruiwa) (aruiwa)	Z-ka Z-demo	dare-ka dare-demo	X-ka Y

Usually, medial `or' is inclusive and reiterated `or\_or' is exclusive/exhaustive, but there are two important exceptions that show that the correlation is not necessary. Sinhala *X-hari Y-hari* and Telugu *X-oo Y-oo* are inclusive; Telugu *X leeda Y `X if-not Y'* is exclusive/exhaustive.

Turkish and Persian in general do not build quantifier words from particles and wh-pro-nouns, as noted above; in Bosnian and Russian, only some particles fail to participate.

Note that Turkish *dA* leads a double life as an additive clausal head (74) and as a “contrastive” connective (76), calling for a semantic or pragmatic unification.

There are further examples of the “quantifier-phrase internal” construction, although in fewer languages in my sample. Syntactically, they come from the same mold as the disjunctions in (76): tuples are necessary; the optional connective is the same “contrastive” item that occurs in (76) and indicates the completion of the list; quantifier-word formation is possible.

At least Russian, Turkish, and Hungarian have two `alternation' constructions, whose semantics is analyzed in Esipova (2016, 2017).<sup>23</sup> The first case involves particles:

(77) `Alternately / taking turns' with particles

	X	*	Y		Z	`someone'
Russian	to X	*	to Y	(a)	to Z	kto-to
Turkish	bir X	*	bir Y	(dA)	bir ^ Z	bir-i

The second case involves wh-words. Lipták (2001, p.c.) suggests that it might be possible to bring them into the fold by postulating null particles; I will not pursue an analysis here. But notice the same general pattern.

<sup>23</sup> TO-TO / WHEN-WHEN, necessarily contrastive (Esipova 2016: (7)):

- (i) Na každom lyžnom kurorte, kotoryj posešali...  
 on each ski resort which visit.IPFV.PAST.3PL  
 a. to amerikanskije, (a) / \*i / \*ili to nemeckije turisty,  
 TO American A I or TO German tourists  
 b. kogda amerikanskije, (a) / \*i / \*ili kogda nemeckije turisty,  
 WHEN American A I or WHEN German tourists  
 ... ljudi byli sčastlivy.  
 people were happy

'At each ski resort that was...

- a. ≈ alternately visited by American and German tourists  
 b. ≈ sometimes visited by American and sometimes by German tourists  
 ... people were happy.'

## (78) `Alternately / taking turns' with wh-words

	X		Y		Z	
Russian	kogda/gde X kto vp1	* *	kogda/gde Y kto vp2	(a) (a)	kogda/gde Z kto vp3	<i>kogda</i> `when', <i>gde</i> `where', <i>kto</i> `who'
Hungarian	mikor/hol X ki vp1	* *	mikor/hol Y ki vp2	(pedig) (pedig)	mikor/hol ^ Z ki ^ vp3	<i>mikor</i> `when', <i>hol</i> `where', <i>ki</i> `who'

Also, recall the discussion of Persian *ham\_ham* and Turkish *hem\_hem* in Section 6.1.

## (79) Counterparts of MIND\_MIND

	X		Y		Z	no tuple?	`everyone'	fl. `all'
Hungarian	mind X	*	mind Y	(pedig)	mind ^ Z	* mind X	mind-en-ki	mind
Turkish	hem X	*	hem Y	(dA)	hem ^ Z	* hem X	-	-
Persian	ham X	*	ham Y	*	ham Z	* ham X	-	-

French and other Romance languages have reiterating constructions that may represent the two types, but the analysis is not straightforward:

## (80) ET\_ET `conjunction' and OU\_OU `disjunction'

	X		Y		Z	`too' and inclusive `or'
French	et X	*	et Y	*	et Z	*et X
French	ou X	*	ou Y	*	ou Z	X ou Y `X or Y'

Finally, we turn to negative concord, so far as it involves specialized particles and/or optional connectives. Recall that Hungarian *sem* has both clausal head and quantifier-phrase internal versions, each of which solidly patterns with the other representatives of its type. Given this duality, it is not surprising that both types seem to be represented in the data, based on the optional particles, for example. But the properties are fairly mixed, and so it would be rash to attempt labels at this point.

## (81) NOR\_NOR `negative concord'

	X		Y		Z	n-word	
Hung.	X sem sem X	(és) *	Y sem sem Y	(és) (pedig)	Z sem sem ^ Z	- senki	clausal head QP-internal
Bosnian	ni X ni X	* *	ni Y ni Y	(a) (pak)	ni Z niti ^ Z	? ni-(t)ko	
Russian	ni X	(? i)	ni Y	(? i)	ni Z	ni-kto	
Turkish	ne X	*	ne Y	(dA)	ne ^ Z	-	
Persian	ne X	*	ne Y	*	ne Z	-	
Sinhala	X vat	*	Y vat	*	Z vat	kauru vat	



Seeing how difficult ‘nor\_nor’ type negative concord is to analyze in many languages, it is unsurprising but at the same time somewhat disappointing that our diagnostics do not straightforwardly point to one analysis or another. But they probably provide some useful starting points.

## 7. Conclusion

This paper argued that there exists a cross-linguistically prevalent distinction between two types of quantifier particles. One type is a head on the clausal spine, the other is an uninterpreted pointer to an unpronounced but meaningful propositional quantifier. Highly regular linear order with respect to the host and the availability of a full slew of corresponding quantifier words make the two types straightforward to study in Hungarian; the data and discussion in Section 6 shows that many other languages exhibit distinctions that are consistent with the Hungarian ones. Although this research has benefited from the existence of important syntactic and/or semantic literature on some of those languages, both the syntax of reiterated constructions and the internal syntax of the quantifier words at hand have received scarce attention so far. It is hoped that this report will contribute to changing that.

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