

Perfective and imperfective aspect in Hungarian
(Invisible) differences

Aniko Csirmaz

The paper argues for the universality of the grammatical aspectual categories *perfective* and *imperfective*. They are shown to be present even in languages such as Hungarian, where they allow variable interpretation of events. In Hungarian, grammatical aspect can be detected only by its restriction on the distribution of particles. Quantized, perfective aspect allows all particles. Cumulative, imperfective aspect disallows those particles that delimit the event and impose a quantized interpretation. This approach derives the distribution of several particle types, based on their effect on aspectual properties.

1. Introduction

The general aim of this paper is to pinpoint universality and variation among languages. Once this goal is achieved, it is possible to give a treatment of languages that is as uniform as possible and maximally restrict the search space for language-particular and idiosyncratic alternations. Apart from an esthetic appeal, this also has advantages in practical applications. With this aim in sight, this paper focuses on universality in the aspectual domain. It is argued that certain aspectual distinctions and the categories that encode these distinctions are universally present. First, I discuss the properties of aspect in general, then turn to (universal) grammatical aspect in particular. Section 3 shows that grammatical aspect variation can be observed in languages where it is not overtly encoded. The next section introduces a limited environment where grammatical aspect exceptionally surfaces in Hungarian, a language that leaves the distinction generally covert. The driving force behind the overt manifestation and exceptions to the overt distinction are also addressed. Finally, section 5 deals with negation, which masks the overt perfective – imperfective distinction, but not its semantic import. Grammatical aspectual categories thus form a part of an overall universal system across languages.

2. Aspectual categories

The paper focuses on grammatical aspect. I follow Smith (1997) in assuming a two-component theory of aspect. In this system lexical aspect (which encodes (a)telicity) is distinguished from grammatical aspect (which encodes (im)perfectivity). In this section I briefly justify this distinction and discuss the properties associated with perfective and imperfective aspect.

2.1 (A)telic and (im)perfective aspect

The independence of grammatical and lexical aspect can be shown by the contrasting values of the two aspects. Durative *in*-adverbials are compatible with a quantized (telic or perfective) predicate that possesses an inherent endpoint. *For*-adverbials can appear with a cumulative (atelic or imperfective) predicate, which lacks an endpoint inherent to the predicate. As (1) shows, the same predicate can be at once quantized (and compatible with an *in*-adverbial) and cumulative (as shown by the *for*-adverbial). This state of affairs arises because the lexical aspectual specification of the predicate is quantized (telic), while the grammatical aspectual specification is cumulative (imperfective).

- (1) a. Jean was writing a book in a month (for two weeks)
 b. Jean [IMP [write a book in a month]_{quantized}]_{cumulative} (for two weeks)

Grammatical aspect differs from lexical aspect in other respects as well. For instance, cumulativity at the lexical and grammatical aspect level has different characteristics. One distinguishing property is the framing effect (Jespersen 1931). Past imperfective predicates require another, contextually given event. The interpretation of the imperfective is anaphoric in that it is 'anchored' to the other event. A past perfective, lexically cumulative event shows no such effects.

- (2) a. ?Julie was singing
 b. Julie was singing when Jean knocked

Another difference between the aspect types is that grammatical, but not lexical aspect determines event ordering. If the atelic predicate is imperfective (3a), then it is interpreted as an event in progress at the time when knocking takes place. If the same atelic predicate is perfective (3b), then it is interpreted as following knocking in its entirety.¹

¹ The event ordering test requires *when*-clauses with instantaneous events. If the matrix event is durative, then *when* or *while*-clauses with durative events pattern like *for*- or *in*-adverbials.

- (3) a. Julie was singing when Jean knocked (simultaneous events)
 b. Julie sang when Jean knocked (consecutive events)

A further difference is also suggested by the terminology. Grammatical aspect is typically encoded by grammatical, closed class items, lexical aspect is determined compositionally by the lexical content of the constituents.

In sum, there are several arguments for treating lexical (telic or atelic) and grammatical aspect specifications (perfective or imperfective) separately. In the remainder of this section, I sketch a definition of these categories.

2.2 Formalization

The following sections give a definition of (a)telicity and grammatical aspect.

2.2.1 (A)telicity

To characterize (a)telic predicates, I adopt the definitions of cumulativity and quantization based on Krifka (1998).

- (4) A predicate P is *cumulative* iff $\forall x,y [P(x) \ \& \ P(y) \rightarrow P(x \oplus y) \ \& \ \text{card}(P) \geq 2]$
 (5) A predicate P is *quantized* iff $\forall x,y [P(x) \ \& \ P(y) \rightarrow y \not\subset x]$

Predicates can be cumulative or quantized both within the nominal and verbal domain. A predicate is cumulative iff whenever it applies to two or more entities, it also applies to their join. Given two portions of *water*, their union is also *water*; thus *water* is cumulative. A nominal predicate is quantized iff it only applies to disjoint arguments. For instance, if an entity is described as *an apple*, then it will not have a proper subpart that is also *an apple*.

Cumulativity and quantization can also be applied in the verbal domain. Given a (neo)Davidsonian approach (Davidson 1967), verbs take event arguments which are relevant for the definitions above.² According to the definitions, atelic predicates are cumulative, while telic predicates are quantized. For a telic event such as *building a house*, the event has no proper subpart that also counts as *building a house* (5). Atelic events are cumulative: if there are two events that can be described as *walking*, for example, then the union of these two events can also be described as *walking* (4).

² With the predicate saturated for all arguments except for the event.

2.2.2 (Im)perfectivity

For grammatical aspectual categories, I adopt definitions using time intervals (based on Pancheva 2003). Aspectual heads (section 3.3) take a predicate argument and are evaluated with respect to a time interval i , the reference time. Perfective requires i to be coextensive with the event time: the event is viewed in its entirety. With imperfective aspect, i must be a subinterval of the event time.³ In this 'insider' view of imperfectives, only a part of the event is visible.

- (6) Perfective
 $[[\text{Asp}_{\text{perf}}]]^i = \lambda P . \exists e [\tau(e) = i \ \& \ P(e)]$
- (7) Imperfective
 $[[\text{Asp}_{\text{imp}}]]^i = \lambda P . \exists e [i \subset \tau(e) \ \& \ P(e)]$,
 where e is an event; $\tau(e)$ is the time interval during which the event holds (event time); P is a predicate of events; and i is a time interval

Given a modified definition of cumulativity and quantization, perfective aspect is quantized and imperfective is cumulative. Consider imperfective aspect first. If an imperfective predicate P is true when evaluated with respect to the time intervals i and j , then it is also true with respect to the union of the intervals, $i \oplus j$. Perfectives are quantized: if a perfective predicate P is true when evaluated with respect to the time intervals i and j , then $i \not\subset j$ (in fact, $i = j$).

I proposed a treatment of lexical and grammatical aspectual properties. I also showed that cumulativity and quantization are relevant within both the lexical and grammatical aspect domain, applying to events and time intervals, respectively. In the next section I discuss languages without overt grammatical aspect distinction and argue that the distinction is still present covertly. In later sections, I will provide an account of particle behavior in Hungarian based on the cumulativity / quantization restrictions on grammatical aspect.

³ In addition, the final endpoint of $\tau(e)$ must be excluded from i with imperfectives

3. *No overt (im)perfective distinctions*

Some languages, including German and Hungarian, lack overt perfective – imperfective distinctions. Others, such as French, lack the distinction only in certain tenses. I will argue that in these environments, the unique verb form is ambiguous between a perfective and imperfective aspectual specification. That is, it can be seen as modified by a covert perfective or imperfective head.

This account is supported by the possible interpretations of simple verb forms, which show no overt grammatical aspect distinctions. These verbs can denote an event that is simultaneous with the subordinate event (8), or an event consecutive to it (9). With distinct grammatical aspectual forms, simultaneous readings arise with imperfective and consecutive readings with perfective verbs. Thus verb forms without overt grammatical marking show the union of readings of overtly marked forms. The readings are illustrated below; the adverbials in parentheses highlight the relevant readings.

- (8) a. amikor megérkeztünk, Juli (éppen) telefonált
when arrived-1PL J-NOM just.then phoned-3SG
'when we arrived, Julie was talking on the phone' (Hungarian; imperf.)
b. als wirankamen, telefonierte Julia (gerade)
as we arrived phoned J just.then
'when we arrived, Julie was talking on the phone' (German; imperf.)
- (9) a. amikor megérkeztünk, Juli (rögtön) telefonált
when arrived-1PL J-NOM straight.away phoned-3SG
'when we arrived, Julie phoned straight away' (Hungarian; perf.)
b. als wirankamen, telefonierte Julia (sofort)
as we arrived called J straight.away
'when we arrived, Julie phoned straight away' (German; perf.)

Simple verb forms also show an ambiguity in the interpretation of present tense forms. As (10) shows, the present tense form can either denote an ongoing event, or a future / habitual one. The former meaning characterizes imperfective, and the latter, perfective forms.

- (10) Juli telefonál
J-NOM calls-3SG
'Julie is speaking on the phone' (imperfective)
'Julie will call' / 'Julie (often) calls' (perfective)

To conclude, in languages without overt distinction of grammatical aspectual categories, verb forms show the union of readings that are available for perfective and imperfective verb forms. These readings were described, among others, by Smith (1997) and Bohnemeyer & Swift (2000). In the remainder of this section I summarize these accounts and propose that – in contrast to these suggestions – overt and covert grammatical aspect can be treated the same way.

3.1 Neutral grammatical aspect

Smith (1997) presents an extensive survey of aspect systems. She identifies three types of grammatical aspect: perfective, imperfective and neutral. Neutral aspect characterizes predicates in languages that lack overt grammatical aspect distinction. Unlike Smith (1997), I propose that only two grammatical aspectual categories are needed crosslinguistically: perfective and imperfective.

According to Smith (1997), neutral aspect is characterized by variable interpretation: perfective or imperfective. Neutral aspect is, however, unlike imperfective aspect in that it cannot coerce an instantaneous predicate into a durative one. The possibility of coercion by an overt imperfective is illustrated in (11) with the instantaneous *win*. If the event consists of a single point in time, imperfective aspect – evaluated with respect to a proper subinterval of the event time, as in (7) – is not compatible with the default predicate meaning. When coupled with overt imperfective aspect, the predicate is coerced and refers to an interval preceding the event itself. The imperfective of the instantaneous event can be true even if the event itself does not take place.

- (11) Seabiscuit was winning the race, but at the last moment Tedburrow jumped ahead and won the race

Coercion cannot be observed in languages without overt grammatical aspect marking. The bare verb form does not have a meaning parallel to (11); it cannot refer to a time interval preceding the event itself.

- (12) # Seabiscuit megnyerte a verseny-t, de az utolsó percben
 S-NOM won the race-ACC but the last minute-in
 Tedburrow az élre tört és megnyerte a verseny-t
 T-NOM the front-onto broke and won the race-ACC
 'same' (Hungarian)

Only overtly marked imperfective aspect can coerce an instantaneous predicate. Lack of coercion is not, however, a conclusive argument for assuming a third type of grammatical aspect. Even some overtly marked imperfectives, such as the Chinese *zai*, fail to coerce instantaneous predicates.

- (13) a. tamen *zai* da qiu
 they *zai* play ball
 'they are playing ball'
 b. # ta *zai* ying sai pao
 he *zai* win race run
 'he is winning the race' (Smith 1997)

As (13) shows, not all overt imperfectives induce coercion on an instantaneous predicate. It is thus possible to maintain an ambiguity-based account of covert grammatical aspect marking, without a third type of grammatical aspect. Under this view, German and Hungarian predicates are ambiguous between a perfective and imperfective interpretation.

Pancheva (2003) cites Bulgarian as having neutral aspect in addition to perfective and imperfective.⁴ Neutral is imperfective-like in that it does not assert the existence of the endpoint of the event and allows durative *for*-adverbials. The perfective-like properties of neutral aspect include consecutive event ordering. I suggest that the hybrid nature of neutral aspect can still be accounted for by assuming perfective grammatical aspect, which is compatible with the attested event ordering. If perfective aspect modifies an atelic rather than telic predicate, then the lack of an inherent endpoint and compatibility with *for*-adverbials are expected. According to the proposal advocated here, neutral and perfective predicates are distinguished at the lexical rather than the grammatical aspect level.

In this section I proposed that no more than two grammatical aspect categories are necessary. In section 3.2 I discuss an approach which does not require grammatical aspectual specification. In absence of a specified category, Bohnemeyer & Swift (2000) invoke a default aspectual interpretation.

⁴ Perfective and imperfective forms are distinguished by a verbal prefix:

(i)	az	<i>stroix</i>	pjasáčna	kula	
	I	build-neut.1sg.past	sand	castle	'I was engaged in building a sandcastle'
(ii)	az	<i>postroix</i>	pjasáčna	kula	
	I	build-perf.1sg.past	sand	castle	'I built a sandcastle' (Pancheva 2003)

3.2 Default aspect

Bohnenmeyer & Swift (2000) advocate a different approach to languages without overt grammatical aspect marking. They suggest that the lexical aspectual values correlate with default grammatical aspect value: atelic predicates are imperfective by default and telic predicates are perfective. In contrast to a default interpretation that does not require the presence of an aspectual category, I suggest that the grammatical aspectual categories perfective and imperfective are specified for all events crosslinguistically.

In Bohnemeyer & Swift (2000) default aspectual interpretation surfaces in absence of overt grammatical aspect distinction, correlating with lexical aspect. The connection between lexical aspect and default grammatical aspect interpretation is the common property between the aspectual categories: both atelic and imperfective predicates are cumulative, while both telic and perfective predicates are quantized. The correlation is a tendency; it does not define an exclusive interpretation. As described earlier, predicates have an ambiguous interpretation in languages lacking overt grammatical aspect distinctions. In addition, a similar tendency exists in languages that overtly mark grammatical aspect:

- (14) a. ?she drew
 b. she was drawing
 (15) a. she drew a circle
 b. ?she was drawing a circle

I suggest that the markedness of perfective atelic and imperfective telic predicates is due to coercion operations that are necessary to derive those interpretations. For an atelic predicate to be perfective, an endpoint is necessary. This endpoint is arbitrary, having no truth-conditional effect apart from yielding a delimited event.⁵ Atelic predicates do not possess an inherent endpoint, which is added as the result of an additional operation. Similarly, telic predicates have an inherent endpoint and imperfective events denote a cumulative event. Imperfective telic predicates require the inherent endpoint to be stripped off. The preferences encoded in the correlations by Bohnemeyer & Swift (2000) are ultimately due to the presence or absence of endpoints in the lexical and grammatical aspectual domain. As such, they characterize languages with or without overt grammatical aspect distinction.

⁵ The ‘perspective-based’ approach to grammatical aspect also requires a delimited event, as the prerequisite for viewing the event as a whole.

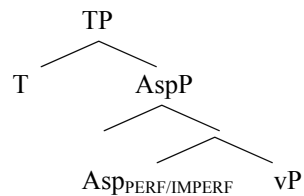
3.3 Minimal aspectual categories

In the preceding sections I argued that the interpretation of Hungarian and German verbs can be successfully accounted for by assuming ambiguous grammatical aspect specification. Extending this proposal, I suggest that it is a universal property that perfective and imperfective aspect is universally available, and that only these two categories of grammatical aspect exist.

The difference between coercion capacities of imperfectives across languages is due to the availability of a coercion operator. Let us assume that an operator *O* is responsible for coercing an instantaneous predicate into a durative one (section 3.1). Languages differ in whether *O* is available; it is present in English and French, but absent in Chinese. The operator *O* is also absent in languages without overt grammatical aspect marking. I assume (following de Swart 2000) that this absence follows from a requirement on coercion operators. De Swart (2000) argues that coercion operators must be triggered by an *overt* aspectual operator. Without overt grammatical aspect marking, no coercion operator is available.

To give a specific implementation of grammatical aspect, I assume that it is encoded by the functional head *Asp*, which can be perfective or imperfective. *Asp* takes *vP* as its complement and is dominated by *TP*.

(16)



In the next section I present an environment where the distinction between perfective and imperfective predicates can be detected even in a language where this distinction is otherwise unmarked. I will argue that the distributional difference is due to the cumulativity of imperfective and quantization of perfective predicates.

4. Evidence for null (im)perfective heads

Until now, only examples of identical perfective and imperfective German / Hungarian verb forms were shown. Hungarian supplies a limited environment where grammatical aspect is overtly distinguished: particle verbs. In the case of perfective predicates, the particle immediately precedes the verb. With imperfective aspect, the particle is immediately postverbal.⁶ After illustrating the construction, I propose an account in terms of the semantic restrictions imposed by grammatical aspect.

4.1 Particle verbs in Hungarian

(17) is an instance of perfective aspect. This is shown by the compatibility of the predicate with an *in*-adverbial, which diagnoses quantized predicates. (18), with a postverbal particle, is imperfective – as shown by its compatibility with a *for*-adverbial and the framing effect.

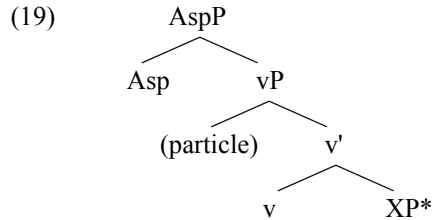
- (17) Juli (két perc alatt) *le_{particle} ment_v* a lépcsőn
 J-NOM two minute under down went the stair-on
 'Julie went down the stairs in two minutes'
- (18) Juli (két perc-e) *ment_v le_{particle}* a lépcsőn,
 J-NOM two minute-POSS went down the stair-on
 ??(amikor össze esett)
 when together fell
 'Julie was going down the stairs for two minutes when she collapsed'

4.2. Account of particle verb orders

Let us assume that particles are merged in Spec,vP. The Hungarian verb phrase is non-configurational (É. Kiss 1987); thus I assume that arguments can be ordered arbitrarily (indicated by XP*) under an *n*-ary branching v' node. I also assume that the verb is the leftmost constituent within v'.

⁶ I am ignoring focus constructions and negation (with the exception of the discussion in section 5). In Hungarian, focus is immediately preverbal, with the particle following the verb. Thus a perfective sentence with focus is surface-identical to an imperfective sentence. Compare (i) with (18).

(i) JULI *ment_v le_{particle}* a lépcső-n
 J-nom went down the stair-on
 'It was Julie who went down the stairs'



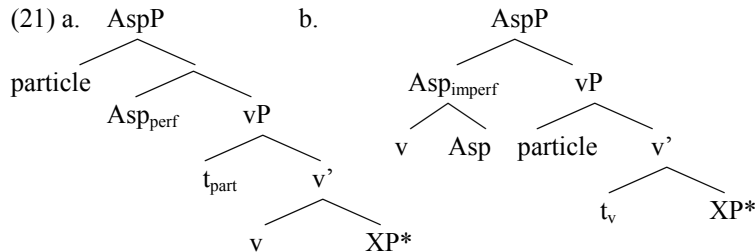
A further necessary assumption is that the functional head Asp triggers overt movement to its specifier or head position. Asp does not impose a category restriction on the moved element; any overt constituent can satisfy this requirement. Locality – defined by c-command and precedence – determines which element moves: from two constituents C_1 and C_2 c-commanded by Asp, it is C_1 that moves if C_1 c-commands or precedes C_2 .

Recall from section 2.2.2. that perfective events are quantized and imperfectives are cumulative. Particles denoting an endpoint (goal or result) yield quantized predicates. The endpoint in (20), for instance, converts an atelic predicate into a telic one. I assume that the same holds for grammatical aspect.

- (20) a. [Julie walked]_{cumulative}
 b. [Julie walked out / to the store]_{quantized}

Armed with these assumptions, let us consider how word order is derived. With a perfective Asp, it is the particle – which c-commands all other constituents within the vP – that moves to Spec,AspP (21a). The particle yields a quantized interpretation, compatible with the denotation of the perfective Asp. Particle movement is string-vacuous, leaving the linear order of constituents intact.

If Asp is imperfective, then the particle is excluded from Spec,AspP. Imperfective Asp is, by assumption, cumulative, and particles in Spec,AspP yield a quantized interpretation. Licensed by semantic compatibility, the verb, rather than the particle, moves to Asp (21b). This movement is not string-vacuous, as it reverses the particle – verb order.



The particle moves to satisfy the requirement of Asp, except when movement leads to conflicting specifications imposed by Asp and the particle. That is, particle movement is blocked only by aspectual conditions.

An alternative strategy is to require the verb to raise to Asp in all cases. Particle movement to a perfective Spec,AspP is then triggered to ensure quantization. Such a triggering account requires a particle to yield a quantized interpretation with perfective aspect. Particles are, however, not required for a quantized interpretation. Recall that bare verbs, which lack particles, can have perfective and imperfective interpretation alike. In addition, Hungarian possesses elements whose distribution closely mimics that of particles.⁷ These elements, including bare objects (not modified by quantifiers or determiners), are preverbal in both perfective and imperfective sentences:

- (22) a. amikor megérkeztünk, Juli (éppen) ebéd-et_{OB} főzött_V
 when arrived-1PL J-NOM just.then lunch-ACC cooked-3SG
 ‘when we arrived, Julie was cooking lunch’
 b. amikor megérkeztünk, Juli (rögtön) ebéd-et_{OB} főzött_V
 when arrived-1PL J-NOM straight.away lunch-ACC cooked-3SG
 ‘when we arrived, Julie cooked lunch straight away’

As indicated by the ordering interpretation of the events, (22a) is perfective, while (22b) is imperfective. The relevant difference between particles and bare objects is that while particles denote an endpoint, bare objects do not. Thus bare objects fail to quantize imperfectives and can freely move to Spec,AspP.⁸

The distribution can be captured easily by assuming, as suggested above, that particles always move to Spec,AspP, except when movement results in conflicting aspectual specifications. The alternative view, where particle movement is triggered by perfective aspect, must assume separate mechanisms to treat these elements. I conclude that the structure proposed in (19), along with the cumulativity/quantization restrictions on grammatical aspect and a blocking account of particles provides a simple account of the facts.

⁷ Bare objects and other elements – including manner adverbs and inessives – have a distribution similar to particles. They follow the verb in negative sentences and focus constructions. In restructuring contexts, they raise to the preverbal position in the matrix clause. The only difference is the position in imperfectives: endpoint-denoting particles are postverbal, and other particle-like elements are preverbal. The wide range of particle-like elements with similar distribution recall Icelandic stylistic fronting (SF) (e.g. Holmberg 2000). The two structures, however, differ in a number of respects. For instance, SF has no effect on interpretation, while Hungarian particle position does; and a subject gap is required for SF, but not for particles. It is not clear then whether a single treatment is required.

⁸ Idiomatically interpreted particles – including *fel_{particle} karol* (up embrace ‘support, embrace’) and *be_{particle} rúg* (in kick ‘become drunk’) also show this behavior. Their constant preverbal position follows, since the particle does not denote an endpoint.

4.3 Particles as perfectives only

Not all endpoint-denoting particles behave alike in Hungarian. Some, such as the particle *meg* that signals completion, can only appear with perfective aspect.

- (23) a. Juli *meg*_{particle} *ette*_v a tortá-t
 J-NOM part ate the cake-ACC
 'Julie ate the cake'
- b. *Juli *ette*_v *meg*_{particle} a tortát (amikor Mari észrevette)
 J-NOM ate perf the cake-ACC when M-NOM noticed
 'Julie was eating the cake (when Mary noticed)'⁹

Particles limited to perfective environments denote an endpoint or result. To account for the lack of imperfective readings, I assume that these particles are merged in Spec,AspP rather than Spec,vP. Since the particles denote an endpoint, they cannot be merged with an imperfective Asp: this operation would yield a quantized interpretation, while imperfectives must be cumulative. Merging the particle with a perfective Asp satisfies the aspectual requirements.

To wrap up: while most predicates in Hungarian are ambiguous between a perfective and imperfective interpretation, endpoint-denoting particles show an overt difference. These particles are preverbal with perfective aspect and postverbal with imperfective aspect (section 4.1). With a subset of endpoint-denoting particles, the imperfective reading is absent (section 4.3). Bare objects are preverbal with both perfective and imperfective aspect. This pattern can be accounted for by assuming that (i) particles can be merged in Spec,vP or Spec,AspP and (ii) particle movement is blocked if it would quantize an imperfective Asp, but is allowed otherwise. In the next section, I show that the different behavior of endpoint-denoting particles and the associated meanings can also be detected in negative sentences, where the overt difference is masked.

5. Negation

Negative sentences provide an environment where word order differences between perfective and imperfective sentences are neutralized. The asymmetric behavior of particles can still be detected; the imperfective reading is available only if it is also available in affirmative sentences. This suggests a compositional view of negation (as in Giannakidou (2000), contra Verkuyl (1993), among others).

⁹ (23b) is grammatical with the subject in focus, a reading ignored here (see footnote 3).

5.1 Structure of negation

I assume that negation (*nem*) is merged in Spec,NegP and that Neg requires *v* to raise to Neg via Asp. The structure is illustrated in (24) for a non-particle verb.

- (24) a. Juli *nem* futott
 J-NOM not ran-3SG
 'Juli didn't run'
- b. NegP
-
- ```

graph TD
 NegP --> nem
 NegP --> Neg1[Neg]
 Neg1 --> Asp1[Asp]
 Neg1 --> Neg2[Neg]
 Asp1 --> v1[v]
 Asp1 --> Asp2[Asp]
 v1 --> tv[t_v]
 v1 --> XP1[XP*]
 Neg2 --> tAsp[t_Asp]
 Neg2 --> vP[vP]
 vP --> v2[v]
 vP --> XP2[XP*]

```

With particle verbs, all particles are postverbal, since the verb moves to a head position above Asp. Even though aspectual differences are masked, they can be shown to persist by considering the interpretation of negative sentences.

### 5.2 Interpretation of negation

Given a compositional view of meaning, it is expected that the differences between perfective and imperfective negative sentences can be detected even with negation. When a perfective event is negated, negation applies to the complete event, including the endpoint. Negation in this case implies, but does not entail negation of all proper subintervals: a proper subevent can be true, while the complete event is false. With a negated imperfective event, the truth conditions are stricter. Negation in this case applies to all subevents; thus no subevent can be true if negation holds.<sup>10</sup> The difference is illustrated below, where the solid line represents the complete cake-eating event with its endpoint.

<sup>10</sup> As the reviewer notes, a negated imperfective can, in some circumstances, allow the truth of the event. Such an environment is shown below.

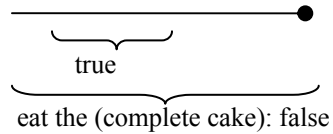
(i) Julie was eating a cake and watching a movie. During the most frightening scenes she wasn't eating, but sat motionless glued to the screen

The structure in (i) recalls aspect shift with negation, illustrated below. (ii) asserts that no event of finding glasses took place. (iii) with an aspect shift, in contrast, allows for Julie's locating her glasses eventually, as long as it took place outside of a two-hour interval.

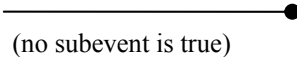
(ii) Julie didn't find her glasses

(iii) For two hours, Julie didn't find her glasses

- (25) a. Julie didn't eat the cake [allows a subevent to hold]



- b. Julie wasn't eating the cake (at any time) [no subevent holds]



Given this difference, if a subevent is true, then only the negation of the perfective event can hold, since it falsifies negation of an imperfective.

### 5.3 Negated particle constructions

The difference between negated perfective and imperfective sentences sketched above can be detected in Hungarian. Recall that most particle constructions and all bare verbs allow ambiguous readings. (26) is either perfective or imperfective, shown in (26a,b). Similar distinctions arise with simple verb predicates and bare objects.

- (26) Juli nem *ment<sub>v</sub>* *le<sub>particle</sub>* a lépcső-n  
 J-NOM not went down the stair-on  
 'Julie didn't go down the stairs'
- a. *Perfective*: Julie didn't go down the stairs. Even though she started, she never got to the bottom
- b. *Imperfective*: Julie wasn't going down the stairs. She never even started

Unlike (26), (27) allows only the perfective reading. This is expected since, as shown in section 4.3, this predicate is compatible with only perfective grammatical aspect.

---

I suspect that this type of aspect shift (also Verkuyl 1993, a.o.) is only possible if a salient time interval is present (*during the most frightening scenes* in (i)). With the aspect shift, it is asserted that during the interval there was no event of a specific kind in progress. The aspect shift allows discontinuous events to hold, as the cake-eating event of (i) shows. I'm disregarding this shifted reading here.

- (27) Juli nem *ette*<sub>v</sub> *meg*<sub>particle</sub> a tortá-t  
 J-NOM not ate-3SG part the cake-ACC  
 'Julie didn't eat the cake'  
 a. *Perfective*: Julie didn't eat the cake. Even though she started,  
 she never finished all of it  
 b. *#Imperfective*: Julie wasn't eating the cake. She never even started.

The unavailability of (27b) can be shown by a short dialogue. (26) can be interpreted as the negation of an imperfective event. As such, it is falsified by the truth of a proper subevent. Thus if the event has already started, the negation is false:

- (28) Perfective / imperfective particle  
 A. Juli nem *ment*<sub>v</sub> *le*<sub>particle</sub> a lépcső-n  
 J-NOM not went down the stair-on  
 'Julie didn't go down the stairs' (= (26))  
 B. de igen, már elindult  
 but yes, already started  
 'but yes, she already started'

In contrast, no imperfective reading is possible for (23), the affirmative counterpart of (27). The fact that the event has started does not render the negation false, hence the markedness of (29b).

- (29) Perfective participle only  
 A. Juli nem *ette*<sub>v</sub> *meg*<sub>particle</sub> a tortá-t  
 J-NOM not ate-3SG part the cake-ACC  
 'Julie didn't eat the cake' (= (27))  
 B. #de igen, már elkezdte enni  
 but yes already started eat-INF  
 'but yes, she already started eating it'



Negative sentences provide further support to the claim that grammatical aspect distinction is relevant even in languages where the difference is not (necessarily) overt. Negation masks the word order differences that distinguish perfective and imperfective particle constructions in Hungarian. The difference in meaning can still be shown to be present. As expected, those predicates that allow only perfective aspect fail to have an ambiguous interpretation.

### *6. Conclusion*

One of the goals in this paper was to minimize the range of universally available aspectual categories. It was argued that grammatical aspect distinction is universally restricted to perfective/imperfective and that these aspectual categories are present in all languages. Hungarian was shown to provide a restricted environment where the distinction between perfective and imperfective is overt. This environment is limited to particle verbs where the particle denotes an endpoint; in this case, word order difference corresponds to interpretation differences. I argued that the word order difference follows from the incompatibility of quantization imposed by the particle and the cumulative requirement of imperfectives. The approach also accommodates the distribution of particles that do not denote an endpoint and of those that only appear in perfective predicates. It was also shown that while negation masks surface differences, the meaning differences persist, suggesting a strictly compositional approach to the interpretation of negation.

### *Acknowledgements*

I am grateful to R. Bhatt, K. É. Kiss, V. Hacquard, S. Iatridou, Y. Lee, D. Pesetsky, C. Piñón, Gy. Rákosi, N. Richards, L. Vicente, M. Wagner and the editors of the ConSole XII proceedings for help in developing the ideas presented here. This research was partially funded by the OTKA grant TS 40705. The usual disclaimers apply.

*References*

- Bohnenmeyer, J. and M. Swift (2000). Default aspect: The semantic interaction of aspectual viewpoint and telicity. To appear in A. van Hout, H. de Swart and H. Verkuyl (eds.) *Perspectives on Aspect*. UiL/OTS Working Papers, Utrecht.
- Davidson, D. (1967). The logical form of action sentences. in N. Rescher (ed.) *The Logic of Decision and Action*. University of Pittsburgh Press, Pittsburgh. reprinted in Davidson (1980) *Essays on Actions and Events*. Clarendon Press, Oxford.
- Dowty, D. (1977). Toward a semantic analysis of verb aspect and the English 'imperfective paradox'. *Linguistics and Philosophy* 1:45-78.
- Dowty, D. (1979). *Word Meaning and Montague Grammar*. D. Reidel, Boston.
- É. Kiss, K. (1987). *Configurationality in Hungarian*. Kluwer, Dordrecht.
- Giannakidou, A. (2002). *Until* crosslinguistically, aspect and negation: a novel argument for two *untils*. in B. Jackson (ed.) *Semantics and Linguistic Theory 12*. CLC Publications, Cornell University, Ithaca.
- Holmberg, A. (2000). Scandinavian stylistic fronting: How any category can become an expletive. *Linguistic Inquiry* 31:3.
- Jespersen, O. (1931). *A Modern English Grammar on Historical Principles*. Allen and Unwin, London.
- Krifka, M. (1998). The origins of telicity. S. Rothstein (ed.) *Events and Grammar*. Kluwer, Dordrecht.
- Pancheva, R. (2003). The aspectual makeup of perfect participles and the interpretation of the perfect. in A. Alexiadou, M. Rathert and A. von Stechow (eds.) *Perfect Explorations*. Mouton de Gruyter, Berlin.
- Smith, C. (1997). *The Parameter of Aspect*. Kluwer, Dordrecht. 2nd ed.
- Swart, H. de (2000). Tense, aspect and coercion in a cross-linguistic perspective. in M. Butt and T. H. King (eds.) *Proceedings of the Berkeley Formal Grammar Conference*. CSLI, Stanford.
- Verkuyl, H. (1993). *A Theory of Aspectuality*. Cambridge University Press, Cambridge.