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AROUND THE PROGRESSIVE IN HUNGARIAN

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1. Introduction

Can the verb's position be correlated with a semantic effect? Or, to recast the question more theoretically, can verb movement be semantically motivated? In the case of Hungarian, I will argue that it can be and moreover that the particular verb movement in question has a semantic effect previously undiagnosed as a potential correlate of verb movement. The argument is built around the syntactic and semantic properties of the *progressive* in Hungarian.[†]

In particular, I will present an analysis of the progressive in Hungarian that (*i*) explicitly relates the syntax to the semantics, (*ii*) independently supports a claim made about the progressive in English, and (*iii*) derives three observed but puzzling properties of the progressive in Hungarian. On the way, I will also point out where existing analyses in the Hungarian literature do not pay enough attention to either the syntax (Kiefer) or the semantics (É. Kiss) of the progressive, thereby falling short of a unified treatment.

The remainder of this section provides an overview of the two central problems, syntactic and semantic. Following this overview, in §2, I critique É. Kiss's (1987, 1992b) syntactic account of the progressive. In §3, which is the heart of the paper, I set out my analysis of the syntax and corresponding semantic representations of progressive sentences. Finally, in §4, I indicate how the proposed analysis fulfills the three promises made in the preceding paragraph.

1.1. Syntactic problem

Hungarian has what I will call *simple verbs* and *complex verbs*. A complex verb consists of a simple verb together with either a *preverb* or a *reduced nominal complement*. Since preverbs and reduced nominal complements pattern alike syntactically, it is fitting to have a term that covers both—I will adopt *PV* for this purpose. A PV, assuming there is one, ordinarily appears immediately before the simple verb in neutral clauses.[1] Generally, complex verbs include exactly one PV.

The progressive in Hungarian lacks any morphological marking. This is illustrated with the simple verb *főz* 'cook' in (1a).[2]

(1) a. Tamás éppen főzött a konyhában, amikor Réka be-jött.
         Tamás just   cooked the kitchen-INE when Réka in-PV-came
         'Tamás was cooking in the kitchen when Réka came in.'

     b. Tamás fél óra .hosszat főzött a konyhában.
         Tamás half hour for cooked the kitchen-INE
         'Tamás cooked in the kitchen for half an hour.'

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[1]In this paper, a neutral clause is one that lacks a focussed constituent. Hungarian has a syntactically specified preverbal focus position (Horvath 1986, É. Kiss 1987). Since the progressive in Hungarian is largely incompatible with negation (Kiefer 1992b:852), I do not consider negative clauses.

[2]Gloss conventions: ACC = accusative, INST = instrumental ('with'), ILL = illative ('into'), SUB = sublative ('onto'), INE = inessive ('in'), SUP = superessive ('on'), ELA = elative ('out of').

The main clause in (1a) receives a progressive interpretation, whereas the one in (1b) gets a *process* interpretation. These interpretations are linguistically determined by the *amikor*-clause and the *durative adverbial*, respectively. Note that the simple past tense form of *főz* 'cook' admits of both interpretations in isolation.[3]

The matter is more complicated with complex verbs. In many cases, there is nothing unexpected: the PV appears obligatorily before the simple verb in a neutral clause on a progressive interpretation. This is exemplified in (2–3).[4]

(2) a. Mari éppen fel-olvasott a tanteremben, amikor Réka be-ment.
    Mary just up^PV-read the classroom-INE when Réka in^PV-went
    'Mary was lecturing in the classroom when Réka went in.'

  b. # Mari éppen olvasott fel a tanteremben, amikor Réka be-ment.
    [Unacceptable as a progressive in a neutral clause]

(3) a. Réka éppen almát szedett a gyümölcsligetben, amikor …
    Réka just apple-ACC picked the fruit-grove-INE when
    'Réka was picking apples in the fruit grove when …'

  b. # Réka éppen szedett almát a gyümölcsligetben, amikor …
    [Unacceptable as a progressive in a neutral clause]

Since the canonical position for PVs is before the simple verb anyway, (2–3) indicate that the progressive does not change this fact. The same word order is observed with these complex verbs on a process interpretation:

(4) a. Mari fél óra hosszat fel-olvasott a tanteremben.
    'Mary lectured in the classroom for half an hour.'

  b. Réka egész nap almát szedett a gyümölcsligetben.
    Réka whole day apple-ACC picked the fruit-grove-INE
    'Réka picked apples in the fruit grove the whole day.'

Thus, even though they contain complex verbs, (2–3) actually exhibit the same pattern as (1): the past tense forms of the verbs *fel-olvas* and *almát szed* admit of both a process and a progressive interpretation without a change in morphology or syntax.

However, in many other cases, the PV obligatorily *follows* the simple verb on a progressive interpretation in a neutral clause. Progressive clauses have a distinctive prosodic pattern in which the verb and its postverbal complements, including the PV, each receive a strong stress (*folyamatos beszédérték*, Kálmán et al. 1989:75–76). Note the syntax and the marking of strong stress in (5–6).

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[3] The addition of *éppen* 'just', although not essential, also helps to bring out the progressive interpretation.
[4] I separate a preceding preverb from its verb with a dot (·). In Hungarian orthography, the two would be written together.

(5) a. Mari éppen 'vitte 'le a bort, amikor csengettek.
    Mary just carried down^PV the wine-ACC when rang-they
    'Mary was carrying down the wine when the doorbell rang.'

  b. # Mari le-vitte a bort, amikor csengettek.
    [Unacceptable as a progressive in a neutral clause]

(6) a. Réka 'festette 'pirosra a 'falat, amikor Tamás be-jött.
    Réka painted red-SUB the wall-ACC when Tamás inPV-came
    'Réka was painting the wall red when Tamás came in.'

  b. # Réka pirosra festette a falat, amikor Tamás be-jött.
    [Unacceptable as a progressive in a neutral clause]

There is nothing syntactically anomalous about (5b, 6b). The main clauses simply receive an *event* interpretation, which is apparent when a *time-span adverbial* is added, as shown in (7).

(7) a. Mari öt perc alatt le-vitte a bort.
    Mary five minute in downPV-took the wine-ACC
    'Mary carried down the wine in five minutes.'

  b. Réka fél óra alatt pirosra festette a falat.
    Réka half hour in red-SUB painted the wall-ACC
    'Réka painted the wall red in half an hour.'

Comparing (2–3) with (5–6), the obvious question to ask is why the progressive requires the order of simple verb plus PV in the latter but prohibits this order in the former. Furthermore, how does the progressive in Hungarian, which has no other morphosyntactic reflex, enforce this difference in the syntax?

1.2. Semantic problem

The descriptive generalization at work emerges when we carefully compare (4) with (7): the complex verbs in (4) form *process expressions*, but those in (7) form *event expressions*. Process expressions are compatible with durative adverbials, as in (4): intuitively, they describe situations with internal change that last a certain amount of time without culminating, i.e., processes lack 'built-in' endpoints.[5] Event expressions, in contrast, are compatible with time-span adverbials and intuitively describe situations that culminate, i.e., that have 'built-in' endpoints, as in (7).[6] Evidently, it is this aspectual contrast that the syntactic generalization is sensitive to. I distill the generalization into two rules as follows:

(8) a. For all complex verbs that form process expressions in neutral clauses:
    If progressive interpretation, then order of PV plus verb.

  b. For all complex verbs that form event expressions in neutral clauses:
    If progressive interpretation, then order of verb plus PV.

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[5] Processes correspond to Vendler's (1967) *activities*.
[6] Events (in the narrow sense intended here) correspond to Vendler's (1967) *accomplishments* and *achievements*.

Why are (8a–b) not expressed as biconditionals? The reason is more obvious for (8a) than for (8b). Recall that since the progressive of process expressions is morphosyntactically unmarked, the form of the complex verb alone does not decide between a process interpretation and a progressive one. For example, the order of preverb plus verb alone in (2a) does not imply a progressive interpretation. If it did, then we could not explain how the same syntax in (4a) allows a process interpretation. Consequently, it would be incorrect to recast (8a) as a biconditional.

But what about (8b)? After all, the crucial difference with progressives of complex verbs that form event expressions is that they *are* morphosyntactically marked. Why does the order of verb plus PV not imply a progressive interpretation in neutral clauses?

The principal reason for the one-way implication is that there are complex verbs forming event expressions that resist a progressive interpretation, no matter what their syntax. Three examples are given in (9–11).[7]

(9) a. # Réka szívta el a cigarettát, amikor Tamás be-jött.
Réka smoked away[PV] the cigarette-ACC when Tamás came in.
'Réka was smoking the cigarette when Tamás came in.'

b. # Réka (éppen) el-szívta a cigarettát, amikor Tamás be-jött.
[Unacceptable as a progressive]

(10) a. # Tamás takarította ki a szobát, amikor Réka meg-érkezett.
Tamás cleaned out[PV] the room-ACC when Réka PV-arrived
'Tamás was cleaning the room when Réka arrived.'

b. # Tamás (éppen) ki-takarította a szobát, amikor Réka meg-érkezett.
[Unacceptable as a progressive]

(11) a. # Réka bosszantotta fel Tamást, amikor csengettek.
Réka irritated up[PV] Tamás-ACC when rang-they
'Réka was making Tamás angry when the doorbell rang.'

b. # Réka (éppen) fel-bosszantotta Tamást, amikor csengettek.
[Unacceptable as a progressive]

While the (a)-examples show that the order of verb plus preverb does not imply a progressive interpretation, the (b)-examples demonstrate that the order of preverb plus verb also does not admit of a progressive interpretation (i.e., this is evidence that the complex verbs do not form process expressions). Since these complex verbs form event expressions, why do they not allow a progressive interpretation with the requisite syntax? The fact that they do not is evidence against making (8b) a biconditional: the order of verb plus preverb does not systematically imply a progressive interpretation with complex verbs that form event expressions in neutral clauses.

[7] All complex verbs in Hungarian, no matter how semantically opaque, allow their two parts to be separated in well-defined syntactic environments (e.g., in clauses with focus), hence the problem in (9–11) is not attributable to inseparability.

One might argue that the complex verbs in (9, 10, 11) actually form *point event expressions*, their English translations notwithstanding.[8] A point event expression is an event expression that describes situations which are momentary, i.e., which consist only of their culminations. Accordingly, point event expressions do not appear felicitously in the progressive, precisely because they describe situations having instantaneous duration, which is incompatible with the idea that the progressive describes situations as unfolding in an open interval.[9]

It is certainly true that Hungarian has both simple and complex verbs that form point event expressions and that these do not appear in the progressive. Two such examples are given in (12).

(12) a. # Réka éppen kapott egy levelet, amikor Tamás meg-érkezett.
Réka just received a letter-ACC when Tamás PV-arrived
'Réka was receiving a letter when Tamás arrived.'

b. # Mari érte el a hegycsúcsot, amikor Réka meg-látta.
Mari reached PV the mountain-top-ACC when Réka PV-saw.her
'Mary was reaching the mountain-top when Réka saw her.'

Both the simple verb *kap* 'receive' in (12a) and the complex verb *el-ér* 'reach' in (12b) are point event expressions, which is intuitively why they do not admit of a progressive interpretation.

However, I claim that the verbs in (9–11) differ aspectually from those in (12). This can be seen from the fact that *majdnem* 'almost' modifies the former verbs ambiguously but the latter verbs unambiguously. With the former verbs, which are (non-point) event expressions, *majdnem* 'almost' refers either to the event's near occurrence or to the event's near culmination. With the latter verbs, which are point event expressions, there is no ambiguity, precisely because the event's occurrence coincides with the event's culmination.[10]

(13) a. Réka majdnem el-szívta a cigarettát.
'Réka almost intended to smoke the cigarette.'
'Réka almost finished smoking the cigarette.'

b. Tamás majdnem ki-takarította a szobát.
'Tamás almost intended to clean the room.'
'Tamás almost finished cleaning the room.'

c. Réka majdnem fel-bosszantotta Tamást.
'Réka almost intended to make Tamás angry.'
'Réka almost succeeded in making Tamás angry.'

(14) a. Réka majdnem kapott egy levelet.
'Réka almost received a letter.'

[8] Point events correspond specifically to Vendler's *achievements*.
[9] Vendler claimed that achievement verbs do not appear in the progressive.
[10] Process expressions are also unambiguously modified by *majdnem* 'almost'. This is because process expressions do not entail culminations.

b. Mari majdnem el-érte a hegycsúcsot.
'Mary almost reached the mountain-top.'

The contrast between (13) and (14) strongly supports the claim that the complex verbs in (13) do not form point event expressions, which is also what we would expect on the basis of their English equivalents. However, if this is so, then we cannot rule out the progressives in (9-11) on the grounds that their respective complex verbs form point event expressions, which was the proposed analysis. Why, then, are these progressives unacceptable?

1.3. Condition on semantic transparency

Kiefer (1992a-b) has proposed what I believe to be essentially the correct descriptive generalization for this phenomenon. He notes that "[f]or the progressive to be possible, the meaning of the morphologically composite verb [complex verb/CJP] must be transparent. Semantic transparency requires that the prefix [preverb/CJP] be used in its literal sense" (1992a:98). Terminological (and possibly other) differences aside, the basic idea is that if the meaning of the complex verb is compositional, then the progressive is possible.[11]

Consider in this light the complex verbs in (9-11). The literal meaning of *el* is approximately 'away' (cf. *el-megy* 'go away'); the meaning of *szív* is 'smoke'. Although one can argue that the preverb *el* has an aspectual meaning and that it combines with *szív* to create an event expression, it would be difficult to say why precisely this preverb is chosen, especially when most other preverbs in Hungarian also have aspectual meanings. Similar considerations apply to *ki-takarít* 'clean' and *fel-bosszant* 'irritate' in (10) and (11), respectively. Again, *ki* literally means 'out' and *fel* means 'up', yet these meanings are not transparently contributed to the meaning of these complex verbs as a whole. There are, in fact, quite a lot of such partially lexicalized complex verbs in Hungarian that are not fully compositional and hence do not admit of a progressive interpretation.

In fairness to Kiefer, I should point out that he does not really think that compositionality is a strong enough requirement. As the quote above emphasizes, he believes that the preverb must also be used in its "literal sense," over and above the compositionality of the complex verb. Any productive meaning extension based on the original spatial sense of a preverb counts as a literal sense. Consequently, he (1992a:94) claims that a preverb like *meg*—which no longer productively preserves its original spatial meaning, 'to behind' in modern Hungarian—never appears in progressive constructions. However, consider the following example with *meg-eszik* 'PV-eat', which Kenesei (1989:132) finds acceptable:

(15)   A   éppen   ette   meg   a   levesemet.
         macska
         the   mouse   just   ate   PV   the   soup-my-ACC
         'The mouse was eating my soup.'

É. Kiss (1987:79) also cites a comparable example with the same verb.

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11 Kiefer (1992b:857-858) claims that the progressive also requires either a patient (internal) argument or a volitional agent (external) argument. Since these thematic restrictions appear to be independent of the issues discussed in this paper, I will ignore them.

Since Kiefer's claim may be too strong, I will keep to the slightly weaker compositionality requirement, which does not categorically exclude preverbs like *meg* from consideration. With the weaker requirement, the relevant question is whether speakers analyze the meaning of a complex verb like *meg-eszik* as compositional, i.e., as being functionally derivable from the meanings of its parts. As noted above in connection with the unacceptable examples, it is not enough to say that *meg* has an aspectual meaning, combining with simple verbs to create event expressions—we should also understand why *meg* and not some other preverb is chosen. But if we accept Kiefer's earlier (1982, 1984) claim that the only productive synchronic function of *meg* is to perfectivize (in my terms, to create event expressions), I suspect that the compositionality requirement will be more easily satisfied with *meg* than with other preverbs that much less regularly serve as 'pure perfectivizers' (as in (9-11)). If Kiefer is right, *meg* is really the default perfectivizing preverb in Hungarian: its use in perfectivization does not need to be justified to the same degree as the use of other preverbs in perfectivization does.

The complex verbs in (7), in contrast, are clearly compositionally analyzable. For example, the meaning of *le-visz* 'carry down' is evident from the meanings of *le* 'down' and *visz* 'carry'. Two additional examples are given in (16).

(16)   a.   Réka   éppen   ment   be   a   könyvtárba,   amikor   Tamás   meg-látta.
            Réka   just   went   inPV   the library-ILL   when   Tamás   PV-saw.her
            'Réka was going into the library when Tamás saw her.'

       b.   Réka   éppen   futott   ki   a   lakásból,   amikor   Mari   meg-érkezett.
            Réka   just   ran   outPV   the flat-ELA   when   Mary   PV-arrived
            'Réka was running out of the flat when Mary arrived.'

Generally, progressives are most acceptable with complex verbs whose preverb retains its spatial sense or has developed another sense originally based on the spatial one. Thus, as Kiefer (1992a:95-96) points out, the preverb *be* also has the meaning 'to cover a surface', and *ki*, the meaning 'to do away with a connection'. Since *be* and *ki* exhibit these senses in combination with many simple verbs, I (following Kiefer) consider such senses to be synchronically productive.

(17)   a.   Tamás   kente   be   a   padlót   viasszal,   amikor   Réka   be-jött.
            Tamás   smeared inPV   the floor-ACC   wax-INST   when   Réka   inPV-came
            'Tamás was waxing the floor when Réka came in.'

       b.   Réka   nyitotta ki   az   ajtót,   amikor   a   madár   be-repült.
            Réka   opened   outPV   the door-ACC   when   the bird   inPV-flew
            'Réka was opening the door when the bird flew in.'

In short, the meaning of a complex verb is compositional if and only if the meanings of the two parts *functionally* combine to give the meaning of the whole. With Kiefer's observation in hand, we can reformulate the rule in (8b) as a biconditional:

(18)   For all complex verbs that form (non-point) event expressions in neutral clauses:
       Progressive interpretation if and only if order of verb plus PV and meaning of complex verb is compositional.

Regarding (18), we might surmise that the syntactic condition on word order is essentially connected to the semantic condition on compositionality. But if this is so, how are they connected? And what do these two properties have to do with event expressions? Other things being equal, why could the rule in (18) not apply to process expressions and the one in (8a) not apply to event expressions? Or do these rules simply express odd facts about the progressive in Hungarian, having no deeper motivation?

The most highly developed syntactic analysis of the progressive is due to É. Kiss (1987, 1992b). Her aim is to account for the syntactic order of verb plus preverb in progressives of complex verbs that form event expressions. I will argue in §2 that the limitation of her analysis is that it depends on her ignoring complex verbs that form process expressions. As a result, her analysis of event expressions cannot be extended to handle process expressions without sacrificing the original insight that it was intended to capture. Moreover, even if her syntactic analysis did not fail on independent grounds, it would still remain silent about why the semantic condition on event expressions in (18) should hold at all.

While Kiefer (1992a–b) deserves credit for studying the conditions under which the progressive in Hungarian is possible, his analysis does not explicitly relate the semantic condition in (18) to the word order of complex verbs; these two properties are not essentially connected. More significantly, however, he fails to observe *that the semantic condition on compositionality applies only if the complex verb forms an event expression.* In particular, even if the meaning of a complex verb is not compositional, it can still appear in the progressive provided that it forms a process expression. We have actually already seen such an example in (2): *fel* 'up' and *olvas* 'read' do not predictably yield 'lecture', yet here the progressive is acceptable. In Kiefer's analysis, the semantic condition should apply with equal generality to complex verbs that form process expressions. The fact that it does not is a problem for him.

In this paper, I will present an analysis that comes to terms with the problems that É. Kiss's and Kiefer's analyses face. The heart of my analysis is to postulate a difference in how progressives of process and event expressions are formed. Progressives of process expressions can be formed directly; progressives of event expressions, in contrast, cannot. Event expressions must first be converted into process expressions before a progressive can be formed. The conversion of event expressions into process expressions is overtly marked in Hungarian: it is what requires verb movement. But in order to better understand the analysis that I will advocate, let us first better understand what goes wrong with É. Kiss's.

2. The search for PROG

It is customary to assume that the progressive interpretation is due to a PROG operator in the semantic representation of a progressive clause (see, among many others, Dowty 1979, Lascarides 1991). PROG in English is typically taken to be a propositional operator, but this assumption is not essential Landman (1992), for example, proposes that PROG in English is a relation between events and sets of events. Putting such differences concerning the type-logical status of PROG aside for the moment, all of these analyses of the progressive in English agree

that PROG (as a semantic operator) does not appear in the syntactic representation of a progressive expression.

Clearly, the claim that PROG does not appear in the syntactic representation of a progressive expression is not in conflict with the fact that a progressive clause will in many languages exhibit special morphosyntactic or prosodic marking. In English, the progressive auxiliary *be* and the present participial ending *-ing* are morphosyntactic reflexes of the progressive—these are crucial for the correct surface form of progressive expressions. In Hungarian, since progressive expressions exhibit a distinctive stress pattern, some kind of morphosyntactic marking of the progressive is necessary in order to trigger its correct prosodic interpretation. PROG is consequently the semantic translation of some morphosyntactic feature in both languages. Thus, although PROG is not represented in the syntax, the morphosyntactic feature that it semantically represents is.

2.1 PROG is not in [SPEC, VP]

É. Kiss (1987:69–76; 1992b:125-126) claims that PROG in Hungarian is syntactically represented, filling the preverbal focus position.[12] I will argue that this hypothesis about the syntactic representation of PROG raises more difficulties than it solves and therefore should be abandoned. É. Kiss (1987:71) calls PROG "an invisible aspectual operator," which strongly suggests that she conceives of PROG itself as a semantic operator, as opposed to its morphosyntactic reflex. For the sake of discussion, I will treat her PROG as a morphosyntactic element that is eventually represented as the progressive operator in the logical form of the clause.[13]

Consider the pair of sentences in (19), a contrast already familiar from (5–7) (recall (16a) especially).[14]

(19) a. Réka be-ment a könyvtárba [amikor].
        Réka in PV-went the library-ILL when
        'Réka went into the library.'
     # 'Réka was going into the library.'

     b. Réka ment be a könyvtárba [amikor].
        Réka went in PV the library-ILL when
        'Réka was going into the library [when].'
     # 'Réka went into the library.'

Given this contrast, how do we ensure a correspondence between the event interpretation and the order of preverb plus verb, on the one hand, and between the progressive interpretation and the order of verb plus preverb, on the other?

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[12] She actually names the operator 'PROGR'.

[13] É. Kiss (1987:72) also proposes another aspectual operator for [Spec, VP], EXIST, to represent what she calls the "existential aspect" (similar to the perfect in English). Although I do not analyze this interpretation here, I believe that the kind of argument that I make against EXIST, for [Spec, VP] can also be made against EXIST.

[14] For brevity, I will henceforth not write out the *amikor*-clauses.

In É. Kiss's (1992a–b) theory, the syntactically determined preverbal focus position is identified with [Spec, VP]. All of the verb's complements (including its PV, if it has one) are base-generated in a left-headed V'. In order to derive an event expression, the preverb moves to [Spec, VP]; if it remains behind, one reason that it may do so is because PROG is inserted directly into [Spec, VP] (doubly filling [Spec, VP] is independently prohibited). (In É. Kiss's analysis, the constituent occupying [Spec, VP] is not necessarily interpreted as focussed. In particular, preverbs may move to [Spec, VP] without being focussed.) The relevant structures for (19a–b) in her analysis are given in (20a–b).[15]

(20) a. Réka_i [VP be_j [V' ment t_j a könyvtárba t_i]]
     b. Réka_i [VP PROG [V' ment be a könyvtárba t_i]]

According to É. Kiss, (20a) is an event expression because be moves to [Spec, VP], thereby precluding the option of inserting PROG into that same position, which would otherwise be necessary for a progressive interpretation. (20b), in contrast, is a progressive expression because the aspectual operator PROG fills [Spec, VP], thereby forcing be to remain in the V' and ruling out an event interpretation.[16]

Be that as it may, in order for PROG to be well motivated in [Spec, VP], its postulation should do more than simply account for the surface syntax of sentences like (19b). Indeed, its presence (absence) in [Spec, VP] should systematically correlate with the admissibility (inadmissibility) of the progressive interpretation. In other words, we would like the biconditional in (21) to be valid. This is because PROG is interpreted as the progressive operator, and so if PROG is not in [Spec, VP], then we should not have a progressive interpretation. More concisely:

(21) PROG in [Spec, VP] ↔ progressive interpretation

While it may be true that PROG in [Spec, VP] implies a progressive interpretation, the reverse implication (→) significantly does not hold: the admissibility of the progressive interpretation does not imply the presence of PROG in [Spec, VP]. But if this is so, then PROG is not a good syntactic representative of the progressive operator, precisely because we have to explain how the progressive interpretation can arise without it.[17] But if we manage to explain how the progressive interpretation can arise without PROG in [Spec, VP], then we lose the motivation for locating PROG in [Spec, VP] in the first place.

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[15] Subjects are typically topicalized in Hungarian, which in É. Kiss's theory means moving to [Spec, TP] or adjoining to TP (multiple topics are possible). In her analysis, the verb does not move from V° to T°. I will suppress the labels for this part of the structure.

[16] É. Kiss is mainly concerned with the syntactic correlates of aspectual interpretation. She does not say how the event and progressive interpretations are actually derived.

[17] This is on the assumption that PROG either occupies [Spec, VP] or else it does not appear in the syntactic tree at all. Although É. Kiss does not make this assumption explicit, it is clear that her analysis abides by it.

Suppose that we take a sentence similar to (19a) but with the subject DP Réka in focus. In É. Kiss's analysis, Réka will then move to [Spec, VP], which has the effect of forcing be to remain in the V'. The data indeed pattern this way:[18]

(22) a. RÉKA ment be a könyvtárba [amikor].
        'It was Réka who went into the library.'
     b. * RÉKA be-ment a könyvtárba.
        'It was Réka who was going into the library [when].'

What is unexpected for É. Kiss is that (22a) has a progressive interpretation, in addition to an event reading.[19] According to (21), the progressive interpretation implies the presence of PROG in [Spec, VP], yet we know on independent grounds that the focussed constituent Réka already fills this position, hence PROG is not in [Spec, VP]. Yet this effectively means that a progressive interpretation is admissible without PROG in [Spec, VP].

Note that nothing depends on our focussing the subject DP in (22a). For example, we may focus the directional complement or the preverb, retaining the same two readings, event and progressive. In fact, it is surprising that (23b), in which the preverb be is focussed, admits of a progressive interpretation, whereas (19a) does not. (I will indicate why this is so in §4.) Indeed, this phenomenon provides the crucial motivation for restricting the statement of (18) to neutral clauses.

(23) a. Réka A KÖNYVTÁRBA ment be [amikor].
        'It was into the LIBRARY that Réka went.'
        'It was into the LIBRARY that Réka was going [when]'
     b. Réka BE ment a könyvtárba [amikor].
        Réka in-PV went the library-ILL when
        'It was INTO the library that Réka went.'
        'It was INTO the library that Réka was going [when]'

But it is not only with focus that we witness this effect. We know from §1 that reduced nominal complements, like preverbs, canonically occupy the preverbal position (again, in É. Kiss's theory, this involves moving to [Spec, VP]). Accusative case-marked reduced nominal complements combine with verbs to form process expressions.[20] Recall, crucially, that they remain obligatorily in preverbal position in progressive expressions without focus ((3) is an earlier example):

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[18] A capitalized constituent indicates that it is focussed.

[19] In isolation, the event interpretation is prominent. Further linguistic or contextual support is required to bring out the progressive interpretation, such as an amikor-clause.

[20] Maleczki (1992) argues that bare nouns in Hungarian have cumulative reference, which in her analysis of aspectuality is crucial to explaining why they create process and not event expressions. Note that I analyze her bare nouns as NPs (hence as maximal projections, but to be distinguished from DPs).

(24) a. Réka levelet írt a könyvtárban [amikor].
Réka letter-ACC wrote the library-INE when
'Réka wrote letters in the library.'
'Réka was writing letters in the library [when].'

b. # Réka írt levelet a könyvtárban [amikor].
'Réka was writing letters in the library [when].'

Here again, the problem is that [Spec, VP] is filled, hence PROG cannot also fill that position in these clauses. But these facts simply strengthen the claim that a progressive interpretation is admissible without PROG in [Spec, VP] in the first place.

If a preverb combines with a simple verb to form a process expression, the preverb remains before the verb in the progressive interpretation, as in (2). Another example is given in (25).

(25) a. Réka ki-nézett az ablakon [amikor].
Réka out-PV-looked the window-SUP when
'Réka looked out the window.'
'Réka was looking out the window [when].'

b. # Réka nézett ki az ablakon [amikor].
'Réka was looking out the window [when].'

c. RÉKA nézett ki az ablakon [amikor].
'It was Réka who looked out the window [when].'
'It is Réka who was looking out the window [when].'

Since fronted preverbs, like reduced nominal complements, occupy [Spec, VP] in É. Kiss's analysis, this again means that a progressive interpretation can arise without PROG filling [Spec, VP].[21] But if this is the case, then PROG's explanatory force is greatly weakened, suggesting that it would be desirable to banish it from [Spec, VP] altogether. This is because the progressive interpretation evidently has a source other than PROG in [Spec, VP].

2.2. *PROG is not a PV*

We might try to rescue É. Kiss's hypothesis about PROG by weakening the left side of the biconditional in (21), allowing PROG to be base-generated in V' along with the complements of the verb, including the PV. Granting this, PROG—just like the PV—would move into [Spec, VP] whenever no focussed constituent does. This revision would enable PROG to be syntactically represented in (22a, 23–25), even if it does not consistently appear in [Spec, VP].

However, it seems to me that such a revision would remove any of the intuitive appeal of É. Kiss's original solution. For if the progressive interpretation is available in (22a, 23–25) because of PROG in V', then why is it really necessary to move PROG into [Spec, VP] in (5a, 6a, 19b)? Moreover, it is then no longer apparent why (5b, 6b, 19a) should lack a progressive interpretation, supposing now that PROG may be in V'. Given that (22a, 23) allow both event

21 É. Kiss (1987:72) incorrectly refers to her (85) on p. 70 as an example of a progressive clause containing an activity (i.e., process) verb. But the (complex) verb in question is *fel-megy* 'up-go', which is actually an accomplishment (i.e., event) verb, appearing in the requisite order of verb plus preverb.

and progressive readings, why should (19a) not as well? In fact, (22a, 23) also indicate that the acceptability of an event interpretation does not necessarily imply that the preverb is in [Spec, VP]. So why should PROG always have to be in [Spec, VP] in progressive (of event) expressions? Clearly, the initial advantage of postulating PROG in [Spec, VP] begins to fade quickly once clauses with focus and a variety of process expressions are considered.

Of course, É. Kiss may be able to provide an account that makes sense of all this. Focus in Hungarian is often said to "neutralize" aspectual contrasts (Kiefer 1992b and Szabolcsi 1993:136).[22] In a similar vein, É. Kiss (1987:71) remarks that if a Hungarian sentence "contains a focus, it cannot be syntactically marked for aspect; i.e., focus and aspect marking are in a complementary distribution." Her idea is that in order to syntactically mark a clause for aspect in Hungarian, [Spec, VP] should contain a PV or PROG. It follows that if a focussed constituent occupies [Spec, VP], no syntactic marking of aspect is possible. In this case, her claim is not that the clause in question does not receive any aspectual interpretation (it certainly does), but rather that it is syntactically unmarked for aspect. Now, if we add to this the requirement that clauses should be syntactically marked for aspect whenever there is no focus (i.e., whenever syntactically possible), then we can begin to understand why the preverb and PROG should move to [Spec, VP] in (19a) and (19b), respectively. In such sentences, since they are free to move to [Spec, VP], they also should, given the said requirement on the syntactic marking of clauses.

É. Kiss may be right that [Spec, VP] (descriptively, the preverbal position) is a pivotal location for the syntactic expression of aspect in Hungarian, but this idea alone cannot justify the presence of PROG in [Spec, VP]. After all, in the end we still need to get the appropriate aspectual interpretation. How is PROG really prevented from appearing in the syntactic representation of (19a), but not from appearing in that of (22a, 23–25)? Presumably on semantic grounds, but these would need to be made explicit. Is PROG really akin to a PV, as the revised analysis would suggest, given its base-generation in V' and movement to [Spec, VP]? But Hungarian has *no* overt example of a complex verb having two PVs with one PV appearing before the simple verb and the other after it, as would be required in the analysis of (19b), assuming that PROG is a PV. Consequently, PROG cannot be justified as residing in V' by analogy with overt elements. And yet if PROG is not a PV, then what is its semantic type such that it may appear both in complement position and in [Spec, VP] with the desired interpretation? I suggest that these questions are artefacts of an incorrect hypothesis, viz., of the idea that the operator PROG is represented in [Spec, VP] or—akin to a PV—base-generated in V'.

2.3. *Two operators*

Banishing with PROG from [Spec, VP] may simplify matters conceptually, but we are still left with the obligatory order of verb plus preverb in progressive expressions like (5a, 6a,

22 Actually, a comparison of (22a) with (19a–b) would sooner suggest that focus *enriches* the set of available readings. The so-called "neutralization" of aspectual contrasts under focus is a misnomer (and arguably, a misconception), but I cannot pursue the matter in detail here (see §4 for further comment).

19b). It is tempting to agree with Harlig (1989:59), who finds "the positing of invisible aspectual operators ... to fill the focus position, which in every other case must be filled by lexical material, solely to generate the necessary word order, to be completely ad hoc." Even so, we still need a workable alternative to É. Kiss's analysis. As mentioned in §1, although Kiefer (1982, 1984, 1992a–b) has contributed much to the study of aspect in Hungarian, he has never specified the details of the mapping between syntax and aspectual interpretation. Specifically, in Kiefer's analysis it is quite unclear why the preverb should appear after the verb in (19b) but before it in (25a). Finally, while I find Wacha's (1989a–b) far-reaching empirical observations about aspectuality in Hungarian invaluable, his analyses remain highly intuitive and informal. From Wacha's (1989a:308–309).discussion of É. Kiss's PROG proposal, for example, it is unclear whether he in fact endorses her syntactic analysis or not.[23]

I want to capture the two generalizations stated in (8a) and (18), repeated here as (26a) and (26b), respectively. Unlike the approaches mentioned above, my analysis is grounded in the distinction between process and event expressions, which it takes as essential to the analysis of the progressive.

(26) a. For all complex verbs that form process expressions in neutral clauses:
If progressive interpretation, then order of PV plus verb.

    b. For all complex verbs that form (non-point) event expressions in neutral clauses:
Progressive interpretation if and only if order of verb plus PV and meaning of complex verb is compositional.

And in setting the stage, I make three sets of assumptions, summarized as follows:

(27) a. The progressive is represented by the semantic operator PROG in the logical translation of a clause. The morphosyntactic representation of PROG is [Prog]. [Prog] does not fill the preverbal focus position.

    b. Verbs are analyzed as relations between individuals and *eventualities*.[24] Eventualities include events, processes, and states, which are pairwise disjoint sorted domains in the universe of discourse.

    c. PROG takes only process predicates as input. In order for PROG to apply to event predicates, the latter first have to be converted into process predicates. The semantic operator PR(ocess) converts event predicates into process predicates. The morphosyntactic representation of PR is [Pr]. [Pr] also does not fill the preverbal focus position.

(27a) has already been motivated—the postulation of [Prog] (or PROG in É. Kiss's account) in [Spec, VP] creates artefactual problems. Nevertheless, I do think that [Prog] is

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[23]Both É. Kiss (1987:74) and Harlig (1989:59–60) offer brief critiques of Horvath's (1986:78) template approach for aspectual interpretation (her proposal dates from 1981). Even if her syntactic templates were completely accurate (which they are not, as É. Kiss and Harlig point out), it is still the case that no semantic analysis is given.

[24]The term is due to Bach 1981.

syntactically anchored, but just not to the preverbal focus position. Below, I will claim that it is an adjunct of a particular X°-projection.

(27b) characterizes the version of event semantics that I adopt.[25] Verbs are endowed with an eventuality argument, following Davidson's (1980) original proposal. Accordingly, intransitive verbs are represented as two-place relations, and transitive verbs, as three-place relations. Verbal predicates whose nominal arguments have been saturated are one-place eventuality predicates, referred.to as event predicates, process predicates, or state predicates, accordingly.

Finally, (27c) is based on the informal claim by Moens and Steedman (1988:17) that "the progressive auxiliary demands that its argument be a process." Specifically, an event must be "coerced" into a process before the progressive can apply. The Hungarian data in fact support this view: (19a), which contains the event expression *be-megy* 'in-go', does not admit of a progressive interpretation, whereas (25a), which contains the process expression *ki-néz* 'out-look', does—yet each exhibits the same syntax. Why can PROG apply directly to the latter but not to the former? This is perplexing if PROG can take event predicates as input. Instead, I claim that the PR operator, which "coerces" event predicates into process predicates, effectively imposes the syntactic order of verb plus PV, as in (19b). This is achieved by anchoring [Pr] to the X°-position of a particular projection and forcing verb raising. PROG may then apply to the output of PR.

My basic view is summarized in (28). We have two operators, PROG and PR(ocess).[26] In contrast to analyses that take PROG to be a propositional operator (Dowty 1979, Lascarides 1991), I analyze both it and PR as predicate operators. PROG applies to process predicates, yielding progressive predicates. As alluded to above, I treat [Prog] as an X°-adjunct, as in (28a). PR plays the role of a grammaticalized coercion operator, applying to event predicates to yield process predicates. The output of PR serves as input to PROG. Syntactically, I analyze [Pr] as an X°-head element, shown in (28b). In §3.1, I address the question of which syntactic projection this is.

(28) a. PROG: process predicate $\langle e,t \rangle$ ⇒ progressive predicate $\langle e,t \rangle$

$$
\begin{array}{c}
X' \\
\diagup\;\diagdown \\
X^{\circ}\qquad X' \\
[\text{Prog}]\quad \ldots
\end{array}
$$

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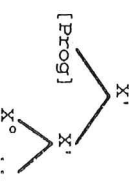
[25]See Parsons 1990 for a general exposition of event semantics with thematic relations. However, for present purposes, I dispense with thematic relations. And I do not adopt Parsons's analysis of the progressive.

[26]The idea of using two operators, PROG and PR, to flesh out Moens and Steedman's informal proposal for English is due to Lascarides (1991). She analyzes them both as propositional operators.

b. PR: event predicate ⟨e,t⟩ ⇒ process predicate ⟨e,t⟩

[Pr]
```
        X'
       / \
     X°   ...
```

Clearly, there is no need to stipulate an ordering between PROG and PR, given that PROG applies to the output of PR, and not to its input. In the case of expressions that already form process predicates (e.g., *Tamás főzött a konyhában* 'Tamás cooked in the kitchen', as in (1)), PR is inapplicable and PROG may therefore apply directly.

3. Analyzing the progressive

The progressive in Hungarian has two faces of present relevance, a syntactic and a semantic one. My syntactic analysis is set in a basic Principle & Parameters conception of syntax (Chomsky 1986), though nothing essential depends on this particular choice. My semantic analysis is cast in a version of event semantics, as mentioned above. The sorting of eventualities is essential to my enterprise—at least it is not apparent to me how the progressive in Hungarian can be analyzed without eventualities at our disposal.

3.1. Clause structure

The basic X'-structure that I propose for the Hungarian clause is depicted in (29).[27] This structure differs from existing proposals for Hungarian in notable respects; in what follows, I will briefly highlight points of similarity and difference. Needless to say, I cannot justify this structure in detail here. Note that the XP positions adjoined to ZP do not play a critical role in this paper and hence could be analyzed differently. (One could, for example, imagine a higher topic phrase.)

I share with É. Kiss the assumption that the VP is strictly left-headed, but I differ from her in adopting the binary branching hypothesis and in analyzing [Spec, VP] to be a thematic position for external arguments, i.e., PVs and focussed constituents do not move to [Spec, VP] in my analysis. Internal arguments are projected within V'': when there are two internal arguments, the least oblique one occupies [XP, V''] and the most oblique one fills [XP, V']. Preverbs are analyzed as AdvPs and have the syntactic status of oblique arguments; when a preverb is present, it is always the most oblique argument and therefore projected as sister of V°.[28] This analysis allows me to dispense with a specially labelled syntactic constituent that is specifically designated for a verb and its preverb—no special provision is made for preverbs in

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27 Top = topic, QP = quantifier phrase, Tns = tense, Ext = external argument, Int = internal argument. ZP, the particular label of which is not crucial, should be thought of as an underspecified multi-functional projection.

28 Preverbs have (or at least historically had) adverbial case endings. The oldest preverbs (e.g., *be* 'into', *le* 'down', *fel* 'up', etc.) no longer have synchronically transparent case endings.

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this respect.[29] I assume that verbs are inserted fully inflected into V° and undergo head movement to T° and then possibly further to Z°, depending on syntactic conditions.[30] Notice that I do not postulate any agreement phrases: I assume that object Case-marking and agreement is checked when combining [XP, V'] with V° (or [XP, V''] with V', if there is a preverb), and subject Case-marking and agreement is likewise checked when combining [Spec, VP] with V'' (recall that Hungarian has object agreement). Coupled with the hypothesis of bottom-up semantic composition, the effect of (29) is to have the verb combine with more oblique arguments before it combines with less oblique ones.

(29) Clause structure

```
            CP
           /  \
         ZP    C°
        /  \
    XP[Top] ZP
          /  \
      XP[QP]  ZP
            /  \
         Spec   Z'
               /  \
             Z°    TP
                  /  \
              Spec    T'
             [Ext]   /  \
                   T°    VP
                        /  \
                    Spec    V''
                           /  \
                         XP    V'
                        [Int] /  \
                            V°    XP
                           [PV]
```

3.2. Constraints

My syntactic analysis makes use of four constraints, the *aspectualizer constraint*, the *focus constraint*, the *specifier/head constraint*, and the *head feature constraint*. These constraints determine in part the well-formed s-structures of Hungarian. It may be feasible to derive these

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29 E.g., Brody (1990) requires that a special V+ constituent house the preverb followed by the simple verb.

30 É. Kiss does not postulate verb movement, in contrast to the analyses of Brody (1990), Marácz (1990), which do. See É. Kiss 1992a for critical comments on Brody's and Marácz's approaches.

constraints from more general principles, but that is not my particular task here. I want to establish, within a restricted domain, why certain items move to certain positions. The overall conception that I adopt is that syntactic constituents move from their base positions if and only if well-formedness constraints force them to.

ASPECTUALIZER CONSTRAINT. The role of [Spec, TP] in my analysis warrants special attention: it is an A'-position for aspectualizers. I consider the notion of an aspectualizer in Hungarian to be primarily a syntactic one. Essentially, among the syntactic arguments of a verb, PVs and directional phrases all count as aspectualizers. More generally, all but grammatically (nominative, accusative, and dative) case-marked DPs are aspectualizers.[31] In the absence of a semantic characterization of this distinction, I see no recourse but to mark the aspectualizers syntactically as such. Suppose that the privative feature [a(spectualizer)] is used to mark those XPs that are aspectualizers.[32] One way to achieve this marking would be by a rule that scans the VP, removing all grammatically case-marked DPs from consideration and marking the remaining XPs as aspectualizers. Aspectualizers are divided into three semantic classes according to whether they form event, process, or state predicates in combination with simple verbs. (In fact, think of the feature [a] as more specifically an event, process, or state feature.) The aspectualizer constraint in (30) requires that [Spec, TP] be filled by an aspectualizer, if there is one, and by the most oblique aspectualizer, if there are two or more.[33] ('XP[a]' abbreviates an XP marked with [a].)
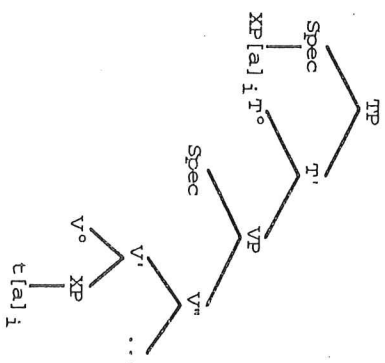
The intended interpretation of the aspectualizer constraint in (30) is that a constituent moves to [Spec, TP] if and only if it is the most oblique aspectualizer in the VP. The constraint does not entail that the aspectualizer necessarily remains in [Spec, TP] at S-structure. Although the aspectualizer typically does remain in [Spec, TP], it moves further to [Spec, ZP] if it is focussed. Consequently, the aspectualizer constraint is equally satisfied if [Spec, TP] contains the trace of the most oblique aspectualizer.

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[31] I consider reduced nominal complements to be NPs, not DPs (recall the discussion of (24)).

[32] Nothing depends on the privative status of any feature in my analysis.

[33] Analyses that do not treat PVs as XPs (but rather as X°s) have difficulty in explaining why a directional phrase like *az asztalra* 'onto the table' (clearly an XP) can appear both unfocussed and untopicalized before the verb: *Réka az asztalra tette a könyvet* (lit. 'Réka onto the table put the book') (Komlósy 1989:182). In my analysis, there is no particular difficulty: both PVs and directional phrases are XPs and aspectualizers in the syntax, hence they move to [Spec, TP] to satisfy the aspectualizer constraint.

(30) Aspectualizer constraint

```
              TP
            /    \
       Spec       T'
    XP[a]_i      /   \
              T°      VP
                    /    \
                 Spec     V''
                        /    \
                      V°      V'
                            /    \
                          ...    XP
                                t[a]_i
```

Consider the structure of (19a) in (31), parallel to that of the acceptable examples in (24–15). Unlike (19a), in which the aspectualizer *be* 'into' belongs to the class of event aspectualizers, the PVs in (24–25) belong to the class of process aspectualizers. Nevertheless, the application of the aspectualizer constraint does not depend on the particular semantic class of aspectualizer.

(31) Réka$_i$ [TP be$_j$ [T' ment$_k$ [VP t$_j$ [V'' [V' t$_k$ t$_j$] a könyvtárba]]]]
'Réka went into the library.'

Since *be* 'into' is a preverb and hence an aspectualizer, it moves to [Spec, TP]. If it remained in the VP, then (30) would be violated and the structure would be ungrammatical.

Two further pieces of evidence support the aspectualizer constraint in (30). The first is that (19a) also contains another aspectualizer, viz., the directional phrase *a könyvtárba* 'into the library'. If, instead of the preverb, the directional phrase were to move to [Spec, TP], the aspectualizer constraint would not be satisfied, precisely because the directional phrase is not the most oblique aspectualizer and therefore not sister to V°. Consequently, the structure in (32) violates (30) and is unacceptable as a neutral sentence.

(32) a. # Réka$_i$ [TP a könyvtárba$_j$ [T' ment$_k$ [VP t$_j$ [V'' [V' t$_k$ be] t$_j$]]]
'Réka went into the library.'

      b. Réka A KÖNYVTÁRBA ment be.
'It was into the library that Réka went.'
'It was into the library that Réka was going.'

Although the directional phrase may not move as an aspectualizer in (32a), it may move as a focussed constituent, shown in (32b), repeated from (23a). However, as we will soon see, the focus reading corresponds to a slightly different syntactic structure.

The second piece of evidence for (30) comes from considering a sentence very similar to (19a) but without the preverb *be* 'into'. In the absence of a preverb, the directional phrase is
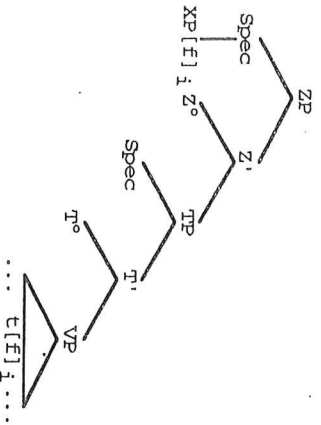
predicted to be the most oblique aspectualizer and hence by (30) should move to [Spec, TP] on an event interpretation without focus. The contrast in (33), completely parallel to the one in (19), indicates that this is correct. (Again, we ignore focus interpretations.)

(33) a. Réka a könyvtárba ment [amikor].
Réka the library-ILL went when
Réka_i [TP a könyvtárba_j [T′ ment_k [VP t_i [V′ t_k t_j]]]]
'Réka went into the library.'

   # 'Réka was going into the library [when].'

b. Réka ment a könyvtárba [amikor].
Réka went the library-ILL when
Réka_i [TP a könyvtárba_j [T′ ment_k [VP t_i [V′ t_k t_j]]]]
'Réka was going into the library [when].'

   # 'Réka went into the library.'

If the directional phrase remained in the VP, as in (33b), an event interpretation is inadmissible, given that (30) is violated. In sum, the aspectualizer constraint in (30) is supported by the data. (The admissibility of a progressive interpretation for (33b) parallels the availability of one for (19b). In this case, a könyvtárba is in [Spec, TP], hence (30) is respected, but the verb has moved to Z°. More on this below.)

FOCUS CONSTRAINT. Recall from (29) that TP is dominated by the underspecified multifunctional projection ZP. Intuitively, the precise function of ZP depends on how it is filled. The main role of ZP is as a focus projection, and [Spec, ZP] is the A′-position for focussed constituents. Suppose that we mark a focussed constituent with the privative syntactic feature [f(ocus)]. The focus constraint in (34) requires that a focussed XP move to [Spec, ZP]. ('XP[f]' abbreviates an XP marked with [f].)

(34) Focus constraint

```
           ZP
          /  \
       Spec    Z'
             /    \
    XP[f]_i Z°      TP
                  /    \
               Spec     T'
                      /    \
                    T°      VP
                          /
                   ... t[f]_i ...
```

Again, the intended interpretation is a biconditional: a constituent moves to [Spec, ZP] if and only if it is focussed (i.e., marked with [f]).[34] The focus constraint in (30) does not require

34 The full syntax of focus in Hungarian is more complex. Focussed adverbials may not always originate within the VP. With multiple foci, only one focussed constituent moves to [Spec, ZP].

the focussed constituent to remain in [Spec, ZP], although it may nearly always remain there for other reasons. The focus constraint also neither precludes nor forces it to do so. If the focussed constituent happens to be an aspectualizer, as in (23b), then it will pass through [Spec, TP], to abide by the aspectualizer constraint, but if it is not an aspectualizer, then it will not.
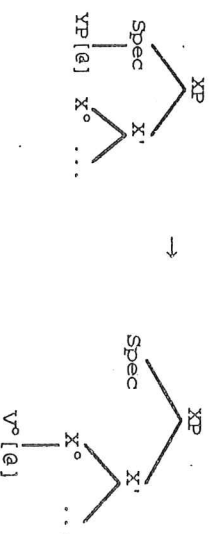
Consider the structure of (22a), in which the subject DP is focussed:

(35) [ZP RÉKA_i [Z′ ment_j [TP be_k [T′ t′_j [VP t_i [V″ [V′ t_j t_k] a könyvtárba]]]]]] i
'It was Réka who went into the library.'
'It was Réka who was going into the library.'

By the focus constraint, the subject DP Réka moves to [Spec, ZP]. As it is not an aspectualizer, it does not move through [Spec, TP]. By the aspectualizer constraint, the preverb be, which is the most oblique aspectualizer, moves to [Spec, TP]. The structures of (23a–b) are parallel. (The next two constraints regulate verb movement.)

SPECIFIER/HEAD CONSTRAINT. Thus far, I have provided no details about verb movement, yet the structures given clearly presuppose it. We could, of course, stipulate verb movement in both the aspectualizer and focus constraints, but it seems preferable to factor this information out as a separate constraint. The specifier/head constraint, given in (36), states that if the specifier position of a projection is filled with a constituent bearing some feature,[35] then the head of that projection is filled with the verb bearing the same feature. In other words, it is possible to view this constraint as encoding a kind of one-way structural specifier/head agreement relation (Chomsky 1992). Again, as with the first two constraints, the intended interpretation of the specifier/head constraint is not that the specifier (i.e., YP in (36)) or the verb necessarily remains in the relevant XP projection, but only that its trace does so.

(36) Specifier/head constraint

```
        XP                          XP
       /  \                        /  \
    Spec   X'          →        Spec   X'
          /  \                        /  \
        X°    YP[@] ...            V°[@]   X° ...
                                  Spec
```

More concretely, the specifier/head constraint guarantees that the verb will move to T° if an aspectualizer occupies [Spec, TP] and that it will move further to Z° if a focussed constituent fills [Spec, ZP]. Just as aspectualizers and focussed constituents bear the features [a] and [f],

However, with multiple wh-phrases, all move to [Spec, ZP] (presumably, adjunction to ZP is allowed for wh-foci). I cannot address these complexities here.

35 In Brody's (1990) analysis, the focussed XP moves to [Spec, F(ocus)P] and the verb moves to the head of FP to assign [Spec, FP] a focus feature as a species of specifier/head agreement.

respectively, I assume that verbs may be marked for [a] or [f] (or both). The specifier/head constraint rules out those structures in which the marking happens not to bear the requisite feature. (In the case of the VP, I assume that a feature for the external argument is at issue.)

It would be undesirable to make the specifier/head constraint a biconditional. This is because the verb may move to T° or Z° without implying that the corresponding specifier position is filled. For example, if the simple verb is focussed, then it moves to Z°, and [Spec, ZP] remains empty. Similarly, if the verb moves to T° to have its tense features checked, then we cannot infer that there is an aspectualizer in [Spec, ZP]. The next constraint says more about verb movement.

HEAD FEATURE CONSTRAINT. The verb may move to T° and Z°, independently of the specifier/head constraint. In (1), for example, I assume that the tensed verb *főzött* 'cooked' has moved to T° despite the fact that [Spec, TP] is empty, there being no aspectualizer in the clause. The following variation on (1a), in which the subject DP *Tamás* is not topicalized, suggests that the tensed verb does indeed raise to T°:

(37)   Éppen főzött Tamás a konyhában, amikor Réka be-jött.
        'Tamás was cooking in the kitchen when Réka came in.'

More dramatically, a singular indefinite DP differs in its interpretation, depending on its position relative to the verb in T°:

(38) a. ? Egy ismeretlen férfi éppen főzött a konyhában [amikor].
          an   unknown man   just   cooked the kitchen-INE when
          'A (specific) unknown man was cooking in the kitchen [when].'
     b.   Éppen főzött egy ismeretlen férfi a konyhában [amikor].
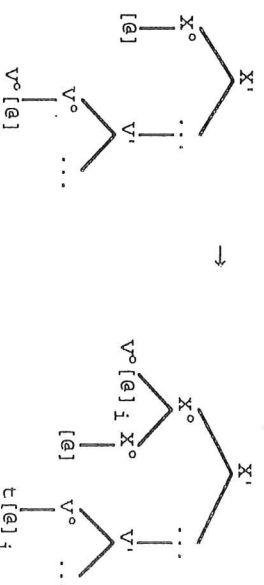   'A (non-specific) unknown man was cooking in the kitchen [when].'

In (38a), the indefinite DP is topicalized and must therefore be interpreted as specific (where the notion of 'specific indefinite' at stake appears to be that of a referential indefinite). This specificity requirement, however, does not fit well with the meaning of the prenominal modifier *ismeretlen* 'unknown'. In (38b), in contrast, the indefinite DP remains in [Spec, VP] and can therefore be interpreted as simply asserting the existence of an unknown man.[36]

The *head feature constraint*, stated in (39), states that if a feature [@] is generated in a X°-head and the verb in V° bears [@], then the verb moves and adjoins to X°.[37] This constraint can be viewed as a condition on the checking of the verb's features: those features of the verb that are generated in a separate head position must be checked (Chomsky 1992). If [@] is a semantically interpreted feature, another way of viewing the constraint is that the verb moves to X° in order that [@] may be interpreted.

---

[36] É. Kiss (1992a:80) observes the general requirement that topicalized indefinites be interpreted as specific.
[37] I assume that *relativized minimality* prevents verb movement from skipping an intervening head.

(39)   Head feature constraint

$$
\begin{array}{ccc}
\quad\;\; X' & & X' \\
\diagup\;\;\diagdown & & \diagup\;\;\diagdown \\
X° \quad\; V' & \longrightarrow & X° \qquad V' \\
\quad\;\; \diagup\;\diagdown & & \diagup\;\;\diagdown \\
\quad\; V°\;\;\; \ldots & & V°[@]_i\; X° \quad V° \;\ldots \\
\quad\; [@] & & [@] \quad\quad\quad t[@]_i
\end{array}
$$

Since we really have only two functional head positions to worry about, T° and Z°, let us ask what feature [@] is involved in each case. For T°, as I have already hinted, the feature is [tense]. For example, if a tense feature is inserted into T° and the verb is inserted inflected for [tense], then the verb moves and adjoins to T°. Clearly, in order for a well-formed structure to result, the two values of [tense] should match. In Hungarian, the mutually exclusive values for [tense] are [past], [non-past], and [non-finite]. If we assume that both T° and the verb are always marked for one of these values, then verb movement to T° is effectively obligatory. Since I assume that verbs are inserted fully inflected, [tense] in T° is not an interpreted feature. Verb movement to T° is therefore strictly syntactic.

Recalling (28b), I conjecture that the feature [Pr], if present, fills Z° and that the verb may also be marked for [Pr]. Like [a] and [f], [Pr] is a optional feature. Importantly, and this distinguishes [Pr] in Z° from [tense] in T°, [Pr] is an interpreted feature: its semantic correlate is PR. Consider the partial structure of (19b) in (40), in which [Pr] fills Z° and the verb is marked for [Pr], and therefore moves (via T°) to Z°. (Observe that (40) is still critically incomplete as the representation of (19b), because it does not include [Prog], the morphosyntactic reflex of PROG.)

(40)   Réka_i [z' Z° ment_Pr_j [z· [Pr]]] [TP be_k [T· t'_j [VP t_i [v'· [v'· t'_j t_k] a könyvtárba]]]]

In (40), verb movement is due to the head feature constraint, and the preverb moves to [Spec, TP] to satisfy the aspectualizer constraint. The specifier/head constraint requires the verb to bear the feature [a], which (40) leaves implicit. And since there is no focussed constituent, the focus constraint is inapplicable.

If Z° does not contain [Pr] and the verb is not marked for [Pr], then clearly no constraint forces the verb to move to Z°, and so it does not move there. If the verb is marked for [Pr] but Z° does not contain [Pr], then the head feature constraint similarly does not apply and the verb does not move to Z°. However, I assume that [Pr] is interpreted as PR only when it fills Z°, and not when it is merely a feature on the verb. Finally, if Z° contains [Pr] but the verb is not marked for [Pr], then no verb movement to Z° takes place, but a semantic incompatibility will result when PR has no verbal argument to apply to. As will become clear below, the semantic type of PR is such that it should apply to the verbal predicate first, and so if the verb has not adjoined to Z°, semantic composition will fail. How the semantic composition works is

elaborated in §3.4; the essential point at present is that the desired structure is derivable only when Z° contains [Pr] and the verb is marked for [Pr].

3.3 *[Prog] is a Z'-adjunct*

According to (28a), [Prog] is an X'-adjunct. I now want to claim that the projection in question is ZP and that [Prog] is therefore adjoined to Z'. The more complete representation of (19b) is now given in (41), subsuming the one in (40).

(41) Réka$_i$ [$_{ZP}$ [$_{Z'}$ [Prog] [$_{Z°}$ ment$_{Pr,j}$ [$_{Z°}$ [Pr]]] [$_{TP}$ bek [$_{T'}$ t$_j$ [$_{VP}$ t$_i$ [$_{v''}$ [$_{v'}$ t$_j$ t$_k$] a könyvtárba]]]]]]

Recall that the semantic operator PR applies only if we need to convert an event expression into a process expression, as in (41). If we have a process expression to begin with, then PROG can apply without the mediation of PR. Consider the syntactic representation of (3a), which is one such example:

(42) Réka$_i$ [$_{ZP}$ [$_{Z'}$ [Prog] [$_{Z°}$ almát$_j$ [$_{T'}$ szedett$_k$ [$_{VP}$ t$_i$ [$_{v''}$ [$_{v'}$ t$_k$ t$_j$] a gyümölcs-ligetben]]]]]]

Since we do not make use of [Pr] in (42), the head feature constraint does not require the verb to move to Z°, and so it remains in T°. The aspectualizer constraint forces the reduced nominal complement to move to [Spec, TP]. [Prog] is base-adjoined to Z' in order to derive a progressive expression. If [Prog] were not inserted, then we would get a process expression, as in (4b).

But why should we think that [Prog] is adjoined to Z'? After all, given that [Prog] is morphosyntactically covert, it is rather difficult to pinpoint its location. Let me emphasize what is crucial: [Prog] should appear higher in the tree than [Pr]. Since I claim that [Pr] is in Z°, the lowest that [Prog] could reasonably be is adjoined to Z'. [Prog] is clearly not in [Spec, ZP], for otherwise we would expect it to compete with focussed constituents for that position, which it obviously does not (recall that (10, 23, 25c) admit of a progressive interpretation). Of course, it is possible that [Prog] is yet higher in the tree, e.g., adjoined to ZP. However, I want to make two arguments that it is not.

Although [Prog] is morphosyntactically covert, it is prosodically overt, as observed in (5a, 6a). As É. Kiss (1987:71) remarks, "[p]honologically it [her PROG operator/CJP] is realized by the assignment of [1 stress] to each major constituent in its scope" (see also É. Kiss 1992b:125). For É. Kiss, given her analysis of PROG in [Spec, VP], its scope is V', which includes the verb and all its postverbal complements. By claiming that [Prog] is adjoined to Z', I retain the same relative phonological scope for the progressive that É. Kiss has without incurring the problems of placing [Prog] in the focus position. In particular, we predict that topicalized constituents fall outside the phonological scope of [Prog] and hence do not necessarily bear a strong stress (see (29)); non-topicalized constituents, in contrast, must bear a strong stress. Consider the following prosodic contrast, based on (19b). (Strong stresses are indicated.)

(43) a. Réka éppen 'ment 'be a könyvtárba, amikor ...
[*Réka* is topicalized]

b. Éppen 'ment 'be *(')Réka a könyvtárba, amikor ...
just went in-PV Réka the library-ILL when
[*Réka* is not topicalized]

Since topicalized constituents are outside the phonological scope of [Prog], we infer that [Prog] is lower in the tree than topics and hence that [Prog] is at least not a free ZP-adjunct (see (29)). If [Prog] is a Z'-adjunct, then its scope begins with the Z° position.

My second argument is also about the phonological scope of [Prog]. If [Prog] is adjoined to Z', then it is lower in the tree than a focussed constituent in [Spec, ZP]. Clauses with focus receives a strong stress and all the following constituents are stressless (Kálmán et al. 1989:67–68). Since [Prog] is in the phonological scope of focus and not *vice versa*, we predict that progressive expressions with focus necessarily exhibit the stress pattern of clauses with focus. This is indeed the case, as the following prosodic contrast based on (22a) shows (again, strong stresses are marked):

(44) a. RÉKA ment be a könyvtárba, amikor ...
'It was Réka who was going into the library when ...'

b. * RÉKA 'ment 'be a könyvtárba, amikor ...

If focus were inside the phonological scope of [Prog], then we would expect the stress pattern in (44b) and not the one in (44a) to prevail, other things being equal. But if [Prog] is a Z'-adjunct, and consequently within the phonological scope of focus, nothing special needs to be said.38 In sum, these two arguments about the phonological scope of [Prog] indicate that it is adjoined to Z'.

3.4. *Semantic representations*

I assume a first-order logical representation language with λ-abstraction and sorted variables for ordinary individuals (which include objects and locations) and eventualities. The language is first-order in the sense that only first-order variables are quantified over, which is adequate for present purposes. Eventualities are divided into three pairwise disjoint subsorts: states, processes, and events. Since tense does not bear directly on the problem at hand, I will ignore the representation of time. The distinctions that I make among variables is given in (45).

---

38 Kiefer (1992b:834) understands the dominance of the focus stress pattern over the progressive stress pattern as further evidence that aspectual differences are "neutralized" under focus. My understanding of the facts depends only on the notion of relative phonological scope, which is considerably more innocent than the kind of "neutralization" that Kiefer appeals to. For further remarks on the compatibility of focus and the progressive, see §4.

(45) a. Ordinary individuals: x, y, ...
States: s, s', ...
Processes: p, p', ...
Events: e, e', ...

b. Type $\langle e,t \rangle$ variables: P, Q, ...
Type $\langle e,\langle e,t \rangle \rangle$ variables: R, S, ...
Type $\langle e,\langle e,\langle e,t \rangle \rangle \rangle$ variables: X, Y, ...

[Prog] is analyzed as a two-place relation between states and sets of processes:

(46) [Prog₁] [z __ [z' α]]

[Prog] $\Rightarrow \lambda P \lambda s[PROG(s, \lambda p[P(p)])]$

("Applies to a process predicate P (representing the lower Z') and yields a predicate of states s (representing the higher Z') that stand in the PROG relation to sets of processes p of type P.")

The output of PROG is a state predicate; this is consistent with the standard view that progressives describe states (e.g., see Asher (1992) for a recent example). The input of PROG is a process predicate, which has the consequence that PROG does not apply to either state or event predicates. The syntax of my PROG operator shares much in common with Landman's (1992) PROG operator for English. In particular, I adopt his idea that PROG applies to predicates and not to propositions. Even so, my approach differs from his in explicitly distinguishing subsorts of eventualities. And more significantly, since I invoke two operators, PROG and PR, to divide the work of Landman's one operator, it is important to realize that my PR is semantically more like his PROG than my PROG is. With that said, specifying the interpretation of (my) PROG consists in spelling out the relation that holds between states s and sets of processes p of type P.

[Pr] is analyzed as a three-place relation between a relation, a set of events, and processes, shown in (47). When compared with PROG in (46), the obvious extra complication with PR is the first relational argument. Recall from the head feature constraint in (39) and the representations of (19b) in (40, 41) that verb movement to [Pr] in Z° results in the verb's being adjoined to Z°. This means, however, that PR should first apply to the verbal predicate in order to derive a meaning for the maximal Z° constituent. Since the event predicate representing TP will contain a free variable in place of the (moved) verbal predicate, the latter will eventually be λ-converted back into the event predicate. (The third example below shows this in detail.)

(47) [Pr], Z°

[Pr] $\Rightarrow \lambda X \lambda P \lambda p[PR(p, \lambda e[P(e)](X))]$

("Applies to a verbal predicate X (representing the moved V°) and then to an event predicate P (representing TP) and yields a predicate of processes p (representing Z') that stand in the PR relation to sets of events e of type P.")

The output of PR is a process predicate to which PROG may apply. Specifying the semantics of PR amounts to spelling out the relation that holds between processes p and sets of events e of type P.
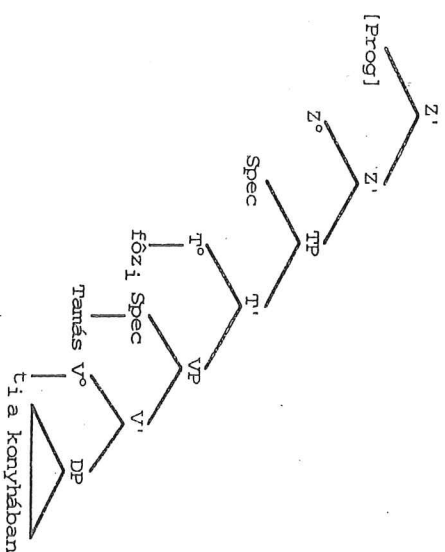

In the remainder of this section, I demonstrate in detail how the semantic representations of three canonical examples are compositionally derived. For the sake of simplicity, I assume that the subject DP is not topicalized and therefore remains in [Spec, VP], but nothing vital depends on this simplification. I also assume that unfilled positions (e.g., Z° or [Spec, TP]) are semantically inert, adding no semantic content. And as already mentioned above, I ignore tense.

Each of the three examples has four parts. First, the syntactic tree is given, which is in accord with the syntax presented in §3.1-3.2 (the syntactic features, which are easily inferred, are suppressed). Second, the semantic translations for the complex categories are supplied. These are straightforwardly derived by λ-conversion (or by λ-abstraction over a free variable followed by λ-conversion). Third, the semantic translations for the basic categories are presented. Fourth and finally, a few notes of clarification are added.

Readers who wish to skip the techical details and would rather proceed to the overall conclusions in §4 should do so at this time.

(48) **Syntactic structure of (1a)**

(1a): PROCESS EXPRESSION WITHOUT ASPECTUALIZER. To see PROG in action, consider how the semantic representation of (1a) is derived.

[Tree diagram:
Z'
├─ [Prog]
└─ Z'
   ├─ Z°
   │ └─ főz_i (Spec)
   └─ TP
      ├─ Spec
      └─ T'
         ├─ T°
         │ └─ Tamás (Spec)
         └─ VP
            └─ V'
               ├─ V°
               │ └─ t_i
               └─ DP
                  └─ a konyhában]

Basic categories

(intransitive) főz 'cook' $\Rightarrow \lambda x \lambda p \exists y[főz'(p, x, y)]$

[v° t_i] $\Rightarrow \lambda x \lambda p[R_i(p, x)]$

[DP Tamás] $\Rightarrow$ tamás'

[DP a konyhában] 'in the kitchen' $\Rightarrow \lambda R \lambda x \lambda p[R(p, x) \wedge Loc(p) =$ a-konyhában']

(Loc is the localization function for eventualities)

[Prog] $\Rightarrow \lambda P \lambda s[PROG(s, \lambda p[P(p)])]$

Complex categories (bottom-up)

[v' a konyhában] $\Rightarrow \lambda x \lambda p[R_i(p, x) \wedge Loc(p) =$ a-konyhában']

[VP Tamás [v' t_i a konyhában]] $\Rightarrow \lambda p[R_i(p, tamás') \wedge Loc(p) =$ a-konyhában']

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$[_T$ főz$_i$ $[_{VP}$ Tamás $[_{V'}$ t$_i$ a konyhában$]]]$ $\Rightarrow$
$\lambda R_i\lambda p[R_i(p, \text{tamás}') \wedge Loc(p) = \text{a-konyhában}'](\lambda x\lambda p\exists y[\text{főz}'(p, \text{tamás}', y) \wedge Loc(p)]) =$
$\lambda p\exists y[\text{főz}'(p, \text{tamás}', y) \wedge Loc(p) = \text{a-konyhában}']$

$[_Z$ [Prog] $[_Z$ $[_T$ főz$_i$ $[_{VP}$ Tamás $[_{V'}$ t$_i$ a konyhában$]]]]]$ $\Rightarrow$
$\lambda P\lambda s[\text{PROG}(s, \lambda p[P(p)])](\lambda p\exists y[\text{főz}'(p, \text{tamás}', y) \wedge Loc(p) = \text{a-konyhában}']) =$
$\lambda s[\text{PROG}(s, \lambda p\exists y[\text{főz}'(p, \text{tamás}', y) \wedge Loc(p) = \text{a-konyhában}'])]$

(Finally, s is existentially bound in order to get a proposition-denoting formula)
$\lambda P\exists s[P(s)](\lambda s[\text{PROG}(s, \lambda p\exists y[\text{főz}'(p, \text{tamás}', y) \wedge Loc(p) = \text{a-konyhában}'])]) =$
$\exists s[\text{PROG}(s, \lambda p\exists y[\text{főz}'(p, \text{tamás}', y) \wedge Loc(p) = \text{a-konyhában}'])]$

Remark

Intransitive *főz* 'cook' is analyzed with an existentially bound internal argument. Since verbal traces are translated as predicate variables having the same semantic type as their respective verbal predicates, the trace of *főz* is analyzed as a two-place relational variable. The locative phrase *a konyhában* 'in the kitchen' is analyzed as a modifier of the verbal predicate.

(3a): PROCESS EXPRESSION WITH ASPECTUALIZER. Consider the derivation of (3a), in which the complex verb *almát szed* 'apple-pick' forms a process expression.

(49) Syntactic structure of (3a)
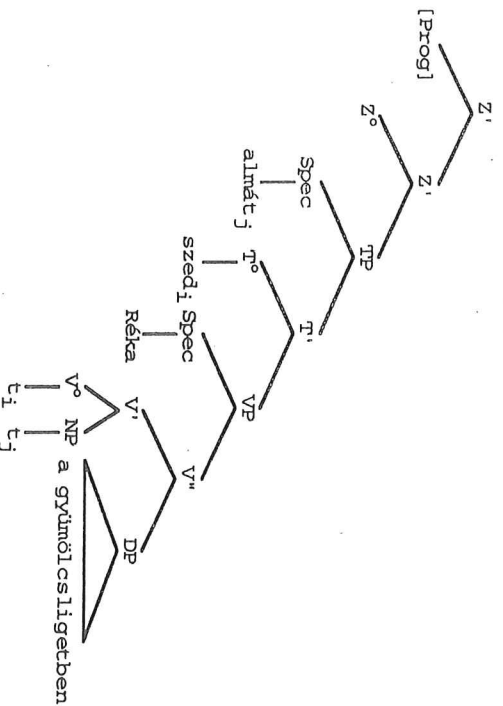
Basic categories

szed 'pick' $\Rightarrow \lambda y\lambda x\lambda p[\text{szed}'(p, x, y)]$
$[_{V°}$ t$_i]$ $\Rightarrow \lambda y\lambda x\lambda p[X_i(p, x, y)]$
$[_{DP}$ Réka$]$ $\Rightarrow$ réka$'$
almát 'apple-ACC' $\Rightarrow \lambda R\lambda p\exists y[R(p, y) \wedge \text{almát}'(y)]$
$[_{NP}$ t$_j]$ $\Rightarrow y_j$

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$[_{DP}$ a gyümölcsligetben$]$ $\Rightarrow \lambda R\lambda x\lambda p[R(p, x) \wedge Loc(p) = \text{a-gyümölcsligetben}']$
$[\text{Prog}]$ $\Rightarrow \lambda P\lambda s[\text{PROG}(s, \lambda p[P(p)])]$

Complex categories (bottom-up)

$[_{V'}$ t$_j]$ $\Rightarrow \lambda x\lambda p[X_i(p, x, y_j)]$
$[_{V''}$ $[_{V'}$ t$_j]$ a gyümölcsligetben$]$ $\Rightarrow \lambda x\lambda p[X_i(p, x, y_j) \wedge Loc(p) = \text{a-gyümölcsligetben}']$
$[_{VP}$ Réka $[_{V''}$ $[_{V'}$ t$_j]$ a gyümölcsligetben$]$ $\Rightarrow$
$\lambda p[X_i(p, \text{réka}', y_j) \wedge Loc(p) = \text{a-gyümölcsligetben}']$
(Both X_i and y_j are λ-abstracted in the next step)
$[_T$ szed$_i$ $[_{VP}$ Réka $[_{V''}$ $[_{V'}$ t$_i$ t$_j]$ a gyümölcsligetben$]$ $\Rightarrow$
$\lambda X_i\lambda p[X_i(p, \text{réka}', y_j) \wedge Loc(p) = \text{a-gyümölcsligetben}'](\lambda y\lambda x\lambda p[\text{szed}'(p, x, y)]) =$
$\lambda p[\text{szed}'(p, \text{réka}', y_j) \wedge Loc(p) = \text{a-gyümölcsligetben}']$
$[_{TP}$ almát$_j$ $[_T$ szed$_i$ $[_{VP}$ Réka $[_{V''}$ $[_{V'}$ t$_i$ t$_j]$ a gyümölcsligetben$]$ $\Rightarrow$
$\lambda R\lambda p\exists y[R(p, y) \wedge$
$\text{almát}'(y)](\lambda x\lambda p[\text{szed}'(p, \text{réka}', y_j) \wedge Loc(p) = \text{a-gyümölcsligetben}']) =$
$\lambda p\exists y[\text{szed}'(p, \text{réka}', y) \wedge Loc(p) = \text{a-gyümölcsligetben}' \wedge \text{almát}'(y)]$
$[_Z$ [Prog] $[_Z$ $[_{TP}$ almát$_j$ $[_T$ szed$_i$ $[_{VP}$ Réka $[_{V''}$ $[_{V'}$ t$_i$ t$_j]$ a gyümölcsligetben$]$ $\Rightarrow$
$\lambda P\lambda s[\text{PROG}(s, \lambda p[P(p)])](\lambda p\exists y[\text{szed}'(p, \text{réka}', y) \wedge Loc(p) = \text{a-gyümölcsligetben}' \wedge$
$\text{almát}'(y)])) =$
$\lambda s[\text{PROG}(s, \lambda p\exists y[\text{szed}'(p, \text{réka}', y) \wedge Loc(p) = \text{a-gyümölcsligetben}' \wedge \text{almát}'(y)])]$
(Finally, s is existentially bound in order to get a proposition-denoting formula)
$\lambda P\exists s[P(s)](\lambda s[\text{PROG}(s, \lambda p\exists y[\text{szed}'(p, \text{réka}', y) \wedge Loc(p) = \text{a-gyümölcsligetben}' \wedge$
$\text{almát}'(y)])]) =$
$\exists s[\text{PROG}(s, \lambda p\exists y[\text{szed}'(p, \text{réka}', y) \wedge Loc(p) = \text{a-gyümölcsligetben}' \wedge \text{almát}'(y)])]$

Remark

The reduced nominal complement *almát* 'apple-ACC' is analyzed as a quantifier, applying to the verbal relation and existentially binding the internal argument variable. This is a simplification, for it blurs the distinction between *almát* as an NP aspectualizer and *egy almát* 'an apple-ACC' as a DP non-aspectualizer, but it suffices for my purposes (see Maleczki 1992 for another treatment of reduced nominal complements). Note that the NP trace is analyzed as an individual variable.

(19b): EVENT EXPRESSION WITH ASPECTUALIZER. PR is shown at work in the derivation of (19b), which contains the complex verb *be·megy* 'in-go' that forms an event expression.

(50) Syntactic structure of (19b)
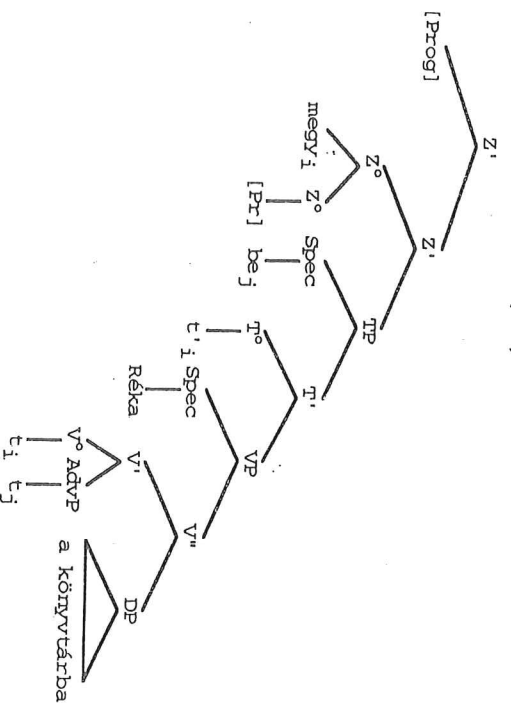
Basic categories

megy 'go' $\Rightarrow \lambda y \lambda x \lambda e[\text{megy}'(e, x, y)]$
(y is a spatial path argument)

$[_{V°}\ t_i] \Rightarrow \lambda y \lambda x \lambda e[X_i(e, x, y)]$

$[_{T°}\ t'_i] \Rightarrow \lambda y \lambda x \lambda e[X_i(e, x, y)]$

be $\Rightarrow \lambda y[\text{be}'(y)]$

$[_{DP}\ \text{Réka}] \Rightarrow \text{réka}'$

Complex categories (bottom-up)

$[_{V'}\ t_i\ t_j] \Rightarrow \lambda y \lambda x \lambda e[X_i(e, x, y) \wedge Q_j(y)]$

$[_{AdvP}\ t_j] \Rightarrow \lambda X \lambda y \lambda x \lambda e[X(e, x, y) \wedge Q_j(y)]$

$[_{DP}\ \text{a könyvtárba}]$ 'into the library' $\Rightarrow \lambda X \lambda x \lambda e \exists y[X(e, x, y) \wedge \text{a-könyvtárba}'(y)]$

$[_{Pr}] \Rightarrow \lambda X \lambda P \lambda p[PR(p, \lambda e[P(e)](X))]$

$[_{Prog}] \Rightarrow \lambda P \lambda s[PROG(s, \lambda p[P(p)])]$

Complex categories (bottom-up) $\Rightarrow$

$[_{V'}\ t_i\ t_j] \Rightarrow \lambda y \lambda x \lambda e[X_i(e, x, y) \wedge Q_j(y)]$

$[_{V''}\ [_{V'}\ t_i\ t_j]\ \text{a könyvtárba}] \Rightarrow \lambda x \lambda e \exists y[X_i(e, x, y) \wedge Q_j(y) \wedge \text{a-könyvtárba}'(y)]$

$[_{VP}\ \text{Réka}\ [_{V''}\ [_{V'}\ t_i\ t_j]\ \text{a könyvtárba}]] \Rightarrow \lambda e \exists y[X_i(e, \text{réka}', y) \wedge Q_j(y) \wedge \text{a-könyvtárba}'(y)]$

$[_{T'}\ t'_i\ [_{VP}\ \text{Réka}\ [_{V''}\ [_{V'}\ t_i\ t_j]\ \text{a könyvtárba}]]] \Rightarrow$
$\lambda x \lambda e \exists y[X_i(e, x, y) \wedge Q_j(y) \wedge \text{a-könyvtárba}'(y)](X_i) =$
$\lambda e \exists y[X_i(e, \text{réka}', y) \wedge Q_j(y) \wedge \text{a-könyvtárba}'(y)]$

$[_{TP}\ \text{be}_j\ [_{T'}\ t'_i\ [_{VP}\ \text{Réka}\ [_{V''}\ [_{V'}\ t_i\ t_j]\ \text{a könyvtárba}]]]] \Rightarrow$
$\lambda Q_j \lambda e \exists y[X_i(e, \text{réka}', y) \wedge Q_j(y) \wedge \text{a-könyvtárba}'(y)](\text{be}') =$
$\lambda e \exists y[X_i(e, \text{réka}', y) \wedge \text{be}'(y) \wedge \text{a-könyvtárba}'(y)]$

$[_{Z°}\ \text{megy}_i\ [_{Pr}]] \Rightarrow \lambda X \lambda P \lambda p[PR(p, \lambda e[P(e)](X))](\text{megy}') =$
$\lambda P \lambda p[PR(p, \lambda e[P(e)](\text{megy}'))]$

$[_{Z'}\ [_{Z°}\ \text{megy}_i\ [_{Pr}]]\ [_{TP}\ \text{be}_j\ [_{T'}\ t'_i\ [_{VP}\ \text{Réka}\ [_{V''}\ [_{V'}\ t_i\ t_j]\ \text{a könyvtárba}]]]]] \Rightarrow$
$\lambda P \lambda p[PR(p, \lambda e[P(e)](\text{megy}'))](\lambda e \exists y[X_i(e, \text{réka}', y) \wedge \text{be}'(y) \wedge \text{a-könyvtárba}'(y)]) =$
$\lambda p[PR(p, \lambda e \exists y[X_i(e, \text{réka}', y) \wedge \text{be}'(y) \wedge \text{a-könyvtárba}'(y)](\text{megy}'))] =$
(X_i is λ-abstracted in the next step)
$\lambda p[PR(p, \lambda e \exists y[\text{megy}'(e, \text{réka}', y) \wedge \text{be}'(y) \wedge \text{a-könyvtárba}'(y)](\text{megy}'))] =$

$[_{Z'}\ [_{Prog}]\ [_{Z'}\ [_{Z°}\ \text{megy}_i\ [_{Pr}]]\ [_{TP}\ \text{be}_j\ [_{T'}\ t'_i\ [_{VP}\ \text{Réka}\ [_{V''}\ [_{V'}\ t_i\ t_j]\ \text{a könyvtárba}]]]]]] \Rightarrow$
$\lambda P \lambda s[PROG(s, \lambda p[P(p)])](\lambda p[PR(p, \lambda e \exists y[\text{megy}'(e, \text{réka}', y) \wedge \text{be}'(y) \wedge \text{a-könyvtárba}'(y)])]) =$
$\lambda s[PROG(s, \lambda p[PR(p, \lambda e \exists y[\text{megy}'(e, \text{réka}', y) \wedge \text{be}'(y) \wedge \text{a-könyvtárba}'(y)])])] =$
(Finally, s is existentially bound in order to get a proposition-denoting formula)
$\lambda P \exists s[P(s)](\lambda s[PROG(s, \lambda p[PR(p, \lambda e \exists y[\text{megy}'(e, \text{réka}', y) \wedge \text{be}'(y) \wedge \text{a-könyvtárba}'(y)])])]) =$
$\exists s[PROG(s, \lambda p[PR(p, \lambda e \exists y[\text{megy}'(e, \text{réka}', y) \wedge \text{be}'(y) \wedge \text{a-könyvtárba}'(y)])])]$

Remark

The preverb *be* 'into' is represented as a predicate of spatial paths. Thus, all those paths that lead from outside an enclosure to inside are *be*-paths (again, a useful simplification). I treat the trace of *be* as a modifier so that it can combine with the verbal predicate. Note that it would be problematic to existentially bind the path variable at this point, for otherwise the quantifier representing the directional phrase *a könyvtárba* 'into the library' could not existentially bind that same variable. (This phenomenon arises whenever a spatial preverb is 'doubled' by a directional phrase. Other treatments are imaginable.)

4. Conclusion

I made three promises at the outset of this paper. The first was to explicitly relate the syntax and semantics of the progressive in Hungarian, something that has not been done in the literature on Hungarian. In §3, I presented an analysis that integrates both the syntactic and semantic faces of the progressive in Hungarian.

One thing that I did not do was to present model-theoretic interpretations of PROG and PR. This is because the issues involved here are not particular to Hungarian—PROG and PR are, after all, not language-specific relations. Furthermore, the formal semantics of the progressive is still very controversial, and I would like to leave my options open. Even so, if pressed, I would probably the most obvious way for me to proceed would be to adapt Landman's (1992) semantics. As noted in §3.4, his analysis would need to be adapted (and not simply adopted), because I use both PROG and PR to do the duty of his PROG. But the idea, in brief, is this: PR derives process predicates from event predicates. The processes in the denotation of PR are *process stages* of the events in the denotation of the event predicate. Intuitively, a process p is a process stage of an event e if e is the same eventuality as p in its culminated stage of development. The problem is that e may not be spatio-temporally realized in this world (e.g., if Réka was going into the library, than she may not have actually managed to go in). PR relates processes p in this world to events e of type P that are on the *continuation branch* of p in this

world. Roughly, an event e of type P is on the continuation branch of p in this world if e is in the denotation of P in a world sufficiently close to ours and p is a process stage of e.

The provisional interpretation of PROG is more straightforward: it derives state predicates from process predicates. Here, the idea is to relate states s, which hold at open intervals, to processes p of type P, which hold at closed intervals, with the condition that any such s be part of p. (For competing model-theoretic analyses of the progressive, see Dowty 1979, Lascarides 1991, Asher 1992, and Landman 1992.)

The second promise was to provide independent support for a claim made about the progressive in English. As noted already in §2.3, the progressive in Hungarian supports the informal proposal made by Moens and Steedman (1988) that progressives of event expressions differ from progressives of process expressions in crucially involving an intermediate stage of "coercing" the event expressions into process expressions. Lascarides (1991) formalized this intermediate stage with the propositional operator PR, which she used in addition to PROG. Although my analysis differs from hers in analyzing both PROG and PR as predicate operators, the crucial point is that Hungarian exhibits a distinct reflex for each of these: PROG is realized prosodically with both event and process expressions in a distinctive stress pattern (see §3.3), and PR is realized syntactically only with complex verbs that form event expressions in the order of verb plus PV.

The third promise concerned three empirical consequences of my analysis. These are (i) the compositionality requirement on complex verbs that form event expressions in the progressive, (ii) the absence of such a requirement on complex verbs that form process expressions, and (iii) the admissibility of a progressive interpretation with focus.

As is evident from §3.4, PR applies to the verbal predicate representing the verb that moves and adjoins to Z° (cf. (50)). The verbal predicate is then λ-converted back into the event predicate that represents TP. But note that this analysis depends on our being able to functionally abstract the meaning of the simple verb in the first place, which is not always possible. For example, if the meanings of the two parts of a complex verb do not functionally combine to yield the meaning of the whole, then PR cannot be successfully applied. The syntax and semantics of PR require that the meaning of the simple verb be 'stripped away' from the meaning of the event predicate: semantically transparent complex verbs will allow this, but semantically opaque complex verbs will not. The complex verbs in (9–11) resist the progressive because the meanings of the simple verbs cannot be functionally abstracted from the meanings of the complex verbs as a whole.

The viability of this solution to the problem depends on our having another mode of combination available for semantically opaque complex verbs. The two parts of such verbs separate in other syntactic environments with no more difficulty than the two parts of semantically transparent complex verbs. For example, although the complex verbs in (9–11) do not participate in the progressive, my syntactic constraints apply equally well to them, i.e., their parts can and do separate in the syntax. Whatever the other mode of combination is, it is needed independently of my analysis. All that I require is that it not be functional, which is a reasonable assumption, given that they are not compositional units. Since PR is functional, the

other mode of combination cannot be used to derive process predicates from event predicates, which is the desired result.

Why is the compositionality requirement absent for complex verbs that form process expressions? Precisely because PR is inapplicable. Recall that *fel-olvas* (lit: 'up-read') 'lecture' in (2a) is not semantically transparent, yet the progressive is fine. However we combine *fel* with *olvas* in the syntax (invoking that non-functional mode of combination), the crucial point is that since the resulting complex verb is a process expression, PROG can apply directly. The compositionality requirement is triggered only when PR must apply, thereby forcing the meaning of the simple verb to be abstracted from the event predicate. This is never an issue with process predicates.39

An outstanding puzzle in Hungarian is why certain clauses with focus suddenly appear to admit of a progressive interpretation, in addition to an event interpretation (see (22a, 23)). In my analysis, however, there is nothing that prevents the verb from moving to Z° for two reasons: the specifier/head constraint in (36), triggered by a focus constituent in [Spec, ZP], and the head feature constraint in (39), triggered by [Pr] in Z°. Recall that [Prog] is adjoined to Z' with or without a focussed constituent in [Spec, ZP]. Indeed, the combination of focus with the progressive is predicted to be possible. On this view, it is not the case that focus meaning has any *intrinsic* relation to progressive meaning; rather, progressive meaning demands a particular syntax with event expressions, which *happens* to be compatible with the syntax of focus in Hungarian. Thus, by focussing *Réka* in (22a), it appears that focus alone somehow *creates* a progressive interpretation (cf. (19a)), but this, I suggest, is mere appearance: focus creates a syntactic configuration that is perfectly compatible with the one needed for a progressive interpretation of event predicates.

(23b), in which the preverb *be* 'into' is focussed and therefore moves to [Spec, ZP], provides striking support for the analysis that I have advocated. *The fact that clauses like (23b) admit of a progressive interpretation indicates that any analysis that insists on linking progressives of event expressions with the surface order of verb plus PV is on the wrong track.* Note that nothing in my analysis of the progressive in Hungarian demands that an event aspectualizer remain in [Spec, TP]. Whether it does in fact remain there is determined by independent factors such as focus. And this, I conclude, is precisely how we should understand the phenomenon.

39My account predicts that semantically transparent complex verbs that are aspectually ambiguous between an event and process interpretation will be able to form a progressive in two ways (verb plus PV order or PV plus verb order). One such example is *át-megy*, 'across/through-go': *Réka át-ment az ucán, amikor ... / Réka ment át az ucán, amikor ...* (lit. Réka across-went the street-SUP, when ... / Réka went across the street, when ...) 'Réka was going across the street, when ...'. Although Kiefer (1992b:859) points out this characteristic of *át-megy* in the progressive, he does not conclude that the verb is aspectually ambiguous, as must be the case in my account. The fact that *át-megy* is compatible with both time-span and durative adverbials independently supports the claim that it is aspectually ambiguous.

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