

Recategorization blocks verb movement: Revisiting non-inverting particle verbs in Hungarian

Manuscript

Abstract

This paper revisits three types of non-inverting particle verb in Hungarian and attributes their exceptional behaviors to a single underlying mechanism ‘recategorization’. Two types of recategorization will be distinguished – one is a case of derivational morphology (as in denominal particle verbs), the other a byproduct of non-lexicalization processes (as in infinitive and reduplicated particle verbs). The former creates strong islands, while the latter creates weak islands. I will show that the functionality of categorial features is not limited to the lexical domain and that they have more syntactic flexibility than previously thought.

1 Introduction

A most prominent syntactic characteristic of Hungarian particle verbs is that they are subject to inversion in the so-called ‘non-neutral’ ([+Neg], [+Foc], [+Wh], [Olsvay 2000](#)) contexts.

- (1) a. *János nem olvasta el / *el-olvasta a könyvet.* (Negation)
John not read.PST.3SG away the book.ACC
‘John did not read through the book.’
- b. *János TEGNAP olvasta el / *el-olvasta a könyvet.* (Focus)
John yesterday read.PST.3SG away the book.ACC
‘It was yesterday that John read through the book.’
- c. *Ki olvasta el / *el-olvasta a könyvet?* (Wh-question)
who read.PST.3SG away the book.ACC
‘Who read through the book?’

In the presence of the negative particle *nem* ‘not’, the focused constituent *tegnap* ‘yesterday’, and the wh-word *ki* ‘who’, the finite verb immediately follows them, stranding the particle *el* ‘away’ behind. By contrast, no particle verb inversion happens in the neutral context.

- (2) *János el-olvasta a könyvet.* (Neutral)
 John away-read.PST.3SG the book.ACC
 ‘John read through the book.’

Despite this fundamental contrast, however, there are certain non-neutral clauses where particle verbs systematically do not invert. I give one example for each case below, but these patterns hold for all three non-neutral contexts in (1).

- (3) a. *Nem tudtam kit meghívni / ?hívni meg.* (Infinitive)
 not know.PST.1SG who.ACC RES-call.INF
 ‘I did not know whom to invite.’ (É. Kiss 2002: 202)
- b. *János nem fel-vételizett / *vételizett fel az egyetemre.* (Denominal)
 John not up-take.entrance.exam.PST.3SG the university.to
 ‘John did not take an entrance exam.’ (Dékány & Hegedűs 2015: 3)
- c. *CSAK A NÉMA SOKASÁG FOGALMA *lebben* (Reduplication)
 only the mute crowd notion.POSS.3SG flutter.PRES.3SG
*át-át / *át-át lebben a fórumnyilatkozaton.*
 across-across the forum.declaration.on
 ‘Only the notion of mute crowd keeps fluttering across the forum declaration.’
 (Piñon 1991: 7)

In (3a), the infinitive *meghívni* ‘to invite’ does not have to invert after *kit* ‘whom’, and the non-inverted order sounds more natural to many speakers. In (3b), the denominal verb *felvételiz* ‘take entrance exam’ (< *felvételi* ‘entrance exam’) does not invert after *nem*, and the inverted order is ungrammatical. In (3c), the particle reduplication makes the verbal event iterative, and post-focal inversion is not permitted. Strikingly, here the non-inverted order is ill-formed, too.

The questions I am concerned with are: *i)* why do these particle verbs fail to invert? *ii)* why is inversion marginal in (3a) but completely out in (3b)–(3c)? *iii)* why is the non-inverted order also bad in (3c)? In a nutshell, my proposal is that the observed inversion failure results from blocked verb movement under the influence of a flexibly placed categorial feature, respectively [N] in (3a), [V] in (3b), and an unvalued category [Cat: _] in (3c). Since particle verbs consist of already categorized elements (V and P/A), I will refer to this influence as ‘recategorization’. As it will become clear, recategorization does not necessarily happen for the sake of categorization (as in derivational morphology); it may also be a byproduct of other independent syntactic processes. My goal is to show how those processes eventually reshape the distributional behavior of particle verbs. The contribution of this paper is twofold. First, I provide a unified cause for the three exceptional contexts regarding particle verb inversion, which have only been separately discussed before. Second, my analyses for the three phenomena reveal that categorial features are an important bridge in the interaction between word-internal and word-external syntax.

The remaining sections are organized as follows. Section 2 lays out the theoretical background. Section 3 reviews previous approaches to infinitive particle verbs and further develops one of them (É. Kiss’s 2002 dual-feature account) in an up-to-date framework. Section 4 adapts Dékány & Hegedűs’s (2015) analysis of denominal particle verbs and makes a further claim about their freezing effect. Section 5 proposes a novel coordination-based analysis for particle reduplication featuring a ‘defective categorizer’. Section 6 concludes.

2 Theoretical background

Before going into the Hungarian data, I will first lay out my theoretical assumptions. I adopt a decompositional framework within the minimalist program (Chomsky 1995), largely following Distributed Morphology (DM, Halle & Marantz 1993, 1994 et seq.). In DM, the lexicon is split into three ‘lists’. List 1 (narrow lexicon) stores the functional categories and categoryless roots that form the input to syntax. List 2 (vocabulary) and List 3 (encyclopedia) store idiosyncratic sounds and meanings that are inserted postsyntactically. Crucially, syntax is the only generative engine in the human language faculty (single engine hypothesis, Marantz 2001).

Following biolinguistic research (i.a. Hauser et al. 2002, Berwick & Chomsky 2016), I take binary Merge to be the only combinatorial operation in the language faculty, which means it is the sole operation generating any structured morphosyntactic unit, be it a phrase, a word, or a feature bundle. That feature bundles are created by Merge is not a standard view,¹ but the idea behind it is not new. Chomsky (1995) assumes certain features (e.g. unvalued Case/ φ features) to be later added in the Numeration instead of being an intrinsic part of lexical items. Assuming recent theoretical developments, the place for this Numeration-forming process may simply be the very first derivational cycle, i.e. a phase (Chomsky 2000, 2001, 2008).

While following the basic conception that phases split the Numeration into subarrays and Marantz’s (2001) idea that categorizers are phase heads, I do not adopt the particular definition of a spell-out domain in Chomsky (2001), i.e. as the phasal complement. Instead, I assume both the phase head and its complement are sent to spell-out when a lexical subarray is exhausted (cf. Chomsky 2000, Bošković 2016). Meanwhile, considering different phases need to be eventually connected for interface interpretation, I assume that spelled-out constituents do not completely vanish from the syntactic representation, but leave their labels behind as ‘bookmarks’ that behave like terminal nodes (X^0 s) (cf. Nunes & Uriagereka 2000, Fowlie 2013). However, since phase labels are only assigned upon Transfer (via the labeling algorithm, Chomsky 2013, 2015), we need to allow information to flow ‘backward’ from the interface to the syntax.

Such a scenario is impossible in the pre-phase era but feasible with the phase theory. To this end, I adopt and make two further adaptations to Johnson’s (2003) ‘renumeration’ hypothesis, which puts separately derived structures back into the Numeration. First, I assume what gets

¹ See Collins (2017) and Tsoulas (2017) for convincing arguments.

‘renumerated’ is not the entire subtree, but only its label (effectively a functional head). Second, the destination of renumeration is not simply the Numeration, but more exactly the lexical subarray for the next phase. These two points together yield the superficial effect that after spell-out, only the phasal complement becomes inaccessible, while the phase head remains active in the next phase. And the renumerated item becomes a minimal category because from the perspective of the next phase, it is first-merged from the numeration (cf. Chomsky 1995).

Finally, I adopt two feature-related assumptions from Adger & Svenonius (2011). First, a valued feature is formally an <Att(tribute),Val(ue)> pair (henceforth [Att:Val]), with the attribute being a feature class and the value a feature belonging to that class. In the literature, ‘feature’ is variably used for both features and feature classes, but when a feature is mentioned, some class is almost always implicitly assumed (Adger & Svenonius 2011: 35). For example, [Acc] is in fact a value of the [Case] class, [Sp(eaker)] one of the [Per(son)] class, and [N], [V], etc. values of the [Cat(egory)] class. Second, feature classes are grammatically active, which means there can be valueless attributes involved in the derivation.² So, apart from [Case:Acc], [Per:Sp], and [Cat:N], their unvalued versions [*u*Case], [*u*Per], and [*u*Cat] (or write [Case: _], [Per: _], [Cat: _]) are also syntactically manipulable. Now we are ready to revisit the Hungarian data.

3 Infinitive particle verbs

3.1 Previous approaches

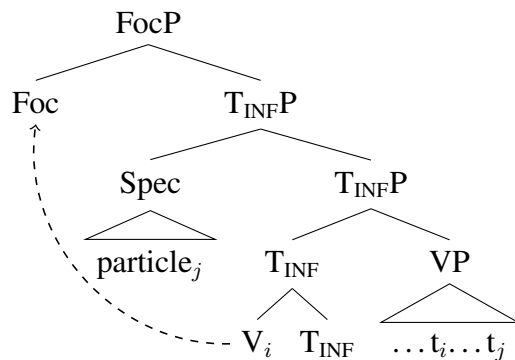
The exceptional behavior of infinitive particle verbs has long been noticed (cf. É. Kiss 1987, 2002, 2008b, Brody 1990, 1995, Koopman & Szabolcsi 2000). I repeat the key data below.

- (4) a. *Nem tudtam kit meg-hívni / ?hívni meg.* (Wh-question, =(3a))
 not know.PST.1SG who.ACC RES-call.INF
 ‘I did not know whom to invite.’ (É. Kiss 2002: 202)
- b. *Szeretnék nem meg-bukni / ?bukni meg.* (Negation)
 love.COND.1SG not RES-fail.INF
 ‘I would like not to fail the exam.’ (ibid. p.203)
- c. *János szeretné CSAK MARIVAL meg-beszélni / ?beszélni meg*
 John love.COND.3SG only Mary.with RES-speak.INF
az ügyet. (Focus)
 the matter.ACC
 ‘John would like to discuss the matter only with Mary.’ (É. Kiss 1987: 235)

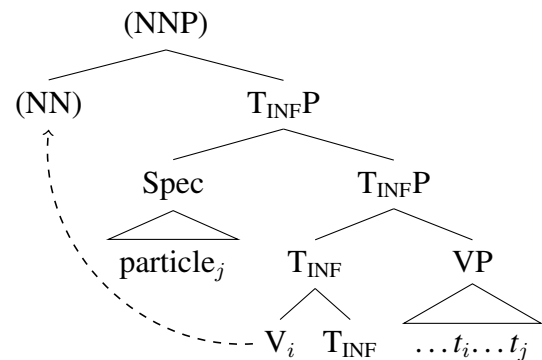
² This is unsurprising given the fundamental role of unvalued features in minimalist syntax.

The observation is that in infinitival clauses, while the non-inverted particle verb ordering is always well-formed, the inverted order suffers from various extents of unacceptability. Previous accounts for the phenomenon come in three camps: optional verb movement, PF phenomenon, and dual features on the suffix *-ni*. Both Brody (1990, 1995) and É. Kiss (2008b) argue that after the particle verb moves into TP, further verb movement optionally halts if T is infinitive. This happens when T_{INF} is weak for Brody and when there is no Non-Neutral Phrase (NNP) projection for É. Kiss, as in (5) (dashed lines indicate optional movement).

(5) a. Brody (1990, 1995)



b. É. Kiss (2008b)



Albeit descriptively adequate, this approach has an obvious difficulty, i.e. it is unclear when exactly T_{INF} is strong/weak and when NNP is projected. This is the point picked up by Koopman & Szabolcsi (2000), who notice verbal modifier (VM, of which particles are a subset) inversion in infinitival clauses is not simply optional, but phonologically conditioned, as in (6).

- (6) a. *ÉN fogok CSAK KÉSŐBB el-menni / *menni el.* (VM: *el*)
 I will.1SG only later away-go.INF
 ‘It is me who will leave only later.’
- b. *Jobb lenne CSAK KEDDEN haza-menni / menni haza.* (VM: *haza*)
 better be.COND.3SG only Tuesday.on home-go.INF
 ‘It would be better to go home only on Tuesday.’
- c. *ÉN fogok CSAK KÉSŐBB ?haza-menni akarni / akarni haza-menni.*
 I will.1SG only later home-go.INF want.INF (VM: *hazamenni*)
 ‘It is me who will want to go home only later.’

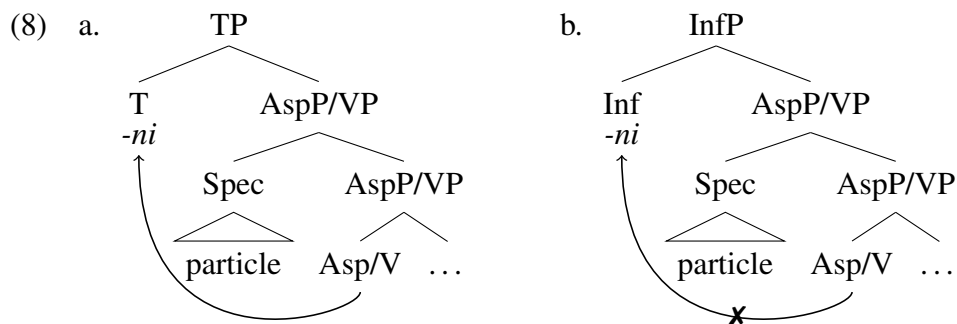
(Koopman & Szabolcsi 2000: 202–203)

As we can see, the heavier the VM, the less marked the inverted order. Koopman & Szabolcsi thus conclude that what we face is a PF phenomenon. However, even if we put aside the dispute as to whether verb movement happens in narrow syntax or at PF (cf. Roberts 2011), there is still another problem in here, i.e. if PF can regulate particle verb inversion, we would expect the same scenario to occur (at least sometimes) in finite clauses too, which is not borne out. Therefore, even if PF does play a role, its affected domain should still be syntactically conditioned.

Compatible with this reasoning, [É. Kiss \(1987, 2002\)](#) points out that the infinitive suffix *-ni* also has a nominal side (hence its traditional name ‘verbal noun’). She posits the dual categorial features [V], [N] on it. Being [+V], infinitive verbs can assign Case and license arguments; being [+N], they can undergo possessive-like inflection, as in (7).³

- (7) a. *A fúknak fontos ki-nyitniuk az ajtót.* (Infinitive)
 the boys.DAT important out-open.INF.3PL the door.ACC
 ‘It is important for the boys to open the door.’ ([É. Kiss 1987: 219](#))
- b. *a fúknak a házuk* (Possessive)
 the boys.DAT the house.POSS.3PL
 ‘the house of the boys’

[É. Kiss \(2002: 203\)](#) suggests that the *-ni* in non-inverting particle verbs is in fact a nominalizing suffix projecting an InfP with a bare VP/AspP complement. This seems to imply that the reason why V-to-T movement does not take place is because there is no T position,⁴ as in (8).



However, if *-ni* in (8b) is not a tense element, it is unclear why it should merge at the canonical T-layer to begin with. What [É. Kiss](#) assumes seems to be that [T] is still there but simply non-projecting. Recall that there is still another non-projecting feature [V] on the infinitive verb co-existing (not alternating) with [N] (see [É. Kiss 1987: 237–240](#) for evidence). Due to the non-projectivity of [V], *-ni* is a nominalizer instead of a verbalizer. In short, in order for [É. Kiss’s](#) suggestion to work, we need to assume certain flexible projectivity priority among the three (not two) features on the infinitive verb. No motivation is given for such flexibility.

Despite the technical puzzle, the dual-feature approach represents a promising direction, for it not only avoids the T strength/optional NNP stipulation, but also reduces the issue to features on a specific lexical item, which is in line with an important proposal in the minimalist program, i.e. all parameters of variation are attributable to differences in the features of particular items in the lexicon ([Borer-Chomsky Conjecture, Baker 2008: 156](#)).

³ Inflected infinitives are also attested in Romance languages (e.g. Portuguese, Galician; [Scida 2004, Groothuis 2015](#)) and older Germanic languages (e.g. Old High German, Old English; [Callaway 1913, Jarceva 1992](#)).

⁴ NB not even a ‘weak’ one, as a weak T is still a tense category rather than a nominalizer.

3.2 A revised dual-feature analysis

To recap, a non-inverting infinitive particle verb has the three features [T:Inf], [Cat:V], [Cat:N]. However, under the decompositional view outlined in Section 2, they need not be on the same lexical item. I assume [T:Inf] and [Cat:N] to be on T_{INF} (spelled out as *-ni*), while [Cat:V] is on the lexical verb (structurally [_V v root]). Crucially, [Cat:N] and [Cat:V] cannot simultaneously exist on T_{INF} due to their complementary relation. Therefore, I redefine the dual features on *-ni* as {[T], [N]} instead of {[V], [N]} (though the entire infinitive verb is still [+V, +N]).

This seemingly contradicts the established view that functional heads in the same Extended Projection (EP) share the same categorial feature, according to which T is [+V] by default. I take this into account and claim that normally T_{INF} is indeed [+T, +V], just like its finite counterparts. However, sometimes it may also be [+T, +N] (whereas a finite T cannot), probably due to the diachronic correlation between infinitives and nouns (see note 3). Such a T_{INF} ends up being *not* in the verbal EP but a ‘T-flavored nominalizer’, and the exceptional word order of particle verbs is precisely a result of this ‘abnormal’ feature setting. Effectively, this means both Brody (1990, 1995) and É. Kiss (2008b) are partially right. There is no V-to- $T_{[+N]}$ movement because head movement cannot cross EP,⁵ and no NNP is available because the verbal EP halts at $T_{[+N]}$.

Importantly, a [+N] T_{INF} , albeit a nominalizer, is not designed to be one. There are dedicated nominalizers in Hungarian, e.g. *-ás* in *írás* ‘writing’ (< *ír* ‘write’) and *-el* in *hitel* ‘credit’ (< *hisz* ‘believe’), which not only change the category of their nominalizees but also associate them with idiosyncratic meanings. By contrast, *-ni* never introduces non-compositional nominal meanings to the verbal stem; nor does it even necessarily create an X^0 , for infinitive particle verbs, though non-inverting, are still separable, as in (9).

- (9) *Jánosnak mindkét lányt fel kell hívnia.* (fel-hív ‘call up’)
John.DAT both girl.ACC up must call.INF.3SG
‘John must call up both girls.’ (É. Kiss 2002: 211)

Besides, the hierarchical locus *-ni* is not a typical categorizer position, either, for there is nothing to categorize at that height – all the objects syntax plays with are already categorized. Thus, I conclude that the nominalizing effect of *-ni* is merely secondary, and that the main syntactic role of the suffix is still tense-inflectional. The separability of infinitive particle verbs also follows from here, i.e. since the designed purpose of *-ni* is not categorization, it is not selected into a separate lexical subarray with the particle verb at all (but simply remains a part of the clausal LA), hence no spell-out or renumeration.

There are two remaining questions: *i*) if [N] makes T_{INF} a nominalizer, why does not [V] make it a verbalizer? *ii*) why is [N] only used for particle verbs but not other infinitive verbs?

⁵ This may be because only Defective Goals (Roberts 2010), i.e. Goals whose features are properly contained in those of the Probe, can go through head movement. Since a head outside the verbal EP has no [Cat:V], its features cannot properly contain those of a head inside the verbal EP.

My answer to the first question is that there is a distinction between categorial features on categorizers and those on EP heads. The former are interpretable but the latter not. To use the <Att:Val> template (cf. Section 2), what gets bundled into T_{INF} is not really [Cat:V], but an unvalued [Cat:_], which only becomes [+V] after agreement with the verbalizer (see Roberts 2016 for a similar view). Therefore, the flexible feature setting of T_{INF} is more exactly {[T:Inf], [Cat:_]} vs. {[T:Inf], [Cat:N]} (or write [*i*T, *u*Cat] vs. [*i*T, *i*Cat]). Only in the [*u*Cat] setting does T_{INF} have the chance to become [+V] and thereby part of the verbal EP.

As to the second question, due to the abnormality of a [+N] T, it should really be an exception in the grammar rather than the norm. While a thorough discussion is beyond our scope, I suggest this could represent (part of) a parameter hierarchy in the sense of Biberauer & Roberts (2015), where the [Cat:_] setting of T is a macroparameter and the [Cat:N] setting a microparameter. Diachronically, I mentioned the compatibility of T_{INF} and [Cat:N] may be morphological in origin. Synchronically, when a child learns some normal EP heads, he posits a [Cat:_] feature, presumably followed by an overgeneralization like ‘all EP heads have [Cat:_]’. Then, when non-inverting infinitive particle verbs appear, the overgeneralized parameter gets modified to ‘but an infinitive T for a particle verb has [Cat:N]’. This may be further modified, where factors like syllable weight or individual preference may become relevant.

In sum, infinitive particle verbs do not invert in non-neutral contexts due to a T bundled with a lexically valued categorial feature (informally a ‘T-flavored nominalizer’) instead of the unvalued default. There is inter-speaker and PF-regulated variation because the unvalued default is not syntactically illicit but merely a less preferred setting due to biased primary linguistic data.

4 Denominal ‘particle verbs’

Compared to infinitive particle verbs, the case of denominal particle verbs is much more easily understandable. As in (10), they strictly resist inversion in non-neutral contexts.

- (10) a. *János nem fel-vételizett / *vételizett fel az egyetemre.* (Negation, =(3b))
 John not up-take.entrance.exam.PST.3SG the university.to
 ‘John did not take an entrance exam.’ (Dékány & Hegedűs 2015: 3)
- b. *JÁNOS fel-vételizett / *vételizett fel az egyetemre.* (Focus)
 john up-take.entrance.exam.PST.3SG the university.to
 ‘It was John that took an entrance exam.’ (ibid.)
- c. *Ki fel-vételizett / *vételizett fel az egyetemre?* (Wh-question)
 who up-take.entrance.exam.PST.3SG the university.to
 ‘Who took an entrance exam?’

I follow [Dékány & Hegedűs \(2015\)](#) and [Hegedűs & Dékány \(2017\)](#) in assuming that *felvételiz* is a simple verb rather than a particle verb. To wit, *fel-* does not belong with the syntactically active verb stem *vételiz*, but with the base noun *vételi* ‘receiving’. More examples are given below.

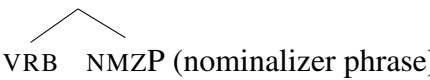
- (11) [V [N *ki-vitel*]-ez] ‘out-carrying-V; carry out’
 [V [N *szemre-vétel*]-ez] ‘eye.to-receiving-V; inspect’
 [V [N *be-folyás*]-ol] ‘in-flowing-V; influence’
 [V [N *után-vétel*]-ez] ‘after-receiving-V; collect money upon delivery’

Interestingly, *után* in the last example is not even a bona fide verbal particle,⁶ but more like the non-head modifier of a compound noun. This is further evidence that the particles of denominal particle verbs have a more complex derivational path. From the category-changing respect, it is a case of recategorization just like the [+N] infinitives. Unlike infinitives, though, here recategorization is really for the purpose of lexical categorization (as in derivational morphology) – it changes the category of the base noun and gives it an idiosyncratic new meaning. This characteristic makes it simply a special case of initial categorization, except that here what gets categorized is not a root, but a syntactic phrase treated like a root. Following [Marantz \(2001 et seq.\)](#), categorizers that categorize roots (i.e. for derivational morphological purposes) are phase heads. As such, the inversion failure follows from the fact that the base noun (including the particle) in the reverbalizer phase domain is inaccessible to external operations like V-to-T/C movement. Likewise, the particle itself cannot be moved, either, hence the inseparability.

Interestingly, denominal particle verbs can have a second particle, though as [Dékány & Hegedűs](#) note, they are only compatible with ‘to full degree’ particles, but not resultative ones.⁷

- (12) a. *El-fel-vételiztem* *az időt.* (Durative *el-*)
 away-up-take.entrance.exam.PST.1SG the time.ACC
 ‘I spent all the available time with taking entrance exams.’
 ([Dékány & Hegedűs 2015: 6](#))
- b. **A cég el-ki-vitelezte* *a tervet.* (Resultative *el-*)
 the firm away-out-carry.PST.3SG the plan.ACC
 Intended: ‘The firm carried out the plan.’ (ibid. p.5)

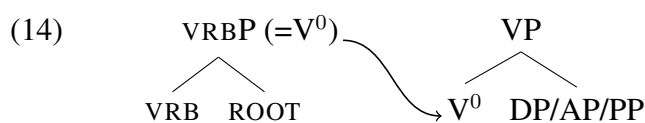
Their explanation is that the complement position of the verbalizer is occupied by the base noun, so no other V-complement (e.g. resultative) item can be merged, as in (13). Consequently, only particles not base-generated as V-complements (hence [–resultative]) are possible candidates.

- (13)  (cf. [Dékány & Hegedűs 2015: 9](#))

⁶ The usual verbal particle meaning ‘after’ is *utána-*, e.g. *utána-néz* ‘after-look; look into’.

⁷ Later I will revise this hypothesis.

However, closer examination reveals that resorting to different base-generation options of verbal particles is unnecessary here (though it may be needed elsewhere), because the verbalizer (an abstract *f*-morpheme) does not equal the verb (which is in fact the verbalizer plus a root), and that it is the complement of the latter, not that of the former, that accommodates resultative elements. The reasoning is as follows. First, since a categorizer categorizes its complement, and verbal particles are never verbalized (i.e. they are not verbs), their base-generation position cannot be VRB-complement. Second, under the reenumeration hypothesis (cf. Section 2), after the VRBP phase is spelled out, the VRB-complement position is no longer accessible, and the reenumerated VRBP behaves as a V^0 in the next phase, with its complement position being available. This scenario is not so different from that of a simple verb, as in (14).



A simple verb separately derived in the categorizer phase, whether it is initial categorization (14) or recategorization (13), may well have a complement in the clausal phase. This means denominal particle verbs in principle *can* take a second resultative VM, as in (15b).

- (15) a. **A cég készre ki-vitelezte a tervet.*
 the firm ready.to out-carry.PST.3SG the plan.ACC
 Intended: ‘The firm carried out the plan.’
- b. *Betegre fel-vételiztem magam.*
 sick.to up-take.entrance.exam.PST.1SG myself.ACC
 ‘I got myself sick by taking entrance exams.’ (Dékány & Hegedűs 2015: 10)

Since not all resultatives are incompatible with denominal particle verbs, those that are should have alternative cause, which I assume to be a cross-phasal predicate-argument mismatch, i.e. the combination of a clausal-phase resultative and a categorizer-phase argument. In both (12b) and (15a), *tervet* is predicated on the NMZP-internal resultative instead of the VRBP-external one, which leaves the latter unsaturated. Note that argument sharing (like that in Ramchand 2008) is impossible here because the two VMs belong to different phases. By contrast, in both (12a) and (15b) the argument is predicated on the VRBP-external VM,⁸ and since the NMZP-internal verb is intransitive, no predicate is left unsaturated.

In sum, the inversion failure of denominal particle verbs also results from recategorization. Moreover, since here it happens for its own sake, not only verb movement is blocked, but also particle movement as well as potential argument sharing between double resultative VMs.

⁸ This means *el* in both (12a) and (12b) are base-generated in the resultative way despite their different readings (pace Dékány & Hegedűs 2015 and in line with the assumption in É. Kiss 2002 et seq.).

5 Particle reduplication

5.1 Explananda

In this section, I turn to the third type of non-inverting particle verb: reduplicated particle verb. As with infinitive particle verbs, the exceptional behavior of particle reduplication has also long been noticed (cf. Piñon 1991, Kiefer 1995, Ackerman & LeSourd 1997, Lipták 2016). Below I illustrate the phenomenon with the verb *ki-néz* ‘out-look; look out’.

- (16) a. *János nem *nézett ki-ki / *ki-ki-nézett as ablakon.* (Negation)
John not look.PST.3SG out-out the window.on
‘John did not keep looking out of the window.’
- b. *JÁNOS *nézett ki-ki / *ki-ki-nézett as ablakon.* (Focus)
John look.PST.3SG out-out the window.on
‘It was John who kept looking out of the window.’
- c. *Ki *nézett ki-ki / *ki-ki-nézett as ablakon?* (Wh-question)
who look.PST.3SG out-out the window.on
‘Who kept looking out of the window?’

As mentioned in Section 1, the peculiarity of particle reduplication is that both the inverted and the non-inverted orders are ill-formed in non-neutral contexts. Non-neutral meanings can only be felicitously expressed by paraphrasing (see Kiefer 1995: 188, note 10 for a similar remark).

- (17) a. *Nem igaz, hogy János ki-ki-nézett az ablakon.* (Negation)
not true that John out-out-look.PST.3SG the window.on
‘It is not true that John kept looking out of the window.’
- b. *JÁNOS volt az, aki ki-ki-nézett az ablakon.* (Focus)
John was that who out-out-look.PST.3SG the window.on
‘It was John that kept looking out of the window.’
- c. *Ki volt az, aki ki-ki-nézett az ablakon?* (Wh-question)
who was that who out-out-look.PST.3SG the window.on
‘Who was it that kept looking out of the window?’

The sentences in (17) are well-formed since they create a neutral sub-environment (a subordinate clause) for the reduplicated particle verb, just like that in an independent neutral clause.

- (18) *János ki-ki-nézett az ablakon.* (Neutral)
John out-out-look.PST.3SG the window.on
‘John kept looking out of the window.’

Importantly, unlike denominal particle verbs (though like infinitive ones), reduplicated particle verbs are separable by various categories.

- (19) a. *Péter időnként át-át akart menni a szomszédhoz.*
 Peter from.time.to.time across-across want.PST.3SG go.INF the neighbor.to
 ‘Peter wanted to go over to the neighbor from time to time.’
- b. *Péter hébe-hóba vissza-vissza fog járni.*
 Peter now.and.then back-back will.3SG go.INF
 ‘Peter will come back now and then.’
- c. *A kendőt meg-meg is libbentette.*
 the handkerchief RES-RES even flutter.PST.3SG
 ‘He even fluttered the handkerchief from time to time.’ (Kiefer 1995: 188–189)

The reduplicated particle and the base verb are separated by the restructuring verb *akart* ‘wanted’ in (19a), the tense auxiliary *fog* ‘will’ in (19b), and the focus particle *is* ‘even, also’ in (19c).

5.2 Previous approaches

There are three theories for particle reduplication: Piñon (1991) and Kiefer (1995) treat it as a syntactic operation, while Lipták (2016) treats it as a phonological operation.

Abstracting away from the different terminology, Piñon (1991) makes a copy of the particle from its neutral preverbal position and adjoins it in the same projection. Assuming particle verb inversion relies on the syntactic ‘unithood’ of the particle, he attributes the inversion failure to the fact that the particle and its copy do not form a unit. The non-inverted order is also ill-formed because the inversion requirement in non-neutral contexts is still there. Kiefer (1995) assumes the focus and the verb form an inseparable unity and treats particle reduplication as a focusing operation. This means that the reduplicated particle is bound to the preverbal position, hence no inversion, and the infelicity of the non-inverted order in non-neutral contexts follows from the fact that there is only one focus position in a clause. Finally, Lipták (2016) triggers particle reduplication with an Asp head realized by a special morpheme /RED/ (cf. Haugen & Harley 2013, Haugen 2015), which copies the particle at PF iff it is linearly adjacent to the verb.

As far as the three theories are concerned, perhaps both syntactic and phonological factors are relevant – Kiefer does not specify how the reduplication-qua-focusing operation proceeds, so a PF account is not ruled out, and Lipták explicitly motivates the phonological copying by a syntactic head. This said, their shared problem is a syntactic one, i.e. the flexible separability of reduplicated particle verbs (cf. (19)). Piñon and Kiefer only allow them to be separated by the focus particle *is* ‘even, also’,⁹ whereas Lipták, crucially relying on the particle–verb adjacency,

⁹ Piñon (1991) locates the preverbal particle at I (an uncommon view) and lets *is* form a complex head with it; Kiefer (1995) assumes the reduplicated particle to be at Spec-FocP and lets *is* fill the Foc head. Concerning

does not allow separation at all. Besides, the separability issue also undermines the non-unit hypothesis, for that would require multiple loci (at least TP, FocP, and a matrix VP) for particle reduplication. By comparison, a theory that endorses reduplicated particle unithood can simply treat the separation as phrasal movement on a par with simple particle movement, as in (20).

- (20) a. *Péter át akart menni a szomszédhoz.*
 Peter across want.PST.3SG go.INF the neighbor.to
 ‘Peter wanted to go over to the neighbor.’
- b. *Péter vissza fog járni.*
 Peter back will.3SG go.INF
 ‘Peter will come back.’
- c. *A kendőt meg is libbentette.*
 the handkerchief RES even flutter.PST.3SG
 ‘He even fluttered the handkerchief.’

Considering theoretical parsimony, I assume the particle and its copy do form a constituent. In addition, the supporting arguments for the non-unit hypothesis are not particularly sound. In Piñon (1991), it is based on the observation that reduplicated particle cannot be inverted or used as responses to yes/no-questions; however, the former can have alternative explanations as we have seen, and the latter may be due to the timing of verb ellipsis (à la Lipták 2016).

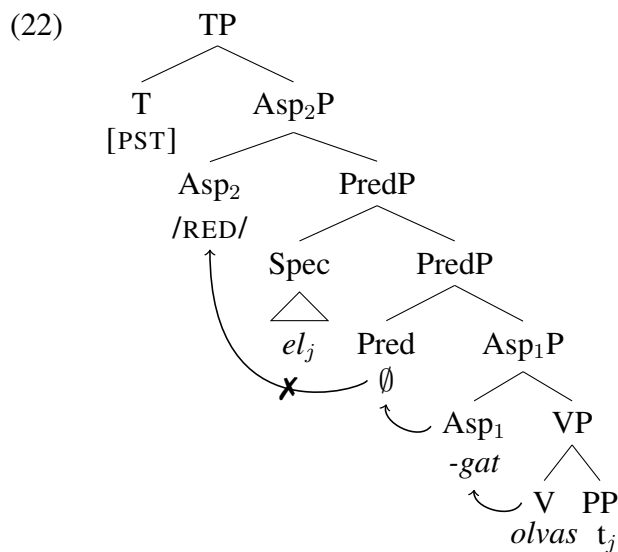
On the other hand, the Asp trigger hypothesis also encounters difficulties, mainly due to the existence of a separate iterative aspect suffix *-gAt* in the language. Kiefer (1995) points out a semantic difference between the two iterative expressions: *-gAt* denotes regular/continuous iteration (which can be ‘downgraded’ to diminished intensity in certain contexts), while particle reduplication denotes irregular/discontinuous iterativity. This means they may represent two different iterative Asp heads (in the sense of Cinque 1999). Also note that the two can coexist.

- (21) *El-el-olvas-gat-ta az újságot.*
 away-away-read-ITE-PST.3SG the newspaper.ACC
 ‘He read the newspaper superficially from time to time.’ (Kiefer 1995: 184)

In (21), the irregular iteration ‘from time to time’ scopes over the diminished intensity ‘superficially’ (downgraded from regular iteration), which means the Asp head responsible for particle reduplication is structurally higher than that for *-gAt*. (21) also reveals two significant facts about scope: *i*) the *-gAt* Asp (call it Asp₁) only scopes over the base verb, while the reduplication Asp (Asp₂) scopes over the entire particle verb; *ii*) both Asps are within the scope of the past tense.

restructuring verbs and auxiliaries, Kiefer is forced to treat an entire complex predicate like *át-át akart menni* ‘wanted to go over and over’ as a morphological object created by non-syntactic rules.

Thus, under the Asp trigger hypothesis, the complex predicate in (21) has the structure in (22) (adopting the PredP hypothesis from i.a. Csirmaz 2004, É. Kiss 2008a,b, and Hegedűs 2013).¹⁰



However, two problems make this structure undesirable. First, the particle and its copy do not form a constituent, and what undermines the non-unit hypothesis also applies here. Second, in order to get the correct linearization for /RED/ reduplication (à la Lipták 2016), the particle and the verb must stay inside PredP, which means verb movement must stop at Pred. However, considering the tiny feature difference between the two Asp heads (only in a value), and that their phonological distinction only becomes visible at PF, it is unclear what blocks further verb movement. Equally unclear is how higher categories like T and Foc can ever separate the reduplicated particle and the verb. Therefore, I do not adopt the Asp trigger hypothesis.¹¹ Particle reduplication – as well as its iterative semantics – should have alternative causes instead.

5.3 A new analysis: reduplication as coordination

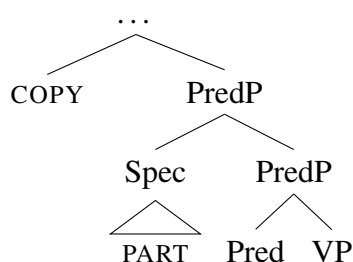
I have shown that previous approaches to Hungarian particle reduplication all face difficulties, and that the difficulties are syntactic in nature. As such, I will tackle them with syntactic tools.

If particle reduplication occurs in syntax, it must be done by Merge. However, considering the pre-reduplication position of the particle is Spec-PredP, and given the root extension condition on Merge (i.e. it always applies at the root node, cf. i.a. Chomsky 1995, Fukui 2006), the copy can only merge at a place higher than Spec-PredP and thus c-command it, as in (23).

¹⁰ I use the PredP notation for expository convenience, but the exact label of this projection is immaterial to my discussion. Any theory with some strategy to derive the neutral order of particle verbs would be compatible.

¹¹ I am agnostic about the /RED/ morpheme per se, but as the Asp trigger is dispensed with, it becomes irrelevant.

(23)



This structure is similar to that in Piñon (1991), hence the unithood problem. Additionally, the c-command relation puts the copy and the particle in an asymmetric relation, which should have interface reflects. However, this is not borne out. Consider the examples below.

- (24) *át-át-lebben* ‘across-across-flutter’
ki-ki-néz ‘out-out-look’
át-át-megy ‘across-across-go’
el-el-olvasgat ‘away-away-read.superficially’

Phonologically, the double particles in (24) get the same exponent and stress pattern (both are heavier than the verb). Semantically, the first particle scopes over neither the second particle nor the particle verb to its right. In fact, without theoretical presupposition, one cannot even intuitively judge which particle is the original and which is the copy. This characteristic sharply contrasts reduplicated particle verbs with two other types of double-particle verb: denominal verbs with another particle and verbs with an intensive *el-*.

- (25) a. *El-fel-vételiztem* *az időt.* (=12a)
away-up-take.entrance.exam.PST.1SG the time.ACC
‘I spent all the available time with taking entrance exams.’
- b. *Erős ital után esze el-hagyá, de a harmadnapra*
strong drink after mind.POSS.3SG away-leave.PST.3SG but the third.day.by
el-fel-gyógyítá. (Old Hungarian)
away-up-cure.PST.3SG
‘After strong drink his mind left him, but by the third day it cured him.’
(Piñon 1991: 2)

The two double-particle verbs in (25) have different structures (despite their accidental homomorphism). In (25a), as discussed in Section 4, *felvételi* ‘entrance exam (N)’ is reverbalized as a simple verb which then merges with the particle *el* ‘away’, with a corresponding extra argument *az időt* ‘the time’. In (25b), by contrast, the base verb *gyógyít* ‘cure’ takes a compound particle *el-fel* ‘away-up’, with *el* modifying the degree of *fel* (i.e. ‘totally’) and having no argument of its own. In both cases, the relation between the two particles is asymmetric. Meanwhile, there is still another type of double particle that does look symmetric.

- (26) a. *Mari ki-be-rakosgatja a kismackót a játékházba.*
 Mary out-in-put.PRES.3SG the little.bear.ACC the playhouse.in
 ‘Mary places the little bear in and out of the playhouse.’
- b. *János fel s alá-sétált a part mentén a menyasszonyával.*
 John up and under-stroll.PST.3SG the shore side.POSS.3SG.on the fiancée.POSS.3SG.with
 ‘John strolled up and down the side of the shore with his fiancée.’ (Piñon 1991: 3)

As in (25b), the double particles in (26) are also compounds, but their inter-component relation is coordination rather than modification, as indicated by ‘and’ in the translations and the overt conjunction *s* in (26b). Piñon calls these ‘oppositional’ particles because their components are often antonyms, while what I want to highlight here is their striking similarity with reduplicated particles at the interface level: the two particles bear equal stress in phonology and neither takes scope over the other in semantics. Following the minimalist tenet that interface interpretation is based on syntactic representation, I submit that reduplicated and oppositional particles also have a similar derivational path, i.e. coordination. Thus, the irregular iterative reading of particle reduplication simply comes from morpheme repetition. However, the two types of coordinated particle have a crucial difference: oppositional particles invert normally in non-neutral contexts.

- (27) a. *Ki rakosgatja ki-be a kismackót a játékházba?*
 who place.PRES.3SG out-in the little.bear.ACC the playhouse.in
 ‘Who is placing the little bear in and out of the playhouse?’
- b. *CSAK JÁNOS sétált fel s alá a part mentén a menyasszonyával.*
 only John stroll.PST.3SG up and under the shore side.POSS.3SG.on the fiancée.POSS.3SG.with
 ‘Only John strolled up and down the side of the shore with his fiancée.’

(adapted from Piñon 1991: 7)

The question is why; and another more technical question is how to get the desired symmetry. Below I develop a model for particle reduplication that answers both questions.

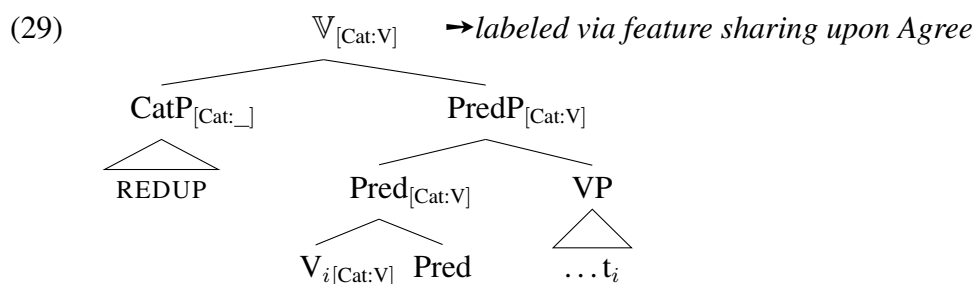
I follow Chomsky (2004) and allow derivation to happen from separate planes, across which no c-command relation could hold, hence the lack of asymmetry.¹² Besides, I follow i.a. Chomsky (2001, 2008) and Citko (2014) and assume movement happens at phase level. Under the renumeration hypothesis, I decompose movement into two steps: *i*) renumerate copy into new lexical subarray; *ii*) merge it from that subarray. In a system allowing separate derivation of

¹² A similar approach is pursued in de Vries (2005) for symmetric coordination.

complex satellites, this conception essentially enables the copy to become *part* of a specifier (informally ‘move into specifier’) alongside the normal scenario of merging it as the specifier itself. Particle reduplication may proceed as follows.

- (28) a. At phase level, make two copies of the particle and renumerate them.
 b. Select Co and the copies (among other items) into a satellite subarray LA_j.
 c. Merge one copy and Co: {Co, COPY₁}.
 d. Merge another copy with {Co, COPY₁} on a separate plane: <COPY₂, {Co, COPY₁}>.

As desired, here neither copy c-commands the other. However, two problems arise when we merge the output of (28d) to the clausal spine (again by renumeration, à la Johnson 2003): *i*) renumeration happens upon spell-out but there is no active phase head in LA_j; *ii*) <COPY₂, {Co, COPY₁}> is unlabelable as Co cannot label (Chomsky 2013: 47). My solution is to include a phase head in LA_j. As particles are not CP, v*P or DP, the only option is a categorizer, but as they are not V, N, etc., either, we need a non-specific categorizer. I adopt Song’s (2017) ‘defective categorizer’ (Cat), which is defined by the unvalued categorial feature (cf. Section 2). Thus, we categorize the duplicated particle as CatP and merge it with PredP (assuming that is at the phase edge), as in (29).



As the structure’s label (noted as \bar{V}) is featurally identical to V^0 , when V^0 is probed, so is \bar{V} . This effectively makes the real V^0 inaccessible (Minimal Link Condition, Chomsky 1995: 311). However, since \bar{V} is not a minimal category (i.e. an object directly merged from LA), it cannot undergo head-to-head movement. Consequently, verb movement is blocked on the one hand, and the requirement of higher Probes cannot be fulfilled on the other hand, hence the incompatibility of reduplicated particle verbs with non-neutral contexts. Since no such dilemma happens to CatP, the reduplicated particle can still be freely moved, hence the observed separability. Finally, regarding oppositional particles, I submit that they are invertible because they are coordinated before being merged into V-complement, i.e. in the word-formation phase. In addition, since here the particle needs a valued category to thematically license its argument, its categorizer cannot be Cat, but should be e.g. a type of *v*. These two factors make compound particles no different from simple ones or any other predicative lexical category.

6 Conclusion

In this paper, I revisited three cases of particle verb inversion failure in Hungarian non-neutral contexts and attributed them to a single cause: recategorization. I have shown that recategorization can either happen for its own sake (i.e. as part of derivational morphology) or as a byproduct of some other syntactic process. In the former scenario, it completely blocks interaction above and below the recategorizer, forming a strong island; in the latter scenario, it only blocks verb movement (via feature valuation and labeling) but allows extraction of other elements (e.g. the particle), forming a weak island. I summarize the main points in Table 1.

Verb type	Purpose	Cause	What is blocked?	Blocked by what?
Infinitive	byproduct	[Cat:N]	only verb movement	lexically valued [Cat]
Denominal	word formation	[Cat:V]	verb/particle movement argument sharing	phase impenetrability
Reduplicated	byproduct	[<i>u</i> Cat]	only verb movement	side effect of labeling

Table 1: Recategorization in three types of non-inverting particle verb.

In particular, particle reduplication can be considered a case of ‘extended recategorization’, as it is not the entire particle verb but only the reduplicated particle that gets recategorized. All the three cases demonstrate that categorial features not only define lexical words, but also regulate various syntactic processes in higher domains.

References

- Ackerman, F. & LeSourd, P. (1997). Toward a lexical representation of phrasal predicates. In A. Alsina, J. Bresnan, & P. Sells (Eds.), *Complex predicates* (pp. 67–106). CUP.
- Adger, D. & Svenonius, P. (2011). Features in minimalist syntax. In C. Boeckx (Ed.), *The Oxford Handbook of Linguistic Minimalism* (pp. 27–51). Oxford: Oxford University Press.
- Baker, M. (2008). *The Syntax of Agreement and Concord*. Cambridge University Press.
- Berwick, R. C. & Chomsky, N. (2016). *Why Only Us: Language and Evolution*. MIT Press.
- Biberauer, T. & Roberts, I. (2015). Rethinking formal hierarchies: A proposed unification. *Cambridge Occasional Papers in Linguistics*, 7, 1–31.
- Bošković, Ž. (2016). What is sent to spell-out is phases, not phasal complements. *Linguistica*, 56(1), 25–66.
- Brody, M. (1990). Some remarks on the focus field in Hungarian. *UCL working papers in linguistics*, 2, 201–225.
- Brody, M. (1995). Focus and checking theory. *Approaches to Hungarian*, 5, 29–44.

- Callaway, M. (1913). *The infinitive in Anglo-Saxon*. Carnegie Institution of Washington.
- Chomsky, N. (1995). *The Minimalist Program*. MIT Press.
- Chomsky, N. (2000). Minimalist inquiries: The framework. In R. A. Martin, D. Michaels, & J. Uriagereka (Eds.), *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik* (pp. 89–156). Cambridge MA: MIT Press.
- Chomsky, N. (2001). Derivation by phase. In M. Kenstowicz (Ed.), *Ken Hale: A Life in Language* (pp. 1–52). Oxford: Oxford University Press.
- Chomsky, N. (2004). Beyond explanatory adequacy. In A. Belletti (Ed.), *Structures and Beyond*, volume III (pp. 104–131). Oxford University Press.
- Chomsky, N. (2008). On phases. In R. Freidin, C. P. Otero, & M. L. Zubizarreta (Eds.), *Foundational Issues in Linguistic Theory: Essays in Honor of Jean-Roger Vergnaud* (pp. 134–166). Cambridge MA: MIT Press.
- Chomsky, N. (2013). Problems of projection. *Lingua*, 130, 33–49.
- Chomsky, N. (2015). Problems of projections: Extensions. In E. di Domenico, C. Hamann, & S. Matteini (Eds.), *Structures, strategies and beyond: Studies in honour of Adriana Belletti* (pp. 1–16). Amsterdam: John Benjamins.
- Cinque, G. (1999). *Adverbs and functional heads: A cross-linguistic perspective*. OUP.
- Citko, B. (2014). *Phase theory: An introduction*. Cambridge University Press.
- Collins, C. (2017). Merge(X,Y) = {X,Y}. In L. Bauke & A. Blümel (Eds.), *Labels and Roots* (pp. 47–68). Berlin: De Gruyter Mouton.
- Csirmaz, A. (2004). Particles and phonologically defective predicates. In K. É. Kiss & H. C. van Riemsdijk (Eds.), *Verb clusters: A study of Hungarian, German and Dutch* (pp. 225–252). Amsterdam: John Benjamins.
- de Vries, M. (2005). Coordination and syntactic hierarchy. *Studia Linguistica*, 59, 83–105.
- Dékány, E. & Hegedűs, V. (2015). Two positions for verbal modifiers: evidence from derived particle verbs. ICSH12 handout, Leiden.
- É. Kiss, K. (1987). *Configurationality in Hungarian*. Dordrecht: Reidel.
- É. Kiss, K. (2002). *The Syntax of Hungarian*. Cambridge: Cambridge University Press.
- É. Kiss, K. (2008a). The function and the syntax of the verbal particle. In K. É. Kiss (Ed.), *Event structure and the left periphery* (pp. 17–55). Springer.

- É. Kiss, K. (2008b). Free word order, (non)configurationality, and phases. *Linguistic Inquiry*, 39(3), 441–475.
- Fowlie, M. (2013). Multiple multiple spellout. In T. Biberauer (Ed.), *Challenges to Linearization* (pp. 129–169). Mouton de Gruyter.
- Fukui, N. (2006). *Theoretical Comparative Syntax: Studies in Macroparameters*. Routledge.
- Groothuis, K. (2015). The inflected infinitive in romance. Master thesis, Leiden University.
- Halle, M. & Marantz, A. (1993). Distributed morphology and the pieces of inflection. In K. Hale & J. Keyser (Eds.), *Essays in Linguistics in Honor of Sylvain Bromberger*, number 20 in The View from Building (pp. 111–176). Cambridge MA: MIT Press.
- Halle, M. & Marantz, A. (1994). Some key features of distributed morphology. In A. Carnie, H. Harley, & T. Bures (Eds.), *MIT Working Papers in Linguistics 21* (pp. 275–288). Cambridge MA: Department of Linguistics, MIT.
- Haugen, J. D. (2015). Reduplication of affixes. Paper presented at the workshop Replicative Processes in Grammar, Universität Leipzig, 1 October.
- Haugen, J. D. & Harley, H. (2013). Head-marking inflection and the architecture of grammatical theory. In S. T. Bischoff, D. Cole, A. V. Fountain, & M. Miyashita (Eds.), *The Persistence of Language: Constructing and confronting the past and present in the voices of Jane H. Hill* (pp. 133–174). Amsterdam: John Benjamins.
- Hauser, M. D., Chomsky, N., & Fitch, W. T. (2002). The faculty of language: what is it, who has it, and how did it evolve? *Science*, 298(5598), 1569–1579.
- Hegedűs, V. (2013). *Non-verbal predicates and predicate movement in Hungarian*. PhD thesis, University of Tilburg.
- Hegedűs, V. & Dékány, É. K. (2017). Two positions for verbal modifiers. In *Approaches to Hungarian*, volume 15 (pp. 65–94).: John Benjamins Publishing Company.
- Jarceva, V. N. (1992). A syntactic typology of Indo-European languages. In E. C. Polomé & W. Winter (Eds.), *Reconstructing languages and cultures* (pp. 185–216). Mouton de Gruyter.
- Johnson, K. (2003). Towards an etiology of adjunct islands. *Nordlyd*, 31(1), 187–215.
- Kiefer, F. (1995). Prefix reduplication in Hungarian. *Acta Linguistica Hungarica*, 43(1/2), 175–194.
- Koopman, H. J. & Szabolcsi, A. (2000). *Verbal Complexes*. MIT Press.

- Lipták, A. (2016). Preverb stranding in Hungarian: The role of accents. Paper presented at Ellipsis Licensing Beyond Syntax Workshop, Leiden University, 15–16 January.
- Marantz, A. (2001). Words. In *20th West Coast Conference on Formal Linguistics* (pp. 23–25).
- Nunes, J. & Uriagereka, J. (2000). Cyclicity and extraction domains. *Syntax*, 3(1), 20–43.
- Olsvay, C. (2000). Formális jegyek egyeztetése a magyar nemsemleges mondatokban [The agreement of formal features in non-neutral Hungarian sentences]. In B. László & M. Márta (Eds.), *A mai magyar nyelv leírásának újabb módszerei IV [Newer methods of today's Hungarian language description]* (pp. 119–151). Szeged: JATE.
- Piñon, C. (1991). Falling in paradise: Verbs, preverbs, and reduplication in Hungarian. Syntax workshop handout, Stanford University.
- Ramchand, G. (2008). *Verb Meaning and the Lexicon: A First Phase Syntax*. CUP.
- Roberts, I. (2010). *Agreement and Head Movement: Clitics, Incorporation, and Defective Goals*. MIT Press.
- Roberts, I. (2011). Head movement and the minimalist program. In *The Oxford handbook of linguistic Minimalism*. Oxford: Oxford University Press.
- Roberts, I. (2016). Linearization, labelling and word-order parameters. Hong Kong, October.
- Scida, E. E. (2004). *The inflected infinitive in Romance languages*. Routledge.
- Song, C. (2017). Categorizing verb-internal modifiers. Ms., University of Cambridge.
- Tsoulas, G. (2017). Semantics in universal grammar. In I. Roberts (Ed.), *The Oxford Handbook of Universal Grammar* (pp. 183–221). Oxford University Press.