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Modification in the verbal domain in Hungarian*

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Abstract: In this work I provide novel evidence for an articulated VP structure by examining facts of adverbial modification in Hungarian. In line with prior works such as Borer (2005) and Jung and Choi (2023), I will argue for the dissociation of inner aspect from result states, but also propose that inner aspect be syntactically instantiated, whereas result states are only a semantic/pragmatic effect. I focus on the distribution and interpretive properties of resultative and measure adverbs to support these claims. I also show that result states can be directly encoded by verbal, prepositional and resultative adverbial elements alike, contra the previous claim that resultative adverbs only modify result states (Geuder 2000).

Keywords: results, modification, quantity, inner aspect, resultative adverbs, measure adverbs, Hungarian

1. Introduction

In this paper I provide new evidence for an articulated VP structure by examining facts of adverbial modification in Hungarian. More specifically, I defend the claim that inner aspect and results are to be dissociated from each other in the verbal domain, as has also been argued by scholars such as Borer (2005) and, more recently, by Jung and Choi (2023). These analyses challenge much previous work on event structure, where inner aspect is directly derived from the presence of a result state, represented in the semantics or syntax of verbal expressions (see Dowty 1979, Parsons 1990, Pustejovsky 1991, 1995, Higginbotham 2000, Ramchand 2008, among others).

Jung and Choi (2023) argue that inner aspect is encoded at the level of vP and results are syntactically instantiated below vP as ResP with transitive predicates like *paint the picture colorfully* and *chop the onion finely* and also with their intransitive counterparts, if available. These authors argue for the presence and location of ResP by examining facts of adverbial modification in English, focusing on the distribution and interpretive effects of manner adverbs like *quickly* in *open the door quickly*, resultative adverbs like *elegantly* in *dress elegantly* and measure adverbs like *partly* in *partly paint the picture*. They derive the (a)telicity of predicates from the type of v they are associated with. The presence of

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v_{DO} ensures atelicity, whereas telicity is encoded at the level of v_{CAUSE} (for more on different flavors of v, see, for example, Folli and Harley 2005).

I show that data from Hungarian warrant a different analysis. I argue that inner aspect is to be represented between vP and VP in the form of an aspectual functional projection, in line with previous analyses such as Travis (1991, 2010) and MacDonald (2008), whereas results are purely a semantic/pragmatic effect. I concur with Jung and Choi (2023) that measure adverbs and resultative adverbs form a natural class, but also take issue with these authors by arguing that measure adverbs and resultative adverbs adjoin to AspP within the verbal domain, and not a result projection.

The structure of this paper is as follows: First, in Section 2, I briefly discuss the link between inner aspect and results based on previous literature. Then, in Section 3, I provide an overview of some key claims and arguments from Jung and Choi (2023) before presenting novel support for the syntactic representation of inner aspect while drawing on data from Hungarian in Section 4. In Section 4.1, I first look into the distributional properties of resultative adverbs, whereas in Section 4.2, I address the distribution and interpretive properties of measure adverbs. Then, in Section 5, I also show how result states are encoded in Hungarian and propose that they be represented as a purely semantic/pragmatic property of verbal predicates. What emerges from the discussion is that verbal, prepositional and resultative adverbial expressions can all directly encode result states, contra the previous claim that resultative adverbs only modify result states (Geuder 2000). In Section 6, I conclude.

2. The link between inner aspect and results

As is well-known, telic interpretations often co-occur with the coming about of a new result state, as in the case of verbal expressions like *hammer the metal flat*, *sweep the floor clean*, *break the vase* and *die*. On decompositional analyses (see Dowty 1979, Pustejovsky 1991, 1995, Rappaport Hovav and Levin 1998, a.o.), the presence of a caused result state ensures telicity. Consider (1).

(1) a. Phil swept the floor clean in/*for an hour.
b. [x ACT $_{<SWEEP>}$ y] CAUSE [BECOME [y <*CLEAN*>]]]
(adapted from Rappaport Hovav and Levin 1998: 110, (33) and (32))

In the example above, the presence of a caused clean state in the lexical semantic decomposition in (1b) predicts that the string *sweep the floor clean* is telic, as diagnosed by the temporal adverbial test in (1a). A similar view is entertained in Ramchand (2008), where the functional projection resP is directly linked to telic interpretations and the creation of event structure in a syntactified event decomposition. Telicity can also arise without resP on this analysis, but then it is a semantic entailment, as with *eat the apple*. The boundedness of the theme, *the apple*, and a Krifka-style homomorphic mapping between the structure of the event and that of the theme ensures that the predicate *eat the apple* be interpreted telically (Krifka 1998).

Decompositional analyses have been questioned in recent decades by scholars like Borer (2005), in light of data like those in (2), where a telic interpretation arises in the absence of a result state (2a), or the presence of a result state in the verbal predicate is not necessarily accompanied by a telic interpretation (2b).

(2) a. Kim ran around the corner. (IN-T/*FOR-T)
(Higginbotham 2000)
b. For years, Bill heated the mixture hotter and hotter.
(Goldberg and Jackendoff 2004: 543, (23a))

Whereas in (2a) the temporal adverbial test shows that the predicate *run around the corner*, which is not associated with a prominent result state, has a telic interpretation, in (2b) an atelic reading is available in the presence of a result state that obtains at the culmination of the mixture-heating eventuality.

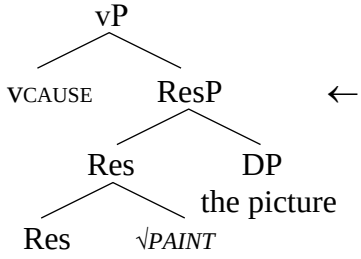
On Borer's (2005) analysis, which thus does not invoke result states in the creation of telic structures, telic predicates are quantity (=non-homogeneous) predicates directly linked to a quantity aspectual functional projection, Asp$_Q$P. English resultatives like *flat* in *hammer the metal flat* and *red* in *paint the fence red*, which are taken to instantiate the caused subevent in decompositional analyses, are only modifiers of (a)telic structures. More specifically, they do not assign range to an open variable associated with the Asp$_Q$ head. The telicity of expressions like *hammer the metal flat* and *paint the fence red* is linked to quantity themes like *the metal* and *the fence*. The presence of non-quantity themes like *metal* in *hammer metal flat* and *fences* in *paint fences red* yields atelicity (*ibid*. 220-232).

Jung and Choi (2023) also argue that results are dissociated from the creation of a telic structure. However, as a departure from Borer (2005), these authors directly link the creation of (a)telic structures and that of results to different syntactic projections, vP and ResP below vP, respectively, in the verbal domain. In this paper I take issue with this latter idea in light of the facts of Hungarian, but first discuss Jung and Choi (2023) in some detail in the next section.

3. Jung and Choi (2023)

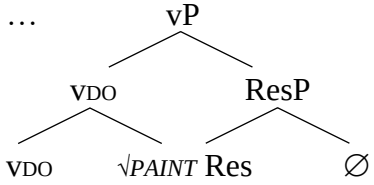
Jung and Choi (2023: 24) propose the following analysis for transitive, telic *paint the picture colorfully* and intransitive, atelic *paint colorfully* in the framework of Distributed Morphology (Halle and Marantz 1993, Marantz 1997, Arad 2005):

(3) a. The artist painted the picture colorfully. (IN-T/*FOR-T)
b. …



← adjunction of result. adverb

(4) a. The artist painted colorfully. (FOR-T/*IN-T)
b. …



← adjunction of result. adverb

A central idea that the representations above embody is that inner aspect and results are independent of each other. On the one hand, inner aspectual interpretations are directly derived from v in a way that different types of v give rise to different aspectual interpretations. The presence of v_{CAUSE} in (3b) yields a telic interpretation with examples like *paint the picture colorfully*, where telicity is diagnosed by the *in*/*for*-test, whereas in (4b) the presence of v_{DO} gives rise to atelicity. On the other hand, telicity is accompanied by a specific result thanks to the result root and the bounded direct object in examples like (3), whereas in (4) atelicity is accompanied by some result with a manner root and no bounded object in the structure. Resultative adverbs like *colorfully* identify a ResP below vP by modifying it.

The first piece of evidence that the authors provide for their central claim concerns the distribution of resultative and manner adverbs: The order of manner and resultative adverbs is fixed, as shown in (5).

(5) a. The artist painted (the picture) colorfully$_{RES}$ quickly$_{MAN}$.
b. ???The artist painted (the picture) quickly$_{MAN}$ colorfully$_{RES}$.
(Jung and Choi 2023: 11, (19))

With transitive predicates like *paint the picture* and their intransitive counterparts, the resultative adverb *colorfully* must be closer to *paint (the picture)* than the manner adverb *quickly*. This follows if it is assumed that manner adverbs adjoin to the verb phrase higher than resultative adverbs. The former are argued to adjoin to vP, which is the standard assumption, whereas the latter adjoin to ResP below vP.

Another piece of evidence comes from the grammar of ambiguous adverbs like *beautifully*, which can appear twice in a single clause. As illustrated in (6), the adverb closer to the verb must be interpreted as a resultative adverb (i.e. the picture that came about as a result of the painting activity was beautiful), whereas the one further away is a manner adverb (i.e. the painting activity was carried out in a beautiful manner).

(6) a. The artist painted the picture beautifully$_{RES}$ beautifully$_{MAN}$.
b. *The artist painted the picture beautifully$_{MAN}$ beautifully$_{RES}$.
(Jung and Choi 2023: 12, (25))

This analysis also makes predictions about the possibility and impossibility of resultative adverbs and manner adverbs in the presence of result roots such as √*CLEAN* and √*WARM*: On the one hand, resultative adverbs are expected to occur in both adjective and verb phrases, where the root underlying the verb or the adjective is a result root, before the categorizing *a* or *v* is introduced into the structure (*ibid*. 15). This is borne out in (7).

(7) a. Jim cleaned the room spotlessly.
b. the spotlessly clean room (Jung and Choi 2023: 15, (33))

On the other hand, manner adverbs are expected to be unable to modify adjectives derived from result roots, in line with the facts of (8).

(8) a. *the quickly clean room
b. *the quickly warm soup (Jung and Choi 2023: 16, (37b) and (38b))

The manner adverb *quickly* gives rise to ungrammaticality in the presence of the adjectives *clean* and *warm*, which follows if manner adverbs are assumed to require a verbal structure, which is, however, not available with adjectival *clean* and *warm*.

Jung and Choi (2023) further claim that measure adverbs like *partly*, which "express the degree of the state resulting from the verbal event" (*ibid*. 17), also modify ResP, similarly to resultative adverbs. This is supported by the fact that measure adverbs and resultative adverbs have similar distributional properties, as shown in (9).

(9) a. Jill quickly partly opened the door.
b. ???Jill partly quickly opened the door.
(Jung and Choi 2023: 19, (45b) and (45c))

In the preverbal section of the sentence above, the measure adverb *partly* must follow the manner adverb *quickly*, or else ungrammaticality arises, as shown in (9b). This is predicted under the assumption that measure adverbs like *partly* adjoin to the verb phrase lower than manner adverbs, similarly to resultative adverbs. Also, as expected on such an analysis, measure adverbs like *partly* can modify adjectives derived from result roots, similarly to adverbs like *spotlessly*, discussed above. This is illustrated in (10), where the adjective *open* is, by contrast, not compatible with the manner adverb *quickly*.

(10) a. the partly open door
b. *the quickly open door
(Jung and Choi 2023: 20, (50a) and (51a))

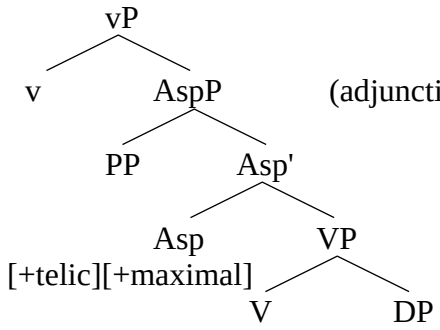
In summary, then, while drawing on data from English, Jung and Choi (2023) argue for the dissociation of inner aspect from results and also tie inner aspectual interpretations to different instantiations of v, whereas the coming about of results is directly linked to a result projection below vP. In the next section, I wish to show that the facts of Hungarian warrant a different analysis. I propose that it is not a result projection that measure adverbs and resultative adverbs modify, but an inner aspectual projection sandwiched between vP and VP. The coming about of result states is only a semantic entailment or a contextual effect.

4. Novel arguments for AspP in the verbal domain in Hungarian

4.1. Distributional properties of resultative adverbs

In this section I build on the previous claim that the event domain is associated with an inner aspectual functional projection AspP below vP, where verbal particles like Hungarian *meg*, represented as PPs (cf. Hegedűs 2013), check the maximality and telicity features of the Asp head in [Spec, AspP] (Kardos and Farkas 2022). I argue that it is this AspP that resultative adverbs like Hungarian *elegánsan* 'elegantly' in expressions like *elegánsan felöltözött* 'got dressed elegantly' adjoin to. Result states are only a semantic/pragmatic effect. The structural representation I assume is provided in (11).

(11)



(adjunction of resultative adverbs)

The adjunction analysis of resultative adverbs is supported by the fact that they have a fairly free distribution, which also characterizes the behavior of manner adverbs, as discussed in É. Kiss (2009). This is illustrated in (12).

(12) a. Mari (tökéletesen) be-sötétített egy szobát (tökéletesen).
Mari (perfectly) PRT-darkened a room.ACC (perfectly)
'Mari darkened a room (perfectly).'
b. Juli (tökéletesen) fel-melegített egy tányért (tökéletesen).
Juli (perfectly) PRT-warmed a plate.ACC (perfectly)
'Juli warmed (up) a plate (perfectly).'
c. Anna (elegánsan) fel-öltözött (elegánsan).
Anna (elegantly) PRT-dressed (elegantly)
'Anna got dressed (elegantly).'

The resultative adverbs *tökéletesen* 'perfectly' and *elegánsan* 'elegantly' in the examples in (12) may appear in the preverbal section of the sentence, in sentence-final position, or they may also be omitted. It is also worth noting that resultative adverbs are also similar to manner adverbs regarding their morphological make-up. They are associated with an adjectival stem and the suffix -(*a*/*e*)*n* or, less typically, the suffix *-ul*/*-ül* (see also Hegedűs and Dékány 2021).

(13) a. János gyors-an futott. (manner adverb)
János quick-ly ran
'János ran quickly.'
b. Mari kegyetlen-ül meg-verte Verát. (manner adverb)
Mari cruel-ly PRT-beat Vera.ACC
'Mari beat Vera cruelly.'
c. Sára csinos-an/kényelmetlen-ül öltözködik. (result. adverb)
Sára neat-ly/uncomfortable-ly dresses
'Sára dresses neatly/uncomfortably.'

As is clear from the examples above, the manner adverbs *gyorsan* 'quickly' and *kegyetlenül* 'cruelly' in (13a) and (13b) carry the suffixes *-an* and *-ül*, respectively, similarly to the resultative adverbs *csinosan* 'neatly' and *kényelmetlenül* 'uncomfortably' in (13c).

An important property of resultative adverbs is that the presence of a result state in the verbal predicate is not sufficient for their licensing. Inner aspectual particles yielding maximal events (Filip 2008) are required with predicates like those in (14), where the

verbs are derived from the state-denoting adjectives *sötét* ‘dark’, *meleg* ‘warm’ and *tiszta* ‘clean’.

(14) a. Mari tökéletes-en *(be)-sötét-ít-ett egy szobát.
Mari perfect-ly *(PRT)-dark-CAUS-PST a room.ACC
‘Mari darkened a room perfectly.’
b. Juli tökéletes-en *(fel)-meleg-ít-ett egy tányért.
Juli perfect-ly *(PRT)-warm-CAUS-PST a plate.ACC
‘Juli warmed (up) a plate perfectly.’
c. Józsi foltmentes-en *(ki)-tiszt-ít-ott egy inget.
Józsi spotless-ly *(PRT)-clean-CAUS-PST a shirt.ACC
‘Józsi cleaned a shirt spotlessly clean.’

The obligatory nature of the verbal particle in the presence of a resultative adverb also characterizes structures associated with activity-denoting manner verbs like *mos* ‘wash’ when they appear in episodic sentences (15a). In non-episodic sentences, as in (15b), particleless *mos* ‘wash’ is possible in the environment of the adverb *foltmentesen* ‘spotlessly’.

(15) a. János foltmentes-en *(el)-mosott /mosott *(el) egy edényt.
János spotless-ly *(PRT)-washed /washed *(PRT) a dish.ACC
‘János washed a dish spotlessly.’
b. A mosógép foltmentes-en mos.
the washing machine spotless-ly washes
‘The washing machine washes clothes spotlessly.’

An alternative structure is one that contains a resultative PP, ending in the sublative case marker *-ra*/*-re*, which has also been argued to exert its inner aspectual effects in [Spec, AspP] (Kardos and Farkas 2022), yielding maximal events, similarly to verbal particles.

(16) a. János foltmentes-re mosott/törölt egy edényt. (IN-T/*FOR-T)
János spotless-SUBL washed/wiped a dish.ACC
‘János washed/wiped a dish spotlessly.’
b. János mosott/törölt egy edényt. (FOR-T/*IN-T)
János washed/wiped a dish.ACC
‘János washed/wiped/was washing/was wiping a dish.’

As shown above, the base verbs *mosott* ‘washed’ and *törölt* ‘wiped’ are both possible with the resultative PP *foltmentesre* ‘lit. onto spotless’ giving rise to a canonical resultative structure in Hungarian, often illustrated by the string *laposra kalapálta a vasat* ‘hammered the metal flat’ in the literature (see Dékány and Hegedűs 2021, Kardos and Szávó 2024, among others).

The presence of both a resultative PP and an inner aspectual particle often yields a somewhat unnatural structure, which follows if we assume that resultative PPs and particles like *meg* in (17) and *ki* in (18) create event structure in the same position, [Spec, AspP] (Kardos and Farkas 2022).

(17) ?János foltmentes-re meg-törölt egy edényt.
János spotless-SUBL PRT-wiped a dish.ACC
'János wiped a dish spotlessly.'

(18) ?János lapos-ra ki-kalapált egy fémlemezt.
János flat-SUBL PRT-hammered a metal sheet.ACC
'János hammered a metal sheet flat.'

Similarly to the English facts, a manner adverb and a resultative adverb may co-occur in Hungarian in the same clause, where the manner adverb must precede the resultative adverb in a structure like (19a).

(19) a. János gyors-anMAN foltmentes-enRES el-mosott egy edényt.
János quick-ly spotless-ly PRT-washed a dish.ACC
'János quickly washed a dish spotlessly.'
b.??János foltmentes-enRES gyorsanMAN el-mosott egy edényt.
János spotless-ly quick-ly PRT-washed a dish.ACC

The restriction illustrated in (19) receives an explanation if we assume that the manner adverb adjoins to vP and the resultative adverb is merged lower within the verbal domain, similarly to what has been proposed for English. Here is another pair of sentences illustrating the same restriction:

(20) a. Sári gyors-anMAN elegáns-anRES fel-díszítette a fát.
Sári quick-ly elegant-ly PRT-decorated the tree.ACC
'Sári quickly decorated the tree elegantly.'
b. ??Sári elegáns-anRES gyors-an MAN fel-díszítette a fát.
Sári elegant-ly quick-ly PRT-decorated the tree.ACC

As pointed out by Chenchen (Julio) Song (personal communication), the hierarchical organization of manner adverbs and resultative adverbs is also reflected in the phonological characteristics of examples like (19a) and (20a): In each case, an intonational pause is necessary between the manner adverb and the resultative adverb for the strings to sound natural.

Finally, resultative adverbs may also appear in the presence of resultative PPs. Consider (21).

(21) a. Mari elegáns-an *(rövid-re) vágta Sára haját. (IN-T/*FOR-T)
Mari elegant-ly *(short-SUBL) cut Sára her.hair.ACC
'Mari elegantly cut Sára's hair short.'
b. *Mari rövid-re elegáns-an vágta Sára haját.
Mari short-SUBL elegant-ly cut Sára her.hair.ACC

What is shown above is that the resultative adverb *elegánsan* 'elegantly' must precede the resultative PP *rövidre* 'lit. onto short' and the resultative PP is obligatory in the presence of the resultative adverb, similarly to the verbal particles *be*, *fel*, *ki* and *el* in (14) and (15a).

Overall, then, Hungarian resultative adverbs seem to require the presence of an inner aspectual element, a verbal particle or a resultative PP, for their licensing. As I show in

the subsequent discussion, the structures associated with verbal particles are not necessarily accompanied by the coming about of a new result state, thereby serving as evidence for the independence of inner aspect and result states (see also Kardos and Pethő 2024 and Kardos 2024). However, once a particle verb appears with a resultative adverb in the sentence, the coming about of a result state is no longer cancelable. This can be taken as evidence for the claim that resultative adverbs can directly encode result states in addition to serving as modifiers of results in the verb phrase. Before I discuss this in more detail, in the next section, I address the distribution and interpretive effects of measure adverbs in Hungarian.

4.2. The distribution and interpretive effects of measure adverbs

In this section, I provide further support for the claim that measure adverbs form a natural class with resultative adverbs, as also argued by Jung and Choi (2023). At the same time, I propose that measure adverbs like Hungarian *részben* 'partly' and *félig* 'halfway' adjoin to inner aspectual AspP below vP. I show that these adverbial elements require a structure associated with a specific quantity, similarly to resultative adverbs, and not a result state, as proposed by Tenny (2000) and Jung and Choi (2023).

As the examples in (22) show, the presence of a result state encoded in the verbal predicate is, again, not sufficient for the licensing of measure adverbs like *részben* 'partly'. A verbal particle, ensuring a maximal-event interpretation, must appear in the predicate.

(22) a. Az ég rész-ben *(ki)-tiszt-ul-t. (IN-T/*FOR-T)
the sky part-in *(PRT)-clean-INCH-PST
'The sky partly cleared.'
b. A könyv rész-ben *(meg)-sárg-ul-t. (IN-T/*FOR-T)
the book part-in *(PRT)-yellow-INCH-PST
'The book partly became yellow.'

This restriction also characterizes verbal predicates expressing created results, as shown in (23), and a similar pattern characterizes incremental theme verbs, other than verbs expressing a created result, appearing with quantity objects like *egy sört* 'a beer' and *egy banánt* 'a banana' in (24).

(23) a. János fél-ig *(meg)-rajzolt egy autót.
János half-to *(PRT)-drew a car.ACC
'János completed half of the process of drawing a car.'
b. Juli fél-ig *(meg)-festett egy házat.
Juli half-to *(PRT)-painted a house.ACC
'Juli completed half of the process of painting a house.'

(24) a. János fél-ig *(meg)-ivott egy sört.
János half-to *(PRT)-drank a beer.ACC
'János drank half of a beer.'
b. Sára fél-ig *(meg)-evett egy banánt.
Sára half-to *(PRT)-ate a banana.ACC
'Sára ate half of a banana.'

In each example above, the absence of event-maximizing *meg* with the measure adverb *félig* 'halfway' in the sentence gives rise to an ungrammatical string. Yet another structure illustrating *félig* 'halfway' requiring a quantity structure is one without a quantity incremental theme:

(25) a. János fél-ig *(meg)-reggelizett/*(meg)-ebédelt.
János half-to *(PRT)-ate.breakfast/*(PRT)-ate.lunch
'János completed half of the breakfast/lunch-eating process.'
b. Kati fél-ig *(be)-csekkolt.
Kati half-to *(PRT)-checked
'Kati completed half of the check-in process.'

In contrast to the examples above (25) in this subsection, the verbal predicates in (25) are lacking in a theme argument and yet, in the presence of an inner aspectual verbal particle, *meg* in (25a) and *be* in (25b), the licensing of the measure adverb *félig* 'halfway' is possible. In the absence of *meg* or *be*, these examples are unnatural.

As far as the interpretive properties of structures with *félig* 'halfway' are concerned, if we assume that *félig* 'halfway' adjoins to AspP, we also predict that structures with *félig* 'halfway' are compatible with an interpretation where the eventuality of the VP has been half completed without the involvement of a new result state. This seems borne out in (26), adapted from Kardos and Pethő (2024), where the verb *takarít* 'clean' is a manner verb, in contrast to its English counterpart, which is a canonical result verb (Rappaport Hovav and Levin 2010).

(26) a. János fél-ig ki-takarított egy szobát.
János half-to PRT-cleaned a room.ACC
'János completed half of the process of cleaning a room.'
b. Enikő fél-ig ki-mosott egy függönyt.
Enikő half-to PRT-washed a curtain.ACC
'Enikő completed half of the process of washing a curtain.'
(adapted from Kardos and Pethő 2024: (28))

For example, the sentence in (26a) does not mean that the room became half clean or that half of the room became clean, but that the activity of the verbal expression has been half finished, as also pointed out by Kardos and Pethő (*ibid*.). This reading, which also characterizes (26b), is not to be confused with the "messing-around" reading of sentences like that in (27) in English, sometimes available with preverbal measure adverbs like *half*, as discussed in Tenny (2000).

(27) The doctor half cured the patient.

Tenny (2000: 308) argues that the sentence above has an interpretation "in which we understand that the doctor did a sloppy job of curing the patient". In this case it is not the core event (corresponding to the lower VP expressing a change of state) that the adverb modifies, but the manner of the activity named by the verb. For more on this use of English *half*, see also Bochnak (2013), who argues for verbs compatible with this reading to lexicalize an evaluative scale which *half* targets, in contrast to the quantity scale of

predicates like *half ate the apple*, where *half* can also target the scale associated with the quantity incremental theme *the apple* and not the verb.

The Hungarian facts are different. With predicates like *gyógyít* 'cure', a verbal particle is necessary with *félig* 'halfway' in the sentence and the interpretation of the sentence is such that the curing process has been half completed.

(28) Az orvos fél-ig *(meg)-gyógyította a beteget.
the doctor half-to *(PRT)-cured the patient.ACC
'The doctor completed half of the process of treating the patient.'

Crucially, the reading discussed in the context of the English example in (27) is not available in (28). The only reading that is available in (28) is, as the translation shows, that the doctor started the curing process and went halfway through this process.

To summarize, Hungarian measure adverbs like *félig* 'halfway' and *részben* 'partly', require a quantity structure, where the quantity/maximality interpretation is directly linked to verbal particles like *meg*, *ki* and *be* in the examples of this subsection. As also illustrated by examples such as those in (26), such structures are not necessarily accompanied by the coming about of a new result state. This is further addressed in the next section.

5. The encoding of result states in Hungarian

As the discussion below shows, result states can be directly encoded by verbal, prepositional and adverbial expressions in Hungarian. In (29), for instance, the verb is associated with a result root by virtue of being derived from the state-denoting adjective *szőke* 'blonde'.

(29) #Vera ki-szők-ít-ette a haját,
Vera PRT-blonde-CAUS-PST the her.hair.ACC
de az nem lett szőke.
but that not became blonde
'#Vera dyed her hair blonde, but it didn't turn blonde.'

The example above also shows that the cancelation of the coming about of a blonde state with respect to Vera's hair yields a semantic anomaly. This is evidence that (29) entails that Vera's hair ends up being blonde at the termination of the eventuality of the verb phrase.

In another pattern, it is the resultative PP in the sentence that is derived from a state-denoting adjective. Again, the attainment of the state expressed by the adjective is entailed, as shown by the test in (30).

(30) #Vera szőké-re festette a haját,
Vera blonde-SUBL dyed the her.hair.ACC
de az nem lett szőke.
but that not became blonde
'#Vera dyed her hair blonde, but it didn't turn blonde.'

The pattern illustrated above also characterizes pseudo-resultatives (Levinson 2010), like those in (31).

(31) a. Anna szoros-ra/*szoros-an fonta a haját.
Anna tight-SUBL/*tight-ly braided the her.hair.ACC
'Anna braided her hair tight(ly).'
b. Józsi finom-ra/*finom-an vágta a hagymát.
Józsi fine-SUBL/*fine-ly cut the onion.ACC
'Józsi chopped the onion finely.'

The resultative adverbs *szorosan* 'tightly' and *finoman* 'finely' yield ungrammaticality with the activity predicates *fonta a haját* and *vágta a hagymát*. This is expected if we assume that resultative adverbs require the presence of an event structure-building element in the sentence associated with AspP.

This restriction is also illustrated in a third result-denoting pattern in (32), where the element directly responsible for creating a telic event structure is the verbal particle *ki* in a preverbal or postverbal position. (See also (15a).)

(32) a. János foltmentes-en *(ki)-súrolt /súrolt *(ki) egy kádat.
János spotless-ly *(PRT)-scrubbed /scrubbed *(PRT) a tub.ACC
'János scrubbed a tub spotlessly.'
b. János foltmentes-en *(ki)-mosott /mosott *(ki) egy inget.
János spotless-ly *(PRT)-washed /washed *(PRT) a shirt.ACC
'János washed a shirt spotlessly.'

In the absence of the resultative adverb, the coming about of a result state is only pragmatically inferred. This is evidenced by (33). Similar examples can also be found in Kardos (2023: 267-268).

(33) a. János ki-súrolt egy kádat, de az nem változott semmit.
János PRT-washed a tub.ACC, but that not changed nothing.ACC
'János scrubbed a tub, but it didn't change.'
b. János ki-mosott egy inget, de az nem változott semmit.
János PRT-washed a shirt.ACC, but that not changed nothing.ACC
'János washed a shirt, but it didn't change.'

In the presence of the resultative adverb, however, the attainment of a result state is not cancelable.

(34) #János foltmentes-en ki-súrolt egy kádat,
János spotless-ly PRT-scrubbed a tub.ACC
de az nem változott semmit.
but that not changed nothing.ACC
'#János scrubbed a tub spotlessly (clean), but it didn't change.'

Crucially, this example shows that result states can also be contributed by resultative adverbial elements, contra the assumption that such elements only modify result states

(Geuder 2000). The telicity of the verbal predicate *kisúrolt egy kádat* 'scrubbed a tub' is directly linked to the verbal particle *ki*, as also discussed in Kardos (2023: 267).

6. Conclusion

In light of the data from Hungarian, it seems best to conclude that (i) result states are independent from inner aspect/telicity and (ii) there is evidence for the syntactic representation of the latter category, whereas the coming about of a result state is only a semantic/pragmatic effect. What also emerges is that when encoded outside the verbal root, result states may be contributed by elements directly responsible for creating event structure (i.e. Hungarian verbal particles and resultative PPs) and by elements that serve as modifiers of event structures (i.e. resultative adverbs).

The distinction between elements directly responsible for creating event structure and modifiers of event structure is also important in Borer's (2005, 2023) analysis of resultatives and verbal particles in English. She argues that resultatives like *flat* in *hammer the metal flat* act as modifiers of (a)telic structures, whereas verbal particles like *off* in predicates like *take off* create telic structures by virtue of being range assigners (Borer 2005: 203). Crucially, Hungarian resultatives like *laposra* 'lit. onto flat' in *laposra kalapálja a vasat* 'hammer the metal flat' and verbal particles like *meg* systematically create event structure (see also Kardos and Pethő 2024). By contrast, resultative adverbs like *foltmentesen* 'spotlessly' may only introduce result states. The distinction between event structure-building elements and modifiers is also nicely reflected in the morphology of these elements.

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