[5] The situation with *a legtöbb* 'most' is less straightforward, because a noun phrase headed by *a legtöbb* 'most' can only appear in clauses with a focused constituent, but DE-verbs are excluded from such clauses to begin with, if my reasoning above is correct.

[6] *Kevés* 'few, little' could also be listed here, but a noun phrase headed by *kevés* 'few, little' obligatorily appears in the preverbal focus position, and so it is not immediately apparent whether such clauses should count as neutral or not. Arguably, however, such clauses are neutral, because it is the inherent negative meaning of *kevés* 'few, little' (≈ *nem sok* 'not many, not much') that attracts it to the focus position.

[7] According to Anna Szabolcsi (pers. comm.), indefinites headed by *egy* are so-called positive polarity items, which seems descriptively correct. Presumably, this would also generally be true of indefinites headed by numerals. One effect of *sem* 'neither' would then be to create a negative polarity item out of a positive polarity item.

[8] A verbal particle normally appears after its host verb in negative sentences.

[9] Early versions of the present approach were presented at the Sixth Symposium on Logic and Language in Budapest on 30 Aug. 1998 and at the Fifth International Conference on the Structure of Hungarian in Budapest on 21 May 2001. See van Geenhoven (1998) for a Semantic account of incorporation in the same vein, though she does not discuss Hungarian, where as I point out below, DE-verbs do not syntactically incorporate their direct internal argument.

[10] In case of more than one internal argument, the 'direct internal argument' is the theme/patient argument.

[11] The term 'event' is used in its broad sense, as covering processes and states as well.

[12] By convention, a superscript indicates the discourse referent introduced and a subscript, the intended antecedent discourse referent.

[13] In what follows, tense will be ignored and the question of how proper names should be treated in a dynamic framework will be set aside (see Muskens 1996).

[14] Strictly speaking, Heim does not attribute a uniqueness presupposition to definites.

[15] McNally (1998) analyzes existential *there* as taking a predicate argument in order to account for the parallel restriction in English.

[16] Recall footnote 7 for the suggestion that such DPs are positive polarity items and that the addition of *sem* neither makes them negative polarity items.

CHRISTOPHER PIÑÓN*

WEAK AND STRONG ACCOMPLISHMENTS

1. DISTINGUISHING ACCOMPLISHMENTS

Traditional tests for distinguishing accomplishments from activities in English (e.g. see Dowty 1979, chapter 2.2.3) include compatibility with temporal *in*-phrases and the availability of two interpretations when modified by *almost*, as seen by the contrasts in (2)–(6), where *paint a picture* and *write a paper* are accomplishment verb phrases and *paint pictures* and *write papers*, activity verb phrases. Following Rapp and von Stechow (1999), the two readings of *almost* will be called the 'counterfactual' and the 'scalar' interpretation, respectively.

(1) a. Rebecca painted a picture.
b. Rebecca painted pictures.

(2) a. Rebecca painted a picture in an hour.
b. #Rebecca painted pictures in an hour.

(3) a. Daniel wrote a paper.
b. Daniel wrote papers.

(4) a. Daniel wrote a paper in three days.
b. #Daniel wrote papers in three days.

(5) a. Rebecca almost painted a picture.
counterfactual: Rebecca did not begin painting a picture
scalar: Rebecca did not finish painting a picture
b. Rebecca almost painted pictures.
counterfactual: Rebecca did not begin painting pictures
(no scalar interpretation)

(6) a. Daniel almost wrote a paper.
counterfactual: Daniel did not begin writing a paper
scalar: Daniel did not finish writing a paper
b. Daniel almost wrote papers.
counterfactual: Daniel did not begin writing papers
(no scalar interpretation)

Despite initial appearances, I want to argue that the two aforementioned criteria do not diagnose a single class of accomplishments. In particular, the criterion of compatibility with *in*-phrases picks out a larger class of accomplishments than the availablity of two readings when modified by *almost*. I will refer to as 'weak accomplishments' those accomplishments that are compatible with *in*-phrases but which

Katalin É. Kiss (ed.), Event Structure and the Left Periphery Studies on Hungarian, 91–106.

exhibit only a counterfactual interpretation when modified by *almost* and call 'strong accomplishments' those accomplishments that are compatible with *in*-phrases and have both a counterfactual and a scalar interpretation in combination with *almost*. This classification is summarized as follows:

(7) a. *weak accomplishments* are compatible with *in*-adverbials but have only the counterfactual interpretation with *almost*
b. *strong accomplishments* are compatible with *in*-adverbials and have both a counterfactual and a scalar interpretation with *almost*
c. *accomplishments* are compatible with *in*-adverbials (i.e., every accomplishment is either weak or strong)

In a way, weak accomplishments are less robust accomplishments than strong accomplishments are because they share with activities the property that only a counterfactual interpretation is available when modified by *almost* – in this sense, they are closer to activities than strong accomplishments are.

The main empirical argument for the distinction between weak and strong accomplishments comes from languages that distinguish them more sharply than English does.[1] One such language is Hungarian, which has a class of verbs that may head verb phrases which (by means of aspectual composition) express weak but not strong accomplishments. To see this, let us consider the behavior of the verbs *fest* 'paint' and *ír* 'write' with respect to the two diagnostics mentioned in (7):

(8) Rebeka festett egy képet.
Rebecca painted a picture.ACC
'Rebecca painted a picture.'

(9) a. Rebeka egy óra alatt festett egy képet. (cf. (2))
Rebecca an hour under painted a picture.ACC
'Rebecca painted a picture in an hour.'
b. Rebeka majdnem festett egy képet. (cf. (5))
Rebecca almost painted a picture.ACC
'Rebecca almost painted a picture.'
counterfacutal: Rebecca did not begin painting a picture
(no scalar interpretation)

(10) Dániel írt egy dolgozatot.
Daniel wrote a paper.ACC
'Daniel wrote a paper.'

(11) a. Dániel három nap alatt írt ety dolgozatot. (cf. (4))
Daniel three day under wrote a paper.ACC
'Daniel wrote a paper in three days.'
b. Dániel majdnem írt egy dologozatot. (cf. (6))
Daniel almost wrote a paper.ACC
'Daniel almost wrote a paper.'
counterfactual: Daniel did not begin writing a paper
(no scalar interpretation)

Since *fest egy képet* 'paint a picture.ACC' and *ír egy dolgozatot* 'write a paper.ACC' pattern according to (7a), they are weak accomplishments.

Strong accomplishments in Hungarian are overwhelmingly based on verbs with verbal particles.[2] The strong accomplishments corresponding to *fest* 'paint' and *ír* 'write' are *meg-fest* 'PRT-paint' and *meg-ír* 'PRT-write' (both with the verbal particle *meg*). In contrast to *fest egy képet* 'paint a picture.ACC' and *ír egy dolgozatot* 'write a paper.ACC', *meg-fest egy képet* 'PRT-paint a picture.ACC' and *meg-ír egy dolgozatot* 'PRT-write a paper.ACC' pattern according to (7b) and hence are strong accomplishments:[3]

(12) Rebeka meg-festett egy képet.
Rebecca PRT-painted a picture.ACC
'Rebecca painted a picture'

(13) a. Rebeka egy óra alatt meg-festett egy képet. (cf. (2))
Rebecca an hour under PRT-painted a picture.ACC
'Rebecca painted a picture in an hour'
b. Rebeka majdnem meg-festett egy képet. (cf. (5))
Rebecca almost PRT-painted a picture.ACC
'Rebecca almost painted a picture'.
counterfactual: Rebecca did not begin painting a picture
scalar: Rebecca did not finish painting a picture

(14) Dániel meg-írt egy dolgozatot.
Daniel PRT-wrote a paper.ACC
'Daniel wrote a paper.'

(15) a. Dániel három nap alatt meg-írt egy dolgozatot. (cf. (4))
Daniel three day under PRT-wrote a paper.ACC
'Daniel wrote a paper in three days'
b. Dániel majdnem meg-írt egy dolgozatot. (cf. (6))
Daniel almost PRT-wrote a paper.ACC
'Daniel wrote a paper in three days'
counterfactual: Daniel did not begin writing a paper
scalar: Daniel did not finish writing a paper

Another respect in which the morphologically simple verbs *fest* 'paint' and *ír* 'write' differ from *meg-fest* 'PRT-paint' and *meg-ír* 'PRT-write' is that the former are compatible with bare plural object noun phrases, whereas the latter are not:

(16) a. Rebeka képeket festett.
Rebecca pictures.ACC painted
'Rebecca painted pictures.'
b. #Rebeka meg-festett képeket.
Rebecca PRT-painted pictures.ACC

(17) a. Dániel dolgozatokat írt.
Daniel papers.ACC wrote
'Daniel wrote papers.'

b. Dániel meg-írt dolgozatokat.
Daniel PRT-wrote papers.ACC

It would be attractive to relate this contrast to the idea that *meg-fest* 'PRT-paint' and *meg-ír* 'PRT-write' are strong accomplishments, whereas *fest* 'paint' and *ír* 'write' are not, and this is indeed what I aim to do.

2. ANALYZING ACCOMPLISHMENTS

The intuition behind the distinction between weak and strong accomplishments that I want to pursue is that strong accomplishments encode a notion of *finishing* that weak accomplishments do not encode. It is this notion of finishing that accounts both for the (optional) presupposition of strong accomplishments that there is an earlier event of the same type that affects the object in question (as witnessed by the two interpretations with *majdnem* 'almost'; see (13b) and (15b)) and for the observation that strong accomplishments are incompatible with bare plural noun phrases (see (16b) and (17b)). Since weak accomplishments do not exhibit these two properties, the conclusion is that they do not encode this notion of finishing. In this section, I will explicate the notion of finishing that is needed and illustrate its application in the analysis of strong accomplishments.[4]

2.1. *The framework*

The background framework assumed here is an event semantics with a provision for the handling of presuppositions. Although event semantic frameworks (e.g., that of Krifka 1992) usually do not offer a means of analyzing presuppositions, it is feasible to extend them with a treatment of presuppositions familiar from dynamic semantic frameworks. The leading idea behind the treatment of presuppositions in a dynamic semantic framework (e.g., see Krifka 1993, Chierchia 1995) is to analyze (declarative) sentences as operating on or *updating* contexts in such a way that the presuppositional content of a sentence must be satisfied in the 'input context' and the assertive content of the sentence, in the 'output context'. For present purposes, a context can be modeled as simply a set of possible worlds (also called a *context set*), the idea being that the context represents the information that is still under consideration. In this setting, sentences can be analyzed as functions from (input) context sets to (output) context sets, and in what follows, such functions will be represented by expressions of the form $\lambda C\lambda w[\ldots]$, where C is a context set variable and w is a world variable. Expressions of this type are known as *updates*. Furthermore, in order to account for semantic composition in this framework, natural language predicates should be analyzed as having both a world and a context set argument. In addition, verbs are assumed to have an event argument,[5] as is usual in an event semantics.

2.2. *Weak accomplishments*

To get a feel for how the mechanics of the present framework function, let us consider how the sentence in (8) is derived. (In what follows, tense will be ignored.) The verb of creation *fest* 'paint' is analyzed as a five-place relation between worlds w, context sets C, events e, and two ordinary individuals x and y (agents and things painted, respectively) such that x paints y in e of w in C, as in (18a).[6] Both *egy képet* 'a picture.ACC' and *Rebeka* are basically treated as generalized quantifiers but with the difference that they apply to four-place relations R between worlds, context sets, events, and ordinary individuals and yield a three-place relation between worlds, context sets, and events, as in (18b)–(18c).

(18) a. fest ('paint') $\rightsquigarrow \lambda y\lambda x\lambda e\lambda C\lambda w[C(w) \wedge \mathsf{paint}(w,e,x,y)]$
$\stackrel{\text{def}}{=}$ PAINT

b. egy képet ('a picture.ACC') $\rightsquigarrow$
$\lambda R\lambda e\lambda C\lambda w[C(w) \wedge \exists x[R(w,C,e,x) \wedge \mathsf{picture}(w,x)]]$
$\stackrel{\text{def}}{=}$ a-picture

c. Rebeka $\rightsquigarrow \lambda R\lambda e\lambda C\lambda w[C(w) \wedge R(w,C,e,\mathsf{rebecca})]$
$\stackrel{\text{def}}{=}$ REBECCA

In order for *fest* 'paint' to be able to combine with *egy képet* 'a picture.ACC', the verb's type must be raised so as to take a generalized quantifier argument, and the result of this type-raising is shown in (19), where *fest*↑ 'paint' indicates the type-raised variant of *fest* for generalized quantifier objects and $\mathfrak{X}$ is a variable for generalized quantifiers.[7]

(19) fest↑ ('paint')$\rightsquigarrow$
$\lambda R\lambda\mathfrak{X}\lambda x\lambda e\lambda C\lambda w[\mathfrak{X}(w,C,e,$
$\lambda y\lambda e'\lambda C'\lambda w'[R(w',C',e',x,y)])](\mathsf{paint}) =$
$\lambda\mathfrak{X}\lambda x\lambda e\lambda C\lambda w[\mathfrak{X}(w,C,e,\lambda y\lambda e'\lambda C'\lambda w'[\mathsf{paint}(w',C',e',x,y)])] =$
$\lambda\mathfrak{X}\lambda x\lambda e\lambda C\lambda w[\mathfrak{X}(w,C,e,$
$\lambda y\lambda e'\lambda C'\lambda w'[C'(w') \wedge \mathsf{paint}(w',e',x,y)])]$

The result of applying *fest*↑ to *egy képet* is given in (20), which yields the information that x paints a picture in e of w in C.

(20) fest↑ egy képet ('paint a picture.ACC') $\rightsquigarrow$
$\lambda\mathfrak{X}\lambda x\lambda e\lambda C\lambda w[\mathfrak{X}(w,C,e,\lambda y\lambda e'\lambda C'\lambda w'[C'(w') \wedge$
$\mathsf{paint}(w',e',x,y)])](\text{a-picture}) =$
$\lambda x\lambda e\lambda C\lambda w[C(w) \wedge \exists y[\mathsf{paint}(w,e,x,y) \wedge \mathsf{picture}(w,y)]]$

Since the generalized quantifier representing *Rebeka* can unproblematically apply to this relation, no type-raising is necessary, and the result of the application is the

following event predicate, which relative to a context set C and a world w denotes the set of events in which Rebecca paints a picture in w of C:

(21) Rebeka fest↑ egy képet ('Rebecca paint a picture.ACC') ⇝
$\lambda x\lambda e\lambda C\lambda\ w[C(w) \wedge \exists y[\text{paint}(w,e,x,y) \wedge$
$\text{picture}(w,y)]](\text{REBECCA}) =$
$\lambda e\lambda C\lambda w[C(w) \wedge \exists y[\text{paint}(w,e,\text{rebecca},y) \wedge \text{picture}(w,y)]]$

The final step is to existentially bind the event argument, which may be achieved by means of a declarative operator, as defined in (22), where E is a variable for event predicates (i.e., relations between worlds, context sets, and events).

(22) DECL ⇝ $\lambda E\lambda C\lambda w[C(w) \wedge \exists e[E(w,C,e)]]$

The result of applying the declarative operator to the event predicate in (21) is the update shown in (23), which adds to the context set the information that there is an event in which Rebecca paints a picture.

(23) DECL Rebeka fest↑ egy képet (≈ (8)) ⇝
$\lambda E\lambda C\lambda w[C(w) \wedge \exists e[E(w,C,e)]]\ (\lambda e\lambda C\lambda w[C(w) \wedge$
$\exists y[\text{paint}(w,e,\text{rebecca},y) \wedge \text{picture}(w,y)]]) =$
$\lambda C\lambda w[C(w) \wedge \exists e\exists y[\text{paint}(w,e,\text{rebecca},y) \wedge \text{picture}(w,y)]]$

As an aside, in order to retrieve the corresponding static proposition (construed as a set of possible worlds) from an update, a special 'down' operator (⇓) is employed that applies the update to the set of possible worlds W (also called the *world set*), as defined in (24), where U is a variable for updates.

(24) ⇓ ⇝$\lambda U\lambda w[U(w,\text{W})]$

Applied to the update in (23), this operator yields the following prepositional formula, which denotes the set of worlds in which Rebecca paints a picture:

(25) ⇓ DECL Rebeka fest↑ egy képet (≈ (8)) ⇝
$\lambda U\lambda w[U(w,\text{W})](\lambda C\lambda w[C(w) \wedge \exists e\exists y[\text{paint}(w,e,\text{rebecca},y) \wedge$
$\text{picture}(w,y)]]) =$
$\lambda w[\text{W}(w) \wedge \exists e\exists y[\text{paint}(w,e,\text{rebecca},y) \wedge \text{picture}(w,y)]]$

By replacing the (variable) context set with the (fixed) world set, the 'down' operator effectively trivializes the contribution of context, precisely because it makes every context the universal context.

By aspectual composition (following Krifka 1992), the event predicate in (21) is *quantized* with respect to its event argument, which is a property that accomplishments have and one that is presumably needed for compatibility with temporal *alatt*-phrases (*in*-phrases). In Krifka's framework, a verb with an incremental theme argument that combines with an object noun phrase whose nominal head is quantized results in a verb phrase that is quantized with respect to its event argument. Adapting the notion of quantized reference to three-place relations P between worlds, context sets, and individuals (ordinary individuals or events), we can say that P is quantized (QUA) just in case the definition in (26) is satisfied, where a and b stand for individuals. The event predicate in (21) is quantized in this sense.[8]

(26) $\text{QUA} \stackrel{\text{def}}{=} \lambda P[\forall w\forall a\forall b[(P(w,\text{W},a) \wedge P(w,\text{W},b)) \rightarrow \neg b \sqsubset_w a]]$

Without going into the semantics of temporal *alatt*-phrases (*in*-phrases), the following analysis of *egy óra alatt* ('in an hour') suffices for present purposes:

(27) egy óra alatt ('in an hour') ⇝
$\lambda E\lambda e\lambda C\lambda w[C(w) \wedge E(w,C,e) \wedge \text{an-hour}(w,e) \wedge \text{QUA}(E)]$

Applied to the (quantized) event predicate in (21), this function restricts the context set to those worlds and events in which Rebecca paints a picture in an hour:

(28) Rebeka egy óra alatt fest↑ egy képet (≈ (9a)) ⇝
$\lambda e\lambda C\lambda w[C(w) \wedge \exists y[\text{paint}(w,e,\text{rebecca},y) \wedge \text{picture}(w,y)] \wedge$
$\text{an-hour}(w,e) \wedge \text{QUA}(\lambda e\lambda C\lambda w[C(w) \wedge$
$\exists y[\text{paint}(w,e,\text{rebecca},y) \wedge \text{picture}(w,y)]])]$

Returning to the update in (23), observe that there is no presupposition involved in this analysis of the sentence in (8), which seems to be correct, given that only a counterfactual interpretation is available with *majdnem* 'almost' (see (9b)). However, due to the lack of a presupposition, there is no straightforward way for *majdnem* 'almost' to modify the reading represented in (23) to yield a scalar interpretation. Although a detailed discussion of the lexical semantics of *majdnem* 'almost' is beyond the scope of this chapter,[9] we can reasonably think of it as a modifier of updates with the following content:

(29) majdnem ('almost') ⇝
$\lambda U\lambda C\lambda w[C(w) \wedge \neg U(w,C) \wedge \exists w'[C(w') \wedge U(w',C) \wedge$
$\text{close}(w',w)]]$
$\stackrel{\text{def}}{=} \text{almost}$

In prose, the effect of *majdnem* 'almost' is to negate the update for the output worlds w but to presuppose that it holds of a world w' 'close' to w in the context set C.

Applied to the update in (23), the analysis of *majdnem* 'almost' restricts the context set to those worlds in which Rebecca does not paint a picture but she almost

does so:

(30) DECL Rebeka majdnem fest↑ egy képet (≈ (9b)) ⇝
$\lambda C\lambda w$[almost(w,C,$\lambda C''\lambda w''$[$C''(w'')$ ∧
$\exists e\exists y$[paint(w',e,rebecca,y) ∧ picture(w',y)]])] =
$\lambda C\lambda w$[$C(w)$ ∧ $\neg\exists e\exists y$[paint(w,e,rebecca,y) ∧ picture(w,y)] ∧
$\exists w'$[$C(w')$ ∧ $\exists e\exists y$[paint(w',e,rebecca,y) ∧ picture(w',y)] ∧
close(w',w)]]

From the present perspective, the fact that the sentence in (9b) lacks a scalar reading is tantamount to saying that it does not encode the necessary notion of finishing – in other words, it is a weak accomplishment and not a strong accomplishment. For the analysis of strong accomplishments, a notion of finishing needs to be introduced, which is what I turn to next.

2.3. *Finishing and strong accomplishments*

As an initial guide to finishing, let us consider how the verb *finish* is understood. The meaning of a sentence such as that in (31a) seems to presuppose that Rebecca or someone else began painting the picture in question. This is supported by the observation that the corresponding negative sentence also implies that Rebecca or someone else began painting the picture:

(31) a. Rebecca finished painting a/the picture.
b. Rebecca didn't finish painting a/the picture.
presupposition: Rebecca or someone else began painting the picture in question

More generally, *finish* is used to assert that a final part of an event of a particular type takes place and to presuppose that the initial part of such an event takes place earlier.

Since the present goal is not so much to analyze the meaning of the verb *finish* per se but rather to appeal to a slightly revised notion of finishing, the strategy will be to make the presupposition dependent on whether the final part of the event in question is also a *proper part* of that event (in which case there is a presupposition regarding the initial part) or whether the final part is an *improper part* of that event (in which case there is no need for a presupposition regarding the initial part). In other words, the notion of finishing that we are after should have the informal paraphrase 'either an event of a particular type takes place, or a final part of an event of a particular type takes place and it is presupposed that the initial part of the event takes place earlier'. Arguably, the meaning of *finish* only allows for the second case (hence there is necessarily a presupposition), whereas the revised notion of finishing also allows 'a final part' to be construed as an improper part (in which case the presupposition falls away – this is the first case), which is what we want here. Furthermore, the meaning of *finish* allows the agent of the presupposed event to differ from the agent of the asserted event, whereas the revised notion of finishing

that we aim for requires them to be identical. In sum, then, the revised notion of finishing sought here is both broader and narrower than the meaning of *finish*.

Another important component of the meaning of the verb *finish* is that if an event of a particular type is finished, then an event of that type cannot be continued. To illustrate, if *Rebecca finished painting a picture* is true, then no continuation can be part of a larger event in which Rebecca paints a picture, for otherwise she would have merely *stopped* painting a picture but not yet have *finished* painting one. Indeed, this condition on the lack of a continuation can account for why *finish* but not *stop* is incompatible with activities (Dowty 1979, p. 57):

(32) a. Rebecca finished painting a picture.
b. #Rebecca finished painting pictures.
(acceptable only if a fixed number of pictures is understood)
(33) a. Rebecca stopped painting a picture.
b. Rebecca stopped painting pictures.

The problem with (32b) is that there *could* be a continuation which is part of a larger event in which Rebecca paints pictures, hence the condition that a continuation with respect to that event type not be possible is not satisfied.[10] Since it seems reasonable to treat the condition on the lack of a possible continuation as a presupposition of *finish* (e.g., it cannot be negated), this condition also figures as a presupposition in the notion of finishing that will be defined next.

Now that the vital ingredients of finishing have been introduced (again, these are: an assertion of the whole event or of a final part of the event, a presupposition of the initial part of the event in the case of the latter, and a presupposition of a lack of a continuation of the event type in both cases), the next step is to define a relation that captures this notion of finishing. Strictly speaking, we need to define two relations, one for the case of the whole event, and the other for the case of a final part of the event. The first relation is finish-1, a six-place relation between worlds w, context sets C, events e, ordinary individuals (agents) x, generalized quantifiers $\mathfrak{Q}$, and relations T (representing transitive verbs), as defined in (34).[11]

(34) finish-1 $\stackrel{\text{def}}{=}$ $\lambda T\lambda\mathfrak{Q}\lambda x\lambda e\lambda C\lambda w$[$\mathfrak{Q}(w,C,e,T(x))$ ∧
$\forall w'\forall e'\forall x'$[W($w'$) ∧ $\mathfrak{Q}(w',\mathsf{W},e',T(x'))$ →
$\neg\exists e''$[$e' \prec_{w'} e'' \wedge \mathfrak{Q}(w',\mathsf{W},e' \oplus_{w'} e'',T(x'))$]]]

In this definition, '$\prec$' stands for temporal precedence and '$\oplus$' for (mereological) sum. In prose, the first line asserts that an event of the type determined by T and $\mathfrak{Q}$ takes place, whereas the second and third lines express the presupposition that any event of this type lacks a continuation. Observe that the world set W is used in the formulation of the second presupposition, because the lack of a continuation should not depend on a particular context set C.

The second relation is finish-2, which is more complex than finish-1 because it involves the additional presupposition that a proper part of the patient is affected in

an earlier event of the type determined by T and $\mathfrak{X}$:

(35) finish-2 $\stackrel{\text{def}}{=} \lambda T\lambda\mathcal{M}\mathcal{R}\mathcal{D}\lambda x\lambda e\lambda C\lambda w[$
$\exists y'[C(w) \wedge \mathfrak{X}(w,C,e,\lambda y\lambda e'\lambda C'\lambda w'[T(w',C',e',x,y -_{w'} y')]) \wedge$
$\forall w'[C(w') \rightarrow$
$\exists e'[\mathfrak{X}(w',C,e',$
$\lambda y\lambda e'\lambda C'\lambda w''[T(w'',C',e'',x,y') \wedge y' \sqsubset_{w'} y]) \wedge$
$e' \prec_{w'} e]]] \wedge$
$\forall w'\forall e'\forall x'[\mathsf{W}(w') \wedge \mathfrak{X}(w',\mathrm{W},e',T(x')) \rightarrow$
$\neg\exists e''[e' \prec_{w'} e'' \wedge \mathfrak{X}(w',\mathsf{W},e' \oplus_{w'} e'',T(x'))]]]]$

In this definition, '–' stands for mereological difference and '$\sqsubset$' for proper part. Note that the mereological difference of two individuals x and y ($x-_w y$, for a world w) is that part of x which remains when y is subtracted from it. Informally, the second through sixth lines of this formula state that there is an individual y' such that the difference of y (the patient) and y' participates in e, whose type is determined by T and $\mathfrak{X}$ (this is the assertion), and that y' participates in an earlier event e' of the same type (this is the first presupposition). The seventh and eight lines express the second presupposition, familiar from (34), that an event of this type lacks a continuation.

Let us consider how the relations finish-1 or finish-2 figure in the analysis of the sentence in (12). One of these first applies to a relation T (representing a transitive verb), then to a generalized quantifier $\mathfrak{X}$ (representing the object noun phrase), and finally to an ordinary individual x (representing the external argument of the verb). If we think of finish-1 and finish-2 as alternative interpretations of the verbal particle *meg* (*meg*$_1$ vs. *meg*$_2$), as shown in (36a), then the two representations of the morphologically complex verb *meg-fest* 'PRT-paint' are derived by applying finish-1 and finish-2 to PAINT (from (18a)), as seen in (36b):

(36) a. meg$_1$ ('PRT') $\rightsquigarrow$ finish-1
meg$_2$ ('PRT') $\rightsquigarrow$ finish-2
b. meg$_1$-fest ('PRT-paint') $\rightsquigarrow$
$\lambda\mathfrak{X}\lambda x\lambda e\lambda C\lambda w$[finish-1($w$,$C$,$e$,$x$,$\mathfrak{X}$,PAINT)]
meg$_2$-fest ('PRT-paint') $\rightsquigarrow$
$\lambda\mathfrak{X}\lambda x\lambda e\lambda C\lambda w$[finish-2($w$,$C$,$e$,$x$,$\mathfrak{X}$,PAINT)]

Next comes the verb phrase, which is derived by applying one of the formulas in (36b) to the generalized quantifier representing the object noun phrase *egy képet* 'a picture.ACC' (from (18b)):

(37) a. meg$_1$-fest egy képet $\rightsquigarrow$
('PRT-paint a picture.ACC')
$\lambda x\lambda e\lambda C\lambda w$[finish-1($w$,$C$,$e$,$x$,a-picture,PAINT)]

b. meg$_2$-fest egy képet $\rightsquigarrow$
('PRT-paint a picture.ACC')
$\lambda x\lambda e\lambda C\lambda w$[finish-2($w$,$C$,$e$,$x$,a-picture,PAINT)]

These formulas in turn serve as possible inputs to the generalized quantifier representing the subject noun phrase *Rebeka* (from (18c)):

(38) a. Rebeka meg$_1$-fest egy képet $\rightsquigarrow$
('Rebecca PRT-paint a picture.ACC')
$\lambda e\lambda C\lambda w$[REBECCA($w$,$C$,$e$,
$\lambda y\lambda e'\lambda C'\lambda w'$[finish-1($w'$,$C'$,$e'$,$y$,a-picture,PAINT)])]
b. Rebeka meg$_2$-fest egy képet $\rightsquigarrow$
('Rebecca PRT-paint a picture.ACC')
$\lambda e\lambda C\lambda w$[REBECCA($w$,$C$,$e$,
$\lambda y\lambda e'\lambda C'\lambda w'$[finish-2($w'$,$C'$,$e'$,$y$,a-picture,PAINT)])]

Finally, the result of applying the declarative operator (from (22)) to these two event predicates are the (now unpacked) updates shown in (39) and (40), respectively.

(39) DECL Rebeka meg$_1$-fest egy képet ($\approx$ one reading of (12)) $\rightsquigarrow$
$\lambda C\lambda w[C(w) \wedge \exists e\exists y[\mathsf{paint}(w,e,\mathsf{rebecca},y) \wedge \mathsf{picture}(w,y)] \wedge$
$\forall w'\forall e'\forall x'[\mathsf{W}(w') \wedge \exists y[\mathsf{paint}(w',e',x',y) \wedge \mathsf{picture}(w,y)] \rightarrow$
$\neg\exists e''[e' \prec_{w'} e'' \wedge \exists y[\mathsf{paint}(w',e' \oplus_{w'} e'',\mathsf{rebecca},y) \wedge$
$\mathsf{picture}(w',y)]]]]$

(40) DECL Rebeka meg$_2$-fest egy képet ($\approx$ another reading of (12)) $\rightsquigarrow$
$\lambda C\lambda w[\exists y'[\exists e\exists y[\mathsf{paint}(w,e,\mathsf{rebecca},y -_w y') \wedge \mathsf{picture}(w,y)] \wedge$
$\forall w'[C(w') \rightarrow \exists e'[\mathsf{paint}(w',e',\mathsf{rebecca},y') \wedge y' \sqsubset_{w'} y \wedge$
$\mathsf{picture}(w',y) \wedge e' \prec_{w'} e]]] \wedge$
$\forall w'\forall e'\forall x'[\mathsf{W}(w') \wedge \exists y[\mathsf{paint}(w',e',x',y) \wedge \mathsf{picture}(w,y)] \rightarrow$
$\neg\exists e''[e' \prec_{w'} e'' \wedge \exists y[\mathsf{paint}(w',e' \oplus_{w'} e'',\mathsf{rebecca},y) \wedge$
$\mathsf{picture}(w',y)]]]]$

The update in (39) asserts that Rebecca paints a picture y (in its entirety) and presupposes that an event of this type cannot be continued. In contrast, the update in (40) asserts that there is a y' such that Rebecca paints the mereological difference between a picture y and y' and presupposes that she paints y' earlier, where y' is a proper part of a picture y, and also presupposes that an event of the type determined by T and $\mathfrak{X}$ cannot be continued.[12] Strictly speaking, nothing in this update forces the y in the assertion and the y in the (first) presupposition to be identical, though both have to be pictures. How ever, since y' has to be a proper part of both, this constrains the referents of the two instances of y to be at least overlapping, e.g., two properly overlapping pictures. No harm is caused by this slight looseness, because there is no prohibition against the possibility that y' is a proper part of another picture as well as long as Rebecca ends up painting one of them.

Comparing the update in (40) to the one in (39), it is not so difficult to see how modification by *majdnem* 'almost' (see (29)) would yield a scalar interpretation in the case of the former but a counterfactual interpretation in the case of the latter, which would correspond to the two readings of (13b). In this respect, the update in (39) is similar to the one in (23) for the weak accomplishment in (8) (cf. also (30)). Since in both of the latter cases the existence of the whole event is asserted, the negation contained in *majdnem* 'almost' would serve to negate the existence of the whole event, with the presupposition that the whole event takes place in a 'close' world in the context set. Of course, the two updates in (23) and (39) are still distinguished by the presupposition of the latter that the event type cannot be continued, but this has no bearing on the role of *majdnem* 'almost'.

In contrast, in the case of (40), the effect of *majdnem* 'almost' would be to negate the assertion that there is an event in which Rebecca paints the remainder of the picture, but it would preserve the presupposition that she paints a proper part of it in an earlier event. This presupposition would be preserved (and the second one as well) because of the presupposition of *majdnem* 'almost' that there is an event of this type in a 'close' world in the input context set. If this presupposition of *majdnem* 'almost' is satisfied, then the presuppositions of the update in (40) would also be satisfied, which would apply to every world in the context set – what would get negated is only that Rebecca paints the remainder of the picture. In sum, the content of *majdnem* 'almost' modifies the assertive content of an update, and where there is a presupposition of an earlier event, as on the construal of strong accomplishments with finish-2, we predict a scalar reading, but where there is not such a presupposition, as in the case of weak accomplishments and the other construal of strong accomplishments (with finish-1), we predict only a counterfactual reading.

2.4. Negation

It is well-known that negation is normally a 'hole' with respect to presuppositions, i.e., the presuppositions of a sentence are preserved when the sentence is negated, as was illustrated for *finish* in (31b). My analysis of weak and strong accomplishments predicts that they will behave differently under negation. In particular, since weak accomplishments are not presuppositional, this should be confirmed by negation, which should simply negate the existence of an event of the type in question, whereas since strong accomplishments have one or two presuppositions, these presuppositions should be preserved under negation. Consider the following contrasts in this light:[13]

(41) a. Rebeka nem festett egy képet sem. (cf. (8))
Rebecca not painted a picture.ACC none
'Rebecca didn't paint a picture.'
unambiguous: Rebecca didn't begin painting a picture

b. Rebeka nem festett meg egy képet sem. (cf. (12))
Rebecca not painted PRT a pictures.ACC none
'Rebecca didn't paint a picture.'
ambiguous: (i) Rebecca didn't begin painting a picture;
(ii) Rebecca didn't finish painting a picture

(42) a. Dániel nem írt egy dolgozatot sem. (cf. (10))
Dániel not wrote a paper.ACC none
'Daniel didn't write a paper.'
unambiguous: Daniel didn't begin writing a paper

b. Dániel nem írt meg egy dolgozatot sem. (cf. (14))
Daniel not wrote PRT a paper.ACC none
'Daniel didn't write a paper.'
ambiguous: (i) Daniel didn't begin writing a paper;
(ii) Daniel didn't finish writing a paper

The sentences in (41a) and (42a) are negations of weak accomplishments and the effect of negation is simply to deny the existence of an event of corresponding type – such sentences have only one reading. In contrast, the sentences in (41b) and (42b) are negations of strong accomplishments and we find that they have two readings, depending on whether or not an initial part of the event in question is presupposed.

The two readings of the sentences in (41b) and (42b) depend on whether the presupposition of an earlier event is absent or present (which in turn depends on which version of *meg* 'PRT' is chosen), but it is easy to see that negation preserves the second presupposition regarding a lack of a continuation of the event type. More precisely, just as strong accomplishments in positive sentences are not compatible with bare plural object noun phrases (cf. (16b) and (17b)), nor are the corresponding negations of strong accomplishments compatible with such noun phrases, as shown in (43b) and (44b).

(43) a. Rebeka nem festett képeket. (cf. (16a))
Rebecca not painted pictures.ACC
'Rebecca didn't paint pictures.'

b. #Rebeka nem festett meg képeket. (cf. (16b))
Rebecca not painted PRT pictures.ACC

(44) a. Dániel nem írt dolgozatokat. (cf. (17a))
Daniel not wrote papers.ACC
'Daniel didn't write papers.'

b. #Dániel nem írt meg dolgozatokat. (cf. (17a))
Daniel not wrote PRT papers.ACC

Naturally, the simple verbs in (43a) and (43b), which express weak accomplishments and hence lack the presupposition that the event type cannot be continued, are perfectly compatible with bare plural object noun phrases.

In the present framework (see also Krifka 1993, pp. 282–283), negation can be analyzed as a modifier of updates with the assertion that the update does not hold of the output worlds w and the presupposition that there is at least one world w' in the input context set that the update holds of, as shown in (45). Insofar as this presupposition of negation is satisfied by at least one world in the input context set, the presuppositions of the update are also satisfied in the input context set, which accounts for the fact that negation preserves any presuppositions of the sentence that it negates.[14]

(45) nem ('not') $\rightsquigarrow \lambda U \lambda C \lambda w[C(w) \wedge \neg U(w,C) \wedge \exists w'[U(w',C)]]$

The analysis of the negated weak accomplishment in (41a) (ignoring the possible contribution of the negative polarity marker *sem* 'none') is the result of applying *nem* 'not' to the update in (23):

(46) nem DECL Rebeka fest↑ egy képet ($\approx$ (41a)) $\rightsquigarrow$
$\lambda C \lambda w[C(w) \wedge \neg\exists e \exists y[\text{paint}(w,e,\text{rebecca},y) \wedge \text{picture}(w,y)] \wedge$
$\exists w'[C(w') \wedge \exists e' \exists y'[\text{paint}(w',e',\text{rebecca},y') \wedge \text{picture}(w',y')]]]$

In this case, since the weak accomplishment does not have any presuppositions of its own, the effect of negation is simply to update the context set to contain those worlds in which Rebecca does not paint a picture.

The analysis of the first reading of the negated strong accomplishment in (42b) is given in (47), which is the result of applying *nem* 'not' to (the packed form of) the update in (39) (cf. (38a)).

(47) nem DECL Rebeka meg$_1$-fest egy képet ($\approx$ first reading of (42b)) $\rightsquigarrow$
$\lambda C \lambda w[C(w) \wedge \neg\exists e[\text{REBECCA}(w,C,e,$
$\lambda y \lambda e' \lambda C' \lambda w'[\text{finish-1}(w',C',e',y,\text{a-picture},\text{PAINT})])] \wedge$
$\exists w' \exists e''[\text{REBECCA}(w',C,e'',$
$\lambda y \lambda e' \lambda C' \lambda w'[\text{finish-1}(w',C',e',y,\text{a-picture},\text{PAINT})])]]$

Like the update in (46), this one negates in the output context set the existence of the whole event in which Rebecca paints a picture, but in contrast to the former, it presupposes that this event type cannot be continued. This presupposition survives negation because of the presupposition of negation that the update holds in at least one world in the input context set.

Finally, the analysis of the second reading of the negated strong accomplishment in (42b) is shown in (48), which is the result of applying *nem* 'not' to (the packed form of) the update in (40) (cf. (38b)).

(48) nem DECL Rebeka meg$_2$-fest egy képet $\rightsquigarrow$
($\approx$ second reading of (42b))

$\lambda C \lambda w[C(w) \wedge \neg\exists e[\text{REBECCA}(w,C,e,$
$\lambda y \lambda e' \lambda C' \lambda w'[\text{finish-2}(w',C',e',y,\text{a-picture},\text{PAINT})])] \wedge$
$\exists w' \exists e''[\text{REBECCA}(w',C,e'',$
$\lambda y \lambda e' \lambda C' \lambda w'[\text{finish-2}(w',C',e',y,\text{a-picture},\text{PAINT})])]]$

Due to the relation finish-2, this update carries the additional presupposition that Rebecca paints a proper part of the picture in an earlier event – what is negated is that she paints the remainder of the picture in the output context set.

2.5. *Conclusion*

Although both strong and weak accomplishments are quantized, as suggested by their compatibility with temporal *alatt*-phrases (*in*-phrases), strong accomplishments, in contrast to weak accomplishments, are analyzed with the help of one of relations finish-1 and finish-2. Accordingly, the sentence in (12) (as analyzed in (39) and (40)) is a strong accomplishment, whereas the one in (8) (as analyzed in (23)) is a weak accomplishment. Thanks to the relations finish-1 and finish-2, strong accomplishments have one or two presuppositions that weak accomplishments lack. The first presupposition, contributed by finish-2, is very palpable and states that the initial part of the event in question has taken place earlier with the same agent, which leads to the scalar reading with *majdnem* 'almost' in (13b) and (15b) and the second reading of (41b) and (42b). The second presupposition, contributed by both finish-1 and finish-2, is less obvious at the phrasal level, but it cashes out at the verb level. More specifically, this presupposition constrains the kind of object noun phrases that verbs expressing strong accomplishments can combine with, as a consequence of the condition that events of the type in question cannot be continued, as seen in (16b) and (17b). A goal in further work will be to integrate more explicitly the distinction between weak and strong accomplishments into a theory of aspectual composition.

NOTES

* Earlier versions of this chapter were presented at the Eight Symposium on Logic and Language in Debrecen, Hungary on 27 Aug. 2004 and at the University of Leipzig on 29 June 2005, and I wish to thank those audiences for their comments and questions.

1 Arguably, the counterfactual reading is the more prominent one in (5a) and (6a), which may suggest that the 'default' tendency is to interpret (1a) and (3a) as weak accomplishments.

2 Verbal particles in Hungarian are often called 'preverbs' or (less accurately) 'verbal prefixes'. For background on verbal particles, see chapter 2 and É. Kiss (2002a, chapter 3.6). I employ a hyphen to separate a verbal particle from its host verb, although they would be written together according to Hungarian orthography

3 Out of the blue, it would be more natural to use definite object noun phrases in (12)–(15), but I use indefinite noun phrases in order to maintain as close as possible the parallel with the unprefixed verbs, which resist definite objects (see chapter 4).

4 Kálmán (1995, pp. 226–227) presents a similar intuition about the difference between verbs such as *ír* 'write' and *meg-ír* 'PRT-write', but his focus is on the so-called definiteness effect exhibited by *ír* 'write' and comparable simple verbs, which I discuss in chapter 4. For a recent more general discussion

of the various functions that verbal particles in Hungarian have, see chapter 2 and É. Kiss (2004a). In particular, note that the verbal particle *meg* has more than one meaning and that another one is analyzed in chapter 3.

5 The term 'event' is used in the broad sense, as covering processes and states as well.

6 If I am right in saying that definiteness effect verbs take a predicate argument as their internal argument (as I argue in chapter 4), then for consistency *fest* 'paint' in (18a) (cf. (8)) – which is really *fest*^{de} – should also receive such an analysis. However, since the analysis of definiteness effect verbs is not the main issue in this chapter, I put aside the definiteness effect here and assume for convenience that such verbs take an individual argument as their internal argument, which also has the benefit of keeping the comparison between *fest* 'paint' and *meg-fest* 'PRT-paint' as close as possible. Ultimately, though, the meaning of *fest*^{de} is not identical to the meaning of *fest* 'paint', though it is based on it.

7 This is not the only way to combine a verb with a generalized quantifier object (e.g., movement at Logical Form would be an alternative), but nothing crucially depends on this choice here.

8 This definition of quantized reference makes use of the world set W, because the question of whether *P* is quantized should not depend on a particular context set *C*.

9 See Rapp and von Stechow (1999) for a treatment of German *fast* 'almost' and Morzycki (2001) for a recent analysis of *almost*.

10 This is because *paint pictures* is an activity, where the corresponding relation is *cumulative* with respect to its event argument (see Krifka 1992).

11 It would be straightforward to modify the definition of finish-1 for application to relations representing intransitive verbs, but I focus on the case of transitive verbs here.

12 Engelberg (2002, p. 396) claims that the German verb *aufessen* 'eat up' is ambiguous between having a presupposition regarding the existence of an earlier event and not having this presupposition. In present terms, *aufessen* 'eat up' is a strong accomplishment, similar to Hungarian *meg-eszik* 'PRT-eat' in this respect.

13 The negative polarity marker *sem* 'none' is needed in (41)–(42) in order for the indefinite noun phrases to take narrow scope with respect to negation. Without *sem* 'none', noun phrases headed by *egy* 'a' are so-called positive polarity items and must take wide scope with respect to negation (but this is disallowed with the simple verbs – see chapter 4.)

14 This strategy was also adopted in the analysis of *majdnem* 'almost' in (29), as discussed above.

ANIKO CSIRMAZ

PARTICLES AND A TWO COMPONENT THEORY OF ASPECT

This chapter argues that Hungarian is best described by adopting a two component theory of aspect, which distinguishes situation and viewpoint aspect. Situation aspect concerns properties of the event description, and viewpoint aspect establishes aspectual properties external to the event description. It is argued that Hungarian particles, similarly to non-particle constituents, play a role in both types of aspect: their presence can affect situation aspect properties, and their position can vary according to the viewpoint specification. The effect on either aspectual component is a consequence of the denotation of the particle or the similar non-particle constituent. It is also shown that situation and viewpoint aspect characterizes all event descriptions, not only those which show an overt difference between different aspect markings. The proposed account assumes a compositional account of situation aspect, and derives the distribution of particles by appealing to the semantic properties of particles and viewpoint aspect.

The chapter is organized as follows. Section 1 outlines the two component theory of aspect. Section 2 compares situation and viewpoint aspect and argues that they need to be distinguished in Hungarian. Section 3 proposes that viewpoint aspect is marked even in those environments where this aspect marking is consistently absent. Section 4 considers some possibilities for encoding viewpoint aspect, and proposes a hybrid approach to derive the attested particle patterns. On a more general note, section 5 extends the conclusions of section 3 and argues that no special category of neutral aspect (Smith 1991) needs to be assumed for languages which fail to overtly mark viewpoint aspect.

1. TWO COMPONENT THEORY OF ASPECT

A number of authors argue against a homogeneous view of aspect (Smith 1991, Klein 1994, Olsen 1997, Bertinetto 2001, Borik 2002, among others). Even though the terminology used varies widely, they all agree that it is necessary to distinguish properties that are 'internal' to the eventuality from those that are imposed on the eventuality from 'outside'.[1] To describe these two notions of aspect, I will use the terms *situation aspect* and *viewpoint aspect*, respectively. The remainder of this section contains a brief discussion of the two types of aspect and specific assumptions about them.

Katalin É. Kiss (ed.), Event Structure and the Left Periphery Studies on Hungarian, 107–128.