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Abstract
The basic question this paper addresses is the semantic characterization of repetitive *again*, other repetitives in English, and some of their crosslinguistic equivalents in Hungarian. The properties considered here include the denotation, possible scope and the possible positions where such adverbials can appear. The major goal is to expand the range of adverbials considered. Standardly, it is only *again*, or a default repetitive in some other language that is considered, possibly along with a prefixal variant (e.g. *re-* in English, as in Keyser and Roeper 1992). This paper expands the typological coverage of repetitives (see, among others, Beck 2005 and Lechner et al. 2015). It is argued that repetitive adverbs show variation in meaning, and also considerable variation in scope and possible positions, which can differ from the variation previously described in the literature. It is suggested that such variation does not necessarily follow from independent factors, but it must be stipulated for each repetitive in question.
Repetitive Adverbs in English and Hungarian

Aniko Csirmaz*

1 Introduction

The basic question this paper addresses is the semantic characterization of repetitive again, other repetitives in English, and some of their crosslinguistic equivalents in Hungarian. The properties considered here include the denotation, possible scope and the possible positions where such adverbials can appear. The major goal is to expand the range of adverbials considered. Standardly, it is only again, or a default repetitive in some other language that is considered, possibly along with a prefixal variant (e.g. re- in English, as in Keyser and Roeper 1992). This paper expands the typological coverage of repetitives (see Beck 2005, Lechner et al. 2015, among others). It is argued that repetitive adverbs show variation in meaning, and also considerable variation in scope and possible positions, which can differ from the variation previously described in the literature. It is suggested that such variation does not necessarily follow from independent factors, but it must be stipulated for each repetitive in question.

The paper is organized as follows. Section 2 discusses the denotations of repetitives, noting some differences in meaning. Section 3 considers scope differences – both repetitive / restitutive readings and relative scope with respect to other scope-taking elements. Section 4 concludes the paper.

2 Interpretation

All definitions of repetitive adverbials assume that there are two relevant events. The later event is asserted, while the earlier event is presupposed (and also entailed, as argued in Lechner et al. 2015, even though this is ignored below). The presupposed and the asserted events are of the same type in some sense.

(1) Fred closed the door again.

Naturally, it is not necessarily the case that the presupposed event is exactly the same type as the asserted event. Such a situation arises with restitutive interpretations, where the earlier event is the result state of the asserted event. If the presupposed event is identical to the asserted one, the interpretation is repetitive, as shown in the paraphrases below.

(2) Fred closed the door again.
   a. Presupposed: Fred closed the door before. (repetitive)
   b. Presupposed: The door closed before. (restitutive)

Putting the repetitive - restitutive interpretation aside, there are several definitions that have been proposed for repetitives. The following overview discusses some of these definitions. First, von Stechow (1996) proposes the following entry:

(3) Let P be a property of eventualities and let e be an eventuality.
    \[ \text{[again]}(P)(e) \text{ is defined only if } \exists e' \text{ [\text{[MAX]}](P)(e')=1 & e' < e] } \]
    Where defined, \[ \text{[again]}(P)(e)=1 \text{ iff } P(e)=1 \]

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1In this paper I assume that the repetitive-restitutive ambiguity arises because of structural differences rather than from (lexical) ambiguity (for the latter, see Fabricius-Hansen 2001, Pedersen 2015, a.o.). This assumption is corroborated by correlations between word order facts and interpretation (e.g. von Stechow 1996, Lechner et al. 2015).
MAX is a symbol of type \( \langle s,t \rangle, \langle s,t \rangle \). \([\text{MAX}]\)(P)(e)=1 iff P(e) and there is no e' such that e is a proper part of e' and P(e')=1

Note that here the presupposed event is required to be maximal. This must mean that the event is maximal with respect to a particular world (and time). Events cannot be maximal in general, since atelic events can also appear with again (as in Fred slept again), and they can only be maximal relative to a specific event. In some world, it is possible to continue an atelic event indefinitely.

There is no maximality requirement in the definition of [Beck (2005)]. That entry, shown below, only requires the existence of an earlier event of the same type.

\[
\begin{align*}
[\text{again}](P_{<t,F})(e) &= 1 \text{ iff } P(e) \& \exists e' [e' < e \& P(e')] \\
&= 0 \text{ iff } \neg P(e) \& \exists e' [e' < e \& P(e')] \\
\text{undefined otherwise}
\end{align*}
\]

I suggest that indeed, the earlier event does not need to have ended before the asserted event starts. Note that atelic events are such that an event can also contain another event of the same type. In Fred walked, if the description is true for an event that runs from 1:00 to 4:00 (event e), then Fred walked is also true 1:00-2:00 (event e'). This means that Fred walked again can hold for some event if there is an earlier event of him walking, even if that earlier event is not finished yet.

As further support of this characterization of again, consider the following situation. A nurse checks on a doctor on call. She sees that the doctor is sleeping. She checks on the doctor again thirty minutes later and sees that the doctor is sleeping. In this case, the nurse can say The doctor is sleeping / asleep again, without committing to claim that he has woken up at some point after the first time.

Similarly, again can modify individual-level predicates (and atemporal situations, as discussed in [Klein 2001]). For instance, Nineteen is prime again is acceptable in a variety of situations, for example where the topic under discussion is whether certain numbers are prime numbers (17 is prime, 18 is not prime, 19 is prime again), or where there are various methods employed to determine whether 19 is a prime number.

Given this kind of interpretation, it is natural ask about the relation between again and still. Intuitively, still asserts a particular event to be true at some time t and presupposes that (a) that type of event was also true at some earlier time t' and that (b) there is an event of the same type which contains both t and t' (so there are no gaps between the two events).

\[
\begin{align*}
\text{(5)} \quad & \text{a. Fred walked again (at 2 pm).} \\
& \text{b. Fred still walked (at 2 pm).}
\end{align*}
\]

Note that there is a significant difference between two adverbials on the view proposed here. While still requires the existence of a larger event, there is no such requirement imposed by again. The latter is agnostic about whether there is a larger event or not.

Given the possibility of overlap between the asserted and presupposed events, the definition of [Beck (2005)] is more attractive and thus it will be adopted as the meaning of again.

---

3Klein (2001) argues that in these cases what is relevant is the assertion rather than the fact that 19 is a prime number. The repetitive again contributes the meaning that it is not the first case that (the property of being prime) is mentioned, so it is a discourse-level element. As possible problems for this view, note that (a) high, discourse-level repetitives appear clause-initially in English, with comma intonation (Again, he was mean) and (b) some repetitives, such as megint in Hungarian, do not allow the discourse-related use of clause-initial again, but they are felicitous when modifying atemporal situations and individual-level predicates.

3The two adverbials also differ in the fact that still (or more precisely, only, which [Krifka 2000] treats as an alternative realization) and its dual already are focus-sensitive, as shown below.

(i) Fred is only/ already THREE months old (as opposed to four, etc / one, two months)

[Krifka 2000] analyzes still and already as scalar alignment particles (rather than aspectual particles), arguing that they require alternatives and order the alternatives in a particular way. No alternatives are required by again.
It should be noted that the meaning of repetitives can vary to some extent. The majority of Hungarian repetitives, *megint* and *ismét*, share the denotation of *again*. Consider, however, the Hungarian adverb *újra*. As opposed to the repetitives *megint* and *ismét*, *újra* requires a gap between the asserted and the presupposed event. That is, while the latter adverbials are acceptable in the situation involving a nurse checking on a doctor repeatedly, *újra* is not felicitous; *újra* requires the doctor to have been awake between the two sightings.

4

(6)  
   a. The nurse sees that the doctor is asleep. When she checks the second time, she sees that the doctor is asleep.  
   b. Ez az orvos megint / #újra alszik  
      this the doctor again / again sleeps  
      `This doctor is sleeping again.'

(7)  
   Az orvos megint / ismét / #újra alszik, és lehet, hogy fel se ébredt tíz órá óta  
   the doctor again / again / again sleeps and possible that up not woke ten o’clock since  
   `The doctor is asleep again, and it is possible that he hasn’t woken up since ten o’clock.' (assuming the first check happened at ten)

The gap requirement of *újra* is encoded in the definition below, where there must be a non-P event between the presupposed and the asserted events.

\[
[u\text{újra}](P, t) = \begin{cases} 
1 & \text{iff } P(e) \land \exists e' \left[ e' < e \land P(e') \right] \land \exists e'' \left[ e' < e'' < e \land P(e'') = 0 \right] \\
0 & \text{iff } \neg P(e) \land \exists e' \left[ e' < e \land P(e') \right] \land \exists e'' \left[ e' < e'' < e \land P(e'') = 0 \right] \\
\text{undefined otherwise} 
\end{cases}
\]

Other repetitives, including *anew* and *afresh*, impose a distinct requirement. Such a requirement is also enforced by the Hungarian *újra*, when it appears as a verbal particle, but not if it is an independent adverbial (whenever *újra* is a particle, it is indicated by the subscript P).

5

(9)  
   a. Fred wrote the letter anew / afresh.  
   b. Feri újraP írta a levelet  
      `Feri wrote the letter anew.'

I suggest that this additional restriction can be captured as follows. The initial states of the asserted and the presupposed events must be identical (in all relevant respects); the earlier, presupposed event can in no way influence the asserted event. For (9), this means that all drafts of the letter must be discarded and ignored; letter writing must start from scratch.

Note that the different denotation for the two repetitive adverbials *újra* shows that they must have separate entries in the lexicon. Their difference is also shown by a contrast in argument structure: particle *újra*, unlike its non-particle counterpart, requires an object, as shown below.

(10)  
   a. Feri újra \{számolt / számlolta az összeget\}  
      Feri again counted / counted the sum-acc  
      `Feri counted / calculated the sum again.'  
   b. Feri újraP \{*számolt / számlolta az összeget\}  
      Feri again counted / counted the sum-acc  
      `Feri counted / calculated the sum again.'

\^[3]\ The identity of repetitives in Hungarian is relevant, but they are uniformly glossed as *again* in the examples in this paper.

\^[4]\ Verbal particles (*igeköntők* in Hungarian) generally precede the verb immediately and form a single phonological word with it, making these elements easily identifiable. If the verb appears with a preverbal particle, then word stress falls on the particle rather than on the verb. In the presence of negation, focus, or in imperatives, particles appear postverbally (see Footnote 7 for more details).
3 Scope

It is argued in this section that repetitives are not uniform with respect to the possible positions (and possible scope relations, as determined by their position). This shows that the possible positions are not fully predictable from the denotation of the adverbials, but they must be stipulated in at least some cases.

The possible positions of repetitives also differ across these adverbials. This has been described previously for English re-, as in Keyser and Roeper [1992] and much subsequent work, which is described as permitting only a low, restitutive interpretation (but see Lechner et al. [2015]). However, in that case, the low reading and the position of re- may be ascribed to the fact that re- imposes restrictions on argument structure (e.g. it cannot occur in double object constructions), as noted in Keyser and Roeper [1992]. It is shown below that for Hungarian repetitives, restrictions on scope do not require restrictions on argument structure. In other words, it is not true that the only source of scope restriction is the fact that argument structure constraints require a low position.

3.1 Repetitive and Restitutive Interpretations

First, it should be noted that not all repetitive adverbials are decompositional. Decompositional adverbs can modify subevents inside the VP; the modification of the entire VP corresponds to the repetitive interpretation and that of a smaller unit (the VP or the result phrase) to the restitutive reading. In Hungarian, the repetitive ismét does not readily allow a restitutive reading, even though this is freely available for megint and újra.\(^6\)

\[(11)\]
\[
\begin{align*}
a. & \quad \text{Repetitive} \\
& \quad \text{Feri has calculated the sum earlier} \\
& \quad \text{Feri megint / ismét / újra} \text{ ki számolta az összeget} \\
& \quad \text{Feri again / again / again out counted the sum-acc} \\
& \quad \text{‘Feri calculated the sum again.’} \\
\end{align*}
\]

b. \ Restitutive

\[
\begin{align*}
& \quad \text{Someone (possibly other than Feri) calculated the sum earlier} \\
& \quad \text{Feri megint / ?!ismét / újra} \text{ ki számolta az összeget} \\
& \quad \text{Feri again / again / again out counted the sum-acc} \\
& \quad \text{‘Feri calculated the sum again.’} \\
\end{align*}
\]

In the unavailability of a restitutive interpretation, ismét resembles German erneut ‘anew’ (Rapp and von Stechow [1999]) and it is also similar to certain repetitives in Hebrew and Serbian / Croatian which do not readily allow restitutive interpretation (Beck [2005]). Note that this observation is not necessarily surprising, since other adverbials of comparable meaning, such as once more, also do not permit restitutive readings.

Particle újra presents a challenge. Recall that this repetitive requires the presence of a direct object. The restriction on argument structure suggests, in turn, a low attachment site, which predicts that only restitutive readings should be allowed. It appears at first sight that this is not the case:

\[(12)\]
\[
\begin{align*}
& \quad \text{Feri újra számolta az összeget} \\
& \quad \text{Feri again calculated the sum-acc} \\
& \quad \text{‘Feri calculated the sum again.’} \\
\end{align*}
\]

\(^6\)The claim that restitutive interpretation is easily available for megint and újra is in contrast with Horvath and Siloni [2011]. As part of their discussion of causatives in Hungarian, they claim that resultative readings are not possible. All of the informants consulted for this paper judged restitutive to be available for these two adverbials. At this point I leave open the possibility that there is language-internal variation in this respect. Note, however, that such a variation is not necessarily surprising. If it must be specified for adverbials whether they are decompositional or not, then the variation in question would be merely due to the difference in lexical specification (and it also mirrors crosslinguistic variation).
A problem is that the repetitive reading entails the restitutive. It is not trivial, therefore, to show whether a distinct repetitive reading is possible for those repetitives which also permit a restitutive reading. Lechner et al. (2015) note that non-monotonic (and decreasing) quantifiers can help. With such quantifiers, it is possible that no entailment relation holds between the two readings. One can construct a scenario where the repetitive reading holds, but the restitutive one is false. Consider the following scenario. Two people enter a room with a single window. The window is closed. A opens the window. The draft closes it, and B opens the window again. The draft closes the window once more, and A opens it yet again. In this case, the description in (13) is only true under a repetitive interpretation.

(13) Exactly one person opened the window again.

Both of the following equivalents of (13), with megint and újra are judged true in this case, showing that repetitive interpretation is indeed available for non-particle repetitives in Hungarian.

(14) Pontosan egy ember nyitotta ki megint / újra az ablakot
   exactly one person opened out again / again the window-acc
   ‘Exactly one person opened the window again.’
   a. Restitutive: There is exactly one person such that there was an open window, it was closed, and that person opened the window again. (false; there are two such people)
   b. Repetitive: There is exactly one person such that that person opened a window, it was closed, and then he opened it again. (true; only A opened the window twice)

Similarly, particle újra is judged true when it appears in a sentence that describes a comparable situation. In this situation, there are two people who read the newspaper, but only one person who has read the newspaper previously.

(15) Pontosan egy ember írta újra a levelet
   exactly one person wrote again the letter-acc
   ‘Exactly one person wrote the letter anew.’

(16) Pontosan egy ember újra olvasta az újságot
   exactly one person again read the newspaper-acc
   ‘Exactly one person read the newspaper anew.’

The observation that repetitive interpretation is available for the repetitive which imposes argument structure constraints is not surprising, given the claim of Lechner et al. (2015). They argue that the following example is judged as being true in the situation given for (13). As before, the judgment shows that a repetitive reading must be allowed for re- as well.

(17) Exactly one student / only one student re-opened the window.

At this point, the availability of repetitive reading appears systematic even for repetitives which constrain argument structure – a puzzling state of affairs given the putative low merge position of these adverbials. To explain these scope facts, Lechner et al. (2015) propose that re- can serve as a lexical exponent of a variety of heads; v, Voice or Result, the head of ResultP. This variation will account for the different readings in English, and it can also be extended to Hungarian.

It must be pointed out that neither of the Hungarian repetitives shown above impose restrictions on argument structure (only particle újra does so). This is as expected, since the availability of the low, restitutive reading is not contingent on argument structure constraints.

7Phrases with pontosan ‘exactly’ must occupy an immediately preverbal position (a position that Szabolcsi (1997) describes as a PredOp (predicate operator) position). This means that the particle is postverbal. Particle and non-particle újra may still be distinguished because postverbal particles tend to be unstressed and postverbal újra also has the ‘from scratch’ interpretation described in Section 2. In addition, the particle can still remain preverbal in a few cases, such as the one shown in (16).
3.2 Distribution and Scope Elsewhere

It is shown below that the (non-)decompositional nature of repetitives is not the only type of scope variation. Some examples are given from Hungarian and English to show that other types of restrictions must also be encoded in the entries of repetitives.

Consider Hungarian first. As a prelude to the discussion of the relevant facts, let us consider the basic clause structure and quantifier scope facts in Hungarian, based on E. Kiss (2000), among others. The vP in Hungarian is verb-initial, with other vP-internal elements freely ordered. The verb is immediately preceded by either the particle, a focused constituent or negation (if focus or negation is present, particles follow the verb). These, in turn, are preceded by quantifiers and topics. Topics are the leftmost elements in the clause. Topics and quantifiers can be iterated.

\[(18) \text{Topic}^* \text{Quantifier}^* \{\text{Focus} / \text{negation} / \text{particle}\} \text{verb XP}^*\]

\[(19) \text{Feri}_{\text{Topic}} \text{mindenkit}_{\text{Quantifier}} \text{SÖRRE}_{\text{Focus}} \text{hívott meg}_{\text{P}} \text{tegnap}\]

Feri everyone-acc beer-onto invited perfective yesterday

‘Yesterday Feri invited everyone FOR BEER.’

A basic generalization about repetitives in Hungarian is that they occur preverbally (they are generally marked for the speakers consulted in a postverbal position). They cannot precede topics.

\[(20) (*\text{megint}) \text{Feri}_{\text{T}} (\text{megint}) \text{mindenkit}_{\text{Q}} (\text{megint}) \text{meg}_{\text{P}} \text{hívott} (\text{??megint})\]

again Feri again everyone-acc again perfective invited again

‘Feri invited everyone again.’

The distribution of particle \textit{újra} is identical to that of other particles, immediately preceding the verb and appearing postverbally if focus or negation is present.

In Hungarian, preverbal position determines scope, as only surface scope is possible. This is also true for repetitives, as the following examples show. Consider quantifiers first. Individuals invited can only vary if the repetitive precedes \textit{megint}. In that case, Feri could invite everyone in class, but it is possible that the set of students in the class changed (some dropped and some added the course):

\[(21) \text{Feri}_{\text{T}} (\text{megint}_1) \text{mindenkit}_{\text{Q}} (\text{megint}_2) \text{meg hívott}\]

Feri again everyone-acc again perf invited

‘Feri invited everyone again.’

1: (invited everyone (possibly different individuals) before); again > everyone

2: (invited everyone (the same individuals) before); everyone > again

Preverbal focus in Hungarian is exhaustive. Exhaustive focus and repetitives give rise to two kinds of interpretations. In the first reading with repetitive wide scope, the first invitation was extended only to Mari and nobody else. In the second reading, others could also have been invited, but Mari was the only one to be invited on both occasions.

\[(22) \text{Feri}_{\text{T}} (\text{megint}_1) \text{MARIT}_{\text{F}} \text{hívt\textit{a} meg (megint}_2)\]

Feri again Mari-acc invited perf again

‘Feri invited \textit{MARIT} again.’

1: (before: it was Mari he invited (and nobody else)); again > \textit{MARIT}\textit{F}

2: (before: he invited others as well; only Mari invited again); \textit{MARIT}\textit{F} > again

Examples with negation also show that these sentences only permit surface scope. With wide scope for the repetitive, what happened earlier is that Mari was not invited. If the repetitive takes narrow scope, then Mari was invited on the first occasion, but not on the subsequent one.

\[8\text{Naturally, this description is ultimately too simplistic and glosses over questions such as the position of preverbal particles and the specific surface position of the verb.}\]
(23) Feri (megint₁) nem hívta  meg Marit  (megint₂)
    Feri  again    not  perf  Mari-acc  again
    ‘Feri didn’t invite Mari again.’
1: (before: he didn’t invite Mari); again > not
2: (before: he invited Mari); not > again

The pattern shown so far is not surprising, since the generalizations conform to the standard characterization of obligatory preverbal surface scope in Hungarian. Note, however, that not all repetitives can occur in the positions shown in the preceding examples. Specifically, while *megint* and *ismét* have identical distribution, that of non-particle *újra* is more restricted; it cannot precede quantifiers:

(24) Feri (újra) mindenkit  (újra) meg hívott
    Feri  again  everyone-acc  again  perf  invited
    ‘Feri invited everyone again.’

The fact that *újra* is restricted to lower positions is significant. Here the relevant difference between repetitives is not whether they are decompositional or not, but whether they can appear in some higher (scope) position or not. This restriction on the distribution of *újra* appears to be arbitrary. It cannot follow from some aspect of its meaning, since nothing in the meaning of non-particle *újra* forces a lower position. Repetitives are therefore more heterogeneous than previously described, and additional specifications such as their distribution must be specifiable in the lexical entry.

Let us turn to repetitives in English, and consider *again and again*, *once more* and *once again* briefly. ‘Reduplicated’ *again* differs from its simple counterpart in distribution, but also in meaning; *again and again* may be more appropriately paraphrased as *repeatedly* (B. Slade p.c.)

Even though the final position is available for all expressions given in (25), their scope taking abilities are different.

(25) a. Fred invited everyone to the party (again / once more / once again).
b. Fred invited everyone to his place (again and again).

Wide scope over a universal object is marginal for *once more* and unavailable for *again and again*. Consider a situation where Fred invites all the students in his class to a party at the beginning of the semester. In the first month, two people drop the course and three new people sign up. At the end of the semester, Fred invites all the (current) students to a second party. This situation requires wide scope for the repetitive. Since such a reading is not available for *again and again* and it marginally available for *once more*, the position of these adverbials must be constrained.

(26) a. Fred invited everyone is his class again / once again.
b. Fred invited everyone in his class ?once more / *again and again.

Existential quantifiers show the same asymmetry between repetitives. Wide scope for the repetitive is available for *again and once again*, but not for *once more or again and again*:

b. A soldier died *once more / *again and again (in the war in the East).

The patterns shown in (26) and (27) are systematic and show that the attachment site of repetitives differs in clause-final position: *once more* and *again and again* obligatorily merge low.

The preverbal position is also heterogeneous with respect to scoping over the subject. While adverbial wide scope is possible in (28), it is impossible for *again and again*, as in (28f) – even though surface scope is possible in (28g). Once again, there are (scope) positions which are not available to all repetitive adverbials.

9 Although the distribution of *again and again* and *repeatedly* is different. The former, but not the latter, can precede subjects and scope over them, as in *Again and again, someone rang the bell.*
Similarly to the Hungarian facts, the possible scope readings for repetitives in English show that distinctions other than the availability of restitutive interpretation must be specifiable for these adverbials.

Finally, some but not all repetitives can have a discourse-related interpretation. Clause-initial again and other, but not all repetitives can modify the discourse, indicating that this is not the first time that the statement has been uttered. Note that none of the simple repetitives is acceptable in such a situation in Hungarian.\footnote{Recall that \cite{Klein2001} proposes that modification of atemporal situations requires discourse modification. The facts shown here cast doubt on the generality of that proposal.}

\begin{enumerate}
\item a. Again, / Once more, / Once again, *Again and again, Fred is stupid
\item b. Még egyszer, / *Megint, / *Ismét, / Újra, Feri hülye yet once / again / again / again Feri stupid
\end{enumerate}

\‘Again, Feri is stupid.’

### 4 Conclusion

This paper described some facts which contribute to the typology of repetitives. The main points are the claim that the meaning of repetitives must be allowed to vary to some extent. At this point, variation appears to be restricted to whether there must be a gap between the presupposed and the asserted event and whether the initial states of the two events must be identical (i.e. the presupposed event cannot affect the initial state of the asserted event). It was shown, in addition, that the positions of repetitives can be constrained. There is variation beyond the availability of restitutive interpretation; some repetitives can occupy only a subset of the positions available to others.

### References


