Multiplicatives, frequency and quantification adverbs:  
Flexibility and rigidity

Aniko Csirmaz

1. Introduction

A complex scenario, which contains multiple occurrences of a certain type of situation, can be described in a variety of ways. The repeated occurrence of a specific kind of situation can be signaled either overtly (1) or covertly (2).

(1) a John knocked twice  
     b John drinks often / frequently
(2) a John knocked (several times)  
     b John drinks (on multiple occasions, habitually)

This chapter explores the behavior of those Hungarian adverbs which mark the number or frequency of situations; the term adverbs of counting is used here to refer to all of these elements. It is shown that three classes must be identified among these adverbs, with a number of properties clearly and systematically distinguishing them. The adverb groups identified are (a) multiplicatives, (b) frequency adverbs (including both relative and fixed frequency adverbs) and (c) adverbs of quantification.

The distribution of adverbs of counting can be described by appealing to the classes established and mostly follow from semantic properties of the adverbs themselves. The possible position of adverbs is determined with reference to the clausal structure proposed in É. Kiss (this volume a).

It is argued that the distribution of some types of adverbs is rigid in the sense that they are restricted to certain domains within the clause. At the same time, the distribution is flexible because it shows free ordering and allows iteration within these domains.

Finally, the chapter touches on some issues related to marked positions of the adverbs. The issues addressed include reinterpretation or coercion phenomena and contrastive topics, which affect both phonological and semantic structure.

The chapter is organized as follows. Section 2 presents basic assumptions about syntactic structure and notes some restrictions on the data discussed in the chapter. Section 3 offers arguments for distinguishing adverbs of quantification along the lines noted above, and section 4
addresses the distribution of these adverbs. Section 5 notes some properties of coercion and adverb iteration, and section 6 concludes the discussion.

2. Basic considerations

The discussion in the chapter adopts a specific view of clausal structure, which is presented in sections 2.1 and 2.2. Section 2.3 notes that complex adverbs (which are modified by another adverb) are problematic, and discusses how complex adverb can be identified in Hungarian.

2.1 Clausal structure

Concerning Hungarian clause structure, the chapter follows É. Kiss (this volume a). Unless noted, the observations apply to neutral sentences, which lack negation or focused constituents.

In a nutshell, the Hungarian vP is dominated by a PredP projection, which is flattened in the syntax and randomly linearized in the postverbal field (linearization is preferred if it observes the law of growing constituents; cf. Behaghel (1932)). The specifier position of PredP contains elements – usually verbal modifiers (mostly particles) or bare, determinerless arguments – which immediately precede the finite verb in a neutral sentence.

PredP is dominated a Non-NeutP, a projection present in non-neutral sentences. Crucially, Non-NeutP triggers verb raising and strands the Spec,PredP material in postverbal position. The higher projections of NegP, FP and TopP provide slots for negation, focus and topicalized constituents, respectively. These projections, with the exception of TopP, constitute the predicational part of the sentence.

The functional projections are represented below; the Kleene star (*) on TopP* indicates that the projection can be iterated.

\[
\text{TopP}^* \left[ \text{FP} \left[ \text{NegP} \left[ \text{Non-NeutP} \left[ \text{PredP} \left[ \text{vP} \ldots \right] \right] \right] \right] \right]
\]

Quantifiers (specifically, distributive quantifiers), which on this view lack a dedicated projection, are adjoined to some projection below TopP, in the predicational component in the clause. Left-adjunction of quantifiers is constrained by the phonological requirement that a focused constituent be adjacent to the bare verb. This requirement prohibits left-adjunction to either NegP or Non-NeutP in those sentences which contain focus.
In addition to left-adjunction, the syntactic structure adopted here also permits elements to be right-adjointed (also Ernst (2002)). As noted above, the linearization of postverbal constituents is random (though it is preferentially constrained by phonological weight), so right-adjointed constituents are not necessarily pronounced in the position corresponding to the adjunction site.

In the preverbal domain, constituents show strict surface scope; any constituent scopes over those that follow it (Scope Principle, É. Kiss 1994). Postverbal elements can have wide scope over constituents that precede them, either in pre- or postverbal position. Scope is assumed to be determined by c-command; this is consistent with a structure which permits right-adjunction and is not strictly rightward branching.

2.2 Time intervals
Within the clausal structure outlined above, a number of time intervals can also appear. These include at least the following times in a finite clause: (a) the event time (the runtime of the event), (b) the reference time and (c) the speech time (Klein (1994), among others).

Amending the clausal structure outlined above, we assume that these time intervals appear in specific, designated positions in the clause. The event time appears within the vP projection and the speech time is located within TP. Reference time is a time interval within AspP, a projection of the aspectual head Asp, which determines the viewpoint aspect (perfective or imperfective) of the clause. The Asp head will be largely ignored in the following discussion. In the example below, and throughout the chapter, \( t \) indicates a time interval. Subscripts identify the interpretation of the time interval in question.

\[
(4) \quad [\text{TP } t_{\text{speech}} \ T \ \ldots \ [\text{AspP } t_{\text{reference}} \ Asp \ \ldots \ [\text{vP } t_{\text{event}} \ v \ \ldots \ ]]]
\]

In addition to these times, other time intervals may also be present. The time during which an event is iterated or during which an event recurs habitually is distinct from the times mentioned above. These times can be described as the iterative or habitual time, respectively, and they appear below the T head.

Of all the time intervals a given clause can contain, the speech time is located in the highest position structurally. With respect to the functional categories mentioned above, speech time is located below Non-NeutP, the landing site of verbs in non-neutral clauses. It follows that all times are below Non-NeutP, in the predicational component in the clausal structure.
The position of speech time with respect to Non-NeutP can be established by appealing to a contrast between finite and nonfinite clauses. In a finite clause, the particle must follow the verb in the presence of focus (5). If the clause is nonfinite, the particle can either follow or precede the verb (6) (cf. Brody 1990).

(5) a János A ZÖLDSÉGET ette meg
   J-NOM the vegetable-ACC ate part
   'János ate THE VEGETABLE'

b* János A ZÖLDSÉGET meg ette
   J-NOM the vegetable-ACC part ate
   'János ate THE VEGETABLE'

(6) a Fontos Jánosnak A ZÖLDSÉGET meg ennie
    important J-DAT the vegetable-ACC part eat-INF-3SG
    'It is important for János to eat THE VEGETABLE'

b Fontos Jánosnak A ZÖLDSÉGET ennie meg
    important J-DAT the vegetable-ACC eat-INF-3SG part
    'It is important for János to eat THE VEGETABLE'

The contrasting behavior of particles in finite and nonfinite clauses can be reduced to the movement of the verb to the Non-Neut head. Such a movement is obligatory in finite clauses and optional in their nonfinite counterparts, yielding postverbal particles in all cases.

Since finiteness, a property of T, has an effect on movement to Non-NeutP, it can be assumed that T is located below Non-NeutP. On the assumption that speech time is located within TP, speech time is also lower than Non-NeutP.

Putting the issue of the relative position of PredP and TP aside, the functional structure amended with time intervals can be represented as shown below.

(7) a [TopP* [FP [NegP [Non-NeutP [PredP [vP .... ]]]]]]

b [TopP* [FP [Non-NeutP [TP tspeech T ... [AspP treference Asp ... [vP tevent v ... ]]]]]]

The time intervals present in a clause are all located in the predicational component of the clause. This restriction follows from the ordering of functional heads in the clause structure. The question of whether this ordering can be derived from semantic considerations, or whether it must be stipulated independently, will not be addressed here.
It will be shown in section 4 that the distribution of time intervals makes specific predictions about the position of frequency adverbs. In other words, the distribution of some adverbs of counting can be reduced to that of time intervals.

2.3 Simple and complex adverbs

In the following discussion, complex adverbs – where two or more adverbs form a single constituent – are ignored. Since complex adverbs occupy a single position, determined by the head, they do not reveal generalizations concerning the relative position of multiple adverbs.

This section notes some properties that allow complex adverbs to be distinguished from simple adverbs that are merely adjacent. Whenever multiple adverbs are adjacent in the following discussion, a complex adverb analysis is ruled out by considering these properties.

One diagnostic of complex adverbs is supplied by phrasal stress, which falls on the initial syllable of the phrase in Hungarian (cf. Hunyadi (1999) for a discussion of Hungarian metrical system). The position of phrasal stress, present on the first syllable of kétszer ‘twice’, but missing on the initial syllable of háromszor ‘three times’, identifies the following pair of adverbs as a single complex adverb. Square brackets highlight the complex adverb and capital letters mark phrasal stress.

\[(8) \quad \text{János [KÉTSzer hár} \text{om} \text{szor]} \quad \text{ütött}\]

\[\text{J-NOM twice three-times hit}\]

\[\text{‘János hit twice three times’}\]

\[(\text{there were two instances of János hitting three times each})\]

The modifiers pontosan 'exactly' and kifejezetten 'expressly', which appear at the left edge of an adverbial phrase, also identify complex adverbs. These modifiers are restricted to the left edge of the phrase, therefore they cannot appear inside a complex adverb constituent. Accordingly, phrasal stress must fall on these modifiers, in accordance with the stress placement mechanism described above.

\[(9) \quad \text{a *János [KÉTszer pontosan hár} \text{om} \text{szor]} \quad \text{ütött}\]

\[\text{J-NOM twice exactly three-times hit}\]

\[\text{‘János hit TWICE exactly three times (each)’}\]
b János [kétszer] [PONtosan háromszor] ütött
   J-NOM twice exactly three-times hit
   'János hit twice EXACTLY three times (each)'

The same point is shown in (10). Only a single constituent can appear between the verb and either negation or the focus marker csak 'only'. As expected given the preceding discussion, multiple adverbs are only possible in this position if the adverb(s) on the right are unmodified.

(10) a János nem / csak [kétszer háromszor] ütött
    J-NOM not / only twice three-times hit
    'János didn't hit two times three times'
    'János only hit twice three times'
   b * János nem / csak [kétszer pontosan háromszor] ütött
      J-NOM not / only twice exactly three-times hit
      'János didn't hit exactly three times twice'
      'János only hit exactly three times twice'

With these assumptions and restrictions in place, let us consider the distinctions among adverbs in more detail.

3. Distinctions among adverbs
As mentioned earlier, three types must be distinguished among adverbs of counting. Multiplicatives, frequency adverbs and adverbs of quantification all have distinct properties and distinct distribution, which partially follows from inherent semantic properties of these adverbs. This section presents arguments for the distinction among Hungarian adverbs. The first two subsections address distinctions among the adverbs, and section 3.3 offers a more specific characterization of the interpretation of the adverbs. Building on these results, section 4 gives an overview of the possible positions occupied by each of the three groups of adverbs.

3.1 Multiplicatives
The adverbs that specify the cardinality of occurrences of a specific type of event are multiplicatives.
In Hungarian, multiplicatives can be reliably identified by appealing to the form of the adverb. All multiplicatives bear the suffix -szor and the suffix attaches to a number root, as shown below.

\begin{itemize}
  \item \textbf{(11) János egyszer / kétszer / néhányszor / sokszor}
  \begin{itemize}
    \item J-NOM once
    \item el was.late
  \end{itemize}
  \begin{itemize}
    \item twice
    \item few-times
    \item many-times
  \end{itemize}
  \begin{itemize}
    \item János was late once / twice / few times / many times'
  \end{itemize}
\end{itemize}

The examples above are representative: all cardinal numerals and certain quantifiers can all appear as multiplicatives.

### 3.2 Frequency adverbs and adverbs of quantification

A number of authors argue for some distinction among adverbs of counting. Among others, Doetjes (1997), (2002) and Nilsen (2003) propose differences that identify distinct groups of adverbs. These differences are, however, not the same distinctions that Geenhoven (2004), (2005) and Jóhannsdóttir (2005), (2007) argue for. The latter authors motivate a strict distinction between frequency adverbs and adverbs of quantification. This section notes a number of differences between these two groups of adverbs in Hungarian, and points at the sources of the different patterns shown by the two adverbs. In the following discussion, frequency adverbs are abbreviated as \textit{freq-adverbs}, and the term \textit{Q-adverb} will be used for an adverb of quantification.
3.2.1 Individual-level predicates

In a neutral sentence, which contains no negation or focus, only Q-adverbs are unmarked with individual-level predicates. Freq-adverbs (both relative (e.g. sűrűn 'frequently') and fixed adverbs (betente 'weekly'), cf. Stump (1981), (1985)) have a degraded status. The examples given below are representative.

(13)a  A fiúk gyakran Q / sűrűn F / betente F szőkék
the boy-PL-NOM often frequently weekly blond-PL
'Boys are often / frequently / weekly blond'
b  A fiatalok gyakran Q / sűrűn F kék szeműek
the youngster-PL-NOM often frequently blue-eyed-PL.
'Youngsters are often blue-eyed'

3.2.2 When-clauses

The adverbs under discussion show a divergent behavior when they appear with an instantaneous when-clause, and the activity in the main clause is interpreted as progressive (ongoing) (cf. Jóhannsdóttir (2005), (2007) for a related discussion for Icelandic). A Q-adverb in the main clause is unmarked, and a freq-adverb leads to ungrammaticality (as before, relative and fixed freq-adverbs behave identically in this respect).

(14)a Amikor haza érek, János mindigQ köhécsel
when home arrive J-NOM always coughs
'When I get home, János is always coughing'
b *Amikor haza érek, János sűrűnF köhécsel
when home arrive J-NOM frequently coughs
'When I get home, János is frequently coughing'
c *Amikor haza érek, János percenkéntF köhécsel
when home arrive J-NOM minute-BY coughs
'When I get home, János is coughing every minute'

For some speakers of Hungarian, the contrast is more salient with a postponed when-clause, but it is evident with at least one ordering.

The when-clause can also contain an event description with a runtime that is significantly longer than the duration of the repeated event described in the main clause. In this case, both freq-adverbs and Q-adverbs become grammatical. In the following pair of examples, the duration of
talking on the phone can be exceptionally long, resulting in grammaticality for both types of adverbs.

(15)a Amikor telefonon beszélgetek, János mindig köhécsel
when phone-ON speak J-NOM always coughs
'When I talk on the phone, János often coughs (repeatedly)'

b Amikor telefonon beszélgetek, János sűrűn köhécsel
when phone-ON speak J-NOM frequently coughs
'When I talk on the phone, János frequently coughs repeatedly'

c Amikor telefonon beszélgetek, János percenként köhécsel
when phone-ON speak J-NOM minute-BY coughs
'When I talk on the phone, János coughs every minute'

Even though both types of adverb are acceptable with a longer time interval specified in the when-clause, the adverbs lead to different interpretations. A single instance of coughing (a few times) may suffice with Q-adverbs, but not with freq-adverbs. Freq-adverbs require multiple, iterated instances of coughing – with the frequency specified by the adverb – to happen throughout the entire phone call.

The difference in interpretation is also illustrated by the following adverbs.

(16)a Amikor telefonon beszélgetek, János néha köhécsel
when phone-ON speak J-NOM sometimes coughs
'When I talk on the phone, János sometimes coughs (possibly repeatedly)'

b Amikor telefonon beszélgetek, János rendszeresen köhécsel
when phone-ON speak J-NOM regularly coughs
'When I talk on the phone, János coughs repeatedly regularly'

3.2.3 Unique situations

Unique situations, which can hold for the same participants only once, also distinguish freq-adverbs and Q-adverbs: Q-adverbs are acceptable, but freq-adverbs are marked.
In the examples considered below, the events are unique: a rose is normally planted only once, and a sandwich is eaten only once. Q-adverbs permit an interpretation where there are multiple roses and sandwiches involved, yielding a well-formed example. Freq-adverbs, in contrast, do not permit such an interpretation, and allow only a single rose and sandwich to be assumed. The resulting interpretation is marked.

\[(17)\]
\[
\begin{align*}
a & \quad \text{János gyakran} \quad \text{el ültetett egy rózsát} \\
& \quad \text{J-NOM often part planted a rose-ACC} \\
& \quad \text{'János often planted a rose'} \\
\end{align*}
\]

\[(18)\]
\[
\begin{align*}
a & \quad \text{János gyakran meg evett egy szendvicset} \\
& \quad \text{J-NOM often part ate a sandwich-ACC} \\
& \quad \text{'János often ate a sandwich'} \\
\end{align*}
\]

In contrast with the preceding criteria, fixed freq-adverbs pattern with Q-adverbs rather than relative freq-adverbs. That is, fixed freq-adverbs are acceptable, and permit multiple roses or sandwiches to be considered:

\[(19)\]
\[
\begin{align*}
a & \quad \text{János naponta el ültetett egy rózsát} \\
& \quad \text{J-NOM daily part planted a rose-ACC} \\
& \quad \text{'János planted a rose daily'} \\
\end{align*}
\]

3.2.4 A heuristic

In addition to the above tests, the form of the adverb also provides a useful heuristic for distinguishing adverbs. First, only freq-adverbs have a non-temporal use. Specifically, fixed freq-adverbs contain a suffix that has distributive interpretation. The temporal and non-temporal uses are illustrated for both suffixes, -\text{ként} and -\text{OntA}, both of which can be glossed as 'by'.

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Relative freq-adverbs display a more striking similarity; the same form has both spatial and temporal use. The familiar, temporal use is illustrated in (22a), and the spatial use is shown in (22b).

(22a) János sűrűn / ritkán / rendszeresen sütött pizzát
    J-NOM frequently rarely regularly baked pizza-ACC
    'János baked pizza frequently / rarely / regularly'

(22b) János sűrűn / ritkán / rendszeresen ültette
    J-NOM densely thinly regularly planted
    a virágokat
    the flower-PL-ACC
    'János planted the flowers densely / thinly / regularly'

The parallelism between spatial and temporal use is not surprising, given the similarities in modification in these domains. Ordering (e.g. before, after, next) and measure expressions (e.g. for/ in two hours, for/ in two miles) are also expressions which can be used with both interpretations (cf. Alverson (1994), Lakoff and Johnson (1980), (1999), among others).

Freq-adverbs contrast with Q-adverbs in this respect. The latter lack both a distributive component and a clearly spatial use. It is worth noting, however, that a number of Q-adverbs are morphologically regular and display a quantificational component. The Q-adverb, the quantificational component and a related form are all supplied in the following table.
The morphological form of adverbs of counting is fairly transparent. The form reliably identifies multiplicatives (cf. section 3.1), as well as freq-adverbs. While no watertight morphological property identifies all Q-adverbs as such, the discernible quantificational component reveals a rather systematic pattern.

### 3.2.5 Differences between adverb types

The following table summarizes the results of the tests mentioned above. The remainder of this section sketches how a simple view of freq-adverbs and Q-adverbs accounts for these differences.

<table>
<thead>
<tr>
<th>Test</th>
<th>Adverb type</th>
<th>Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indiv.-level predicate</td>
<td>Q-adv</td>
<td>grammatical</td>
</tr>
<tr>
<td></td>
<td>Rel. freq-adv</td>
<td>?</td>
</tr>
<tr>
<td></td>
<td>Fixed freq-adv</td>
<td>??</td>
</tr>
<tr>
<td>Punctual when-cl.</td>
<td>Q-adv</td>
<td>grammatical</td>
</tr>
<tr>
<td></td>
<td>Rel. freq-adv</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>Fixed freq-adv</td>
<td>*</td>
</tr>
<tr>
<td>Durative when-cl.</td>
<td>Q-adv</td>
<td>no necessary iteration</td>
</tr>
<tr>
<td></td>
<td>Fixed freq-adv</td>
<td>iteration within when-time</td>
</tr>
<tr>
<td></td>
<td>Rel. freq-adv</td>
<td>iteration</td>
</tr>
<tr>
<td>Unique event</td>
<td>Q-adv</td>
<td>grammatical</td>
</tr>
<tr>
<td></td>
<td>Rel. freq-adv</td>
<td>?</td>
</tr>
<tr>
<td></td>
<td>Fixed freq-adv</td>
<td>grammatical</td>
</tr>
</tbody>
</table>

While the diagnostics clearly establish a difference between Q-adverbs and freq-adverbs, the behavior of the adverbs also follows from the basic assumptions concerning the properties of adverbs.

Let us assume that Q-adverbs are purely quantificational (quantifying over time intervals corresponding to some situation). As we will see, Q-adverbs can quantify over other, non-temporal variables as well. Freq-adverbs denote the frequency of the occurrences of situations – rather,
multiple occurrences of the same type of situaiton – within a time interval, which is an argument of these adverbs.

With respect to individual-level predicates, let us adopt the view of de Swart (1991), who argues that there is a single spatio-temporal location associated with individual-level predicates. No iteration and thus no freq-adverb modification is possible. Fixed freq-adverbs, in particular, are marked because the truth of individual-level predicates does not vary according to time intervals, contrary to the requirements of fixed freq-adverbs, which are distributive over specified times. Q-adverbs, which are grammatical with individual-level predicates, quantify over individual arguments of the predicate rather than time intervals; thus these adverbs are acceptable when modifying such predicates.

The difference in acceptability with punctual when-clauses also follows from the basic assumptions noted above. First, a note on terminology: we will refer to the simple event in the main clause, which excludes the when-clause, as the 'core' event. The core event is interpreted as ongoing, and it has to be contained within the time interval described in the when-clause.

Whenever the when-clause is punctual, at most punctual events can be contained in this time. This restriction excludes freq-adverbs from the core event: since freq-adverbs require iteration, they cannot be both punctual and have some duration (which would accommodate iteration) at the same time. Q-adverbs are acceptable. The difference arises because the Q-adverb does not quantify over the core event described in the main clause, but over the entire complex event description. The interpretation resulting for (14a) can be paraphrased as follows: every time I get home, János coughs. Coughing, even though minimally iterated, can still be seen as instantaneous and as being contained within the time of the when-clause.

The difference in interpretation with durative when-clauses can be similarly accounted for. It was noted that with Q-adverbs, no iteration is necessary for the core event described in the main clause, but multiple events are required by freq-adverbs. Again, Q-adverbs can quantify over the entire situation (including the when-clause), yielding a unique, non-iterated core event in the matrix clause. This is not possible for freq-adverbs, which require multiple occurrences of core events.

Finally, unique situations were shown to distinguish relative freq-adverbs from Q-adverbs and fixed freq-adverbs. It is only the latter two types that are acceptable when modifying unique situations. Intuitively, this is not surprising; freq-adverbs require iteration, and unique situations (as their name suggests) cannot be iterated with the same arguments. Q-adverbs exhibit the quantificational force seen before; they permit an
interpretation where multiple individuals and multiple situations are present. Fixed freq-adverbs pattern with Q-adverbs in this case, a fact which is ascribed to a generic quantificational component in fixed adverbs (cf. section 3.3). Similarly to Q-adverbs, fixed freq-adverbs can modify the descriptions of unique events; in (19a), for example, a different rose is planted on each day.

To summarize: the distinctions among relative / fixed freq-adverbs and Q-adverbs rely on the following assumptions:

(25) a Relative freq-adverbs require plural events, but do not yield a plurality of events on their own
b Freq-adverbs have a (durative) time interval argument
c Fixed freq-adverbs have quantificational force
d Q-adverbs can quantify over individuals as well as times, and can quantify over complex event descriptions (including a when-clause)

3.3 Adverb interpretation

The section presents a more detailed view on the interpretation of adverbs of counting, building on Bende-Farkas (this volume), Cohen (1999), Jóhannsdóttir (2005), (2007), Lewis (1975), de Swart (1991), (1996) and van Geenhoven (2004), (2005). The characterizations are not fully explicit and focus on those details that are relevant to the issues at hand.

3.3.1 Restrictions on interpretation

Concerning multiplicatives, let us assume that they count occurrences of situations of a given type. The situation occurrences are all located within a time span – for example, within the span of yesterday in (26).

(26) János két szzeral sétált el a ház előtt
     J-NOM twice walked part the house in.front
     'János walked past the house twice'

This temporal limitation is treated here as arising from a contextual restriction; only the number of occurrences within a contextually salient situation or time span are relevant (for concreteness, time intervals are adopted as the relevant entities here). It is also possible to specify the relevant time interval overtly, as shown below. The underlined constituent
explicitly specifies the time during which a specific number of events transpired.

(27) a 
  Hétvégén János kétzerM sétált el a ház előtt
  weekend-ON J-NOM twice walked part the house in.front
  'During the weekend, János walked past the house twice'
  
b  Csütörtökön János kétzerM sétált el a ház előtt
  Thursday-ON J-NOM twice walked part the house in.front
  'On Thursday, János walked past the house twice'

Under this view, multiplicatives can be treated like quantificational expressions, where the first argument of the quantifier can be contextually determined.

Q-adverbs behave similarly. Often the first argument of the adverb is left implicit (cf (28a)); in this case, the interpretation is contextually determined. For the Q-adverb mindig 'always', the set of contextually relevant time intervals form a subset of the set of times that correspond to an event of János being late. The first argument of the Q-adverb can be specified explicitly as well, as shown in (28b,c).

(28) a 
  János mindig el későtt
  J-NOM always part was.late
  'János was always late'
  
b  Hétvégén János mindig el későtt
  weekend-ON J-NOM always part was.late
  'János was always late on the weekend'
  
c  Amikor havazott, János mindig el későtt
  when snow-PAST,3SG J-NOM always part was.late
  'When it snowed, János was always late'

Freq-adverbs behave unlike Q-adverbs and multiplicatives. Let us assume that freq-adverbs have a time interval argument, and frequency is determined relative to that time interval. The time argument can be explicitly modified, as in (29b), where the time argument of the frequency adverb is a subinterval of last week.

(29) a 
  János sűrűnF el későtt
  J-NOM frequently part was.late
  'János was frequently late'
  
b  A múlt hétén János sűrűnF el későtt
  a  múlt hét-ON J-NOM sűrűnF twice walked part the house in.front
  'Last week, János was frequently late'
the past week-ON J-NOM frequently part was late
'János was frequently late last week'

3.3.2 Interpretation

The restrictions on multiplicatives and Q-adverbs follow if they are similar to the usual generalized quantifiers, with two differences: (a) they quantify over time intervals (or situations corresponding to the time intervals) and (b) the first argument can be left implicit, with the interpretation contextually determined.

For present purposes, we assume that relative frequency adverbs (e.g. sűrűn 'frequently') require a time interval argument and an argument of an iterated event, where the iterated events are distributed over the time interval with the frequency specified. Fixed frequency adverbs (e.g. naponta 'daily') are assumed to involve generic quantification over times, with the restrictor of the quantifier provided by the freq-adverb itself. The event description provides the nuclear scope, yielding the interpretation that in general, a day contains an event time of the event specified.

The requirement of a plural event as an argument, noted above in connection with unique events, is shown in the following examples. Certain verbs, generally with the suffix -int, only allow a semelfactive interpretation, with a single occurrence of the event. With the semelfactive suffix, relative freq-adverb modification is marked. Q-adverbs and fixed freq-adverbs are grammatical. With fixed freq-adverbs, the resulting interpretation is the following: in general, there was one event of the relevant type within each time interval of the length specified by the adverb.

(30) a János kőhintett / koppintott
J-NOM cough-SEM-PAST.3SG knock-SEM-PAST.3SG
'János coughed / knocked once'

b János gyakran\textsubscript{Q} kőhintett /
J-NOM often cough-SEM-PAST.3SG koppintott
knock-SEM-PAST.3SG
'János often coughed / knocked'

c János naponta\textsubscript{FF} kőhintett / koppintott
J-NOM daily cough-SEM-PAST.3SG knock-SEM-PAST.3SG
'János coughed / knocked once every day'
These verb roots can appear with an iterative suffix (-Og) which is contrastive distribution with the semelfactive suffix. The iterative suffix yields multiple events, and as expected, the resulting predicates can be modified by relative freq-adverbs as well as fixed freq-adverbs and Q-adverbs.

(31) a János köhögött / kopogott
J-NOM cough-ITER-PAST.3SG knock-ITER-PAST.3SG
'János coughed / knocked repeatedly'

b János gyakran köhögött / kopogott
J-NOM often cough-ITER-PAST.3SG
'János often coughed / knocked repeatedly'

c János naponta köhögött /
J-NOM daily cough-ITER-PAST.3SG
knock-ITER-PAST.3SG
'János coughed / knocked repeatedly every day'

d János sűrűn köhögött /
J-NOM frequently cough-ITER-PAST.3SG
knock-ITER-PAST.3SG
'János frequently coughed / knocked repeatedly'

The relative freq-adverb is thus not a pluractional operator by itself, as noted above. Rather, it requires a plurality of events, and determines their distribution over the time argument of the adverb.

4. Adverb positions

The positions occupied by adverbs of counting in a neutral clause differ according to the adverb types identified in the preceding section. It is argued below that most of generalizations concerning adverb distribution follow from inherent properties of the adverbs; it is not necessary to
specify the distribution independently. The observation is in line with the general approach of Ernst (2002), who argues that the distribution of adverbs is largely determined by semantic properties of adverbs, and selectional restrictions which can be derived from such properties.

This approach contrasts with the cartographic approach of Cinque (1999), where the distribution of adverbs is determined by a hierarchical structure. Under this approach, specific functional heads are inherently ordered and the adverbs appear as specifiers of certain designated heads. While syntactic head ordering may be affected by semantic factors, the ordering of adverbs is ascribed to the relative position of syntactic heads.

Contrary to the Cinque-type approach, I suggest that no externally determined ordering is necessary to account for the distribution in Hungarian. The clausal structure, sketched in section 2, suffices to determine the distribution of adverbs of counting. Section 4.1 provides a general description of the distribution of adverbs, and section 4.2 offers an account of the distribution.

4.1 Data

It is assumed that adverbs appear as specifiers if they are focused (in Spec,FP); otherwise the adverbs are adjoined to a maximal projection. The clausal structure adopted here is repeated below.

\[(32) \quad [\text{TopP}^* \left[ \text{FP} \left[ \text{NegP} \left[ \text{Non-NeutP} \left[ \text{PredP} \left[ \text{vP} \ldots \right] \right] \right] \right] \right]]\]

4.1.1 Basic distribution

The discussion first focuses on preverbal positions, followed by some remarks on postverbal patterns in section 4.1.3.

Multiplicative adverbs have a rather free distribution; they can freely adjoin to a PredP, NegP, FP or TopP projection. In addition, they can be focused, as shown below.

\[(33) \quad a \quad \text{János} \quad \text{kétszer}_M \quad \text{el} \quad \text{késsett} \quad \text{J-NOM} \quad \text{twice} \quad \text{part} \quad \text{was.late} \quad \text{'János was late twice' (adjunction to PredP)}

\[b \quad \text{János} \quad \text{háromszor}_M \quad \text{nem} \quad \text{késsett} \quad \text{el} \quad \text{J-NOM} \quad \text{three.times} \quad \text{not} \quad \text{was.late} \quad \text{part} \quad \text{'Three times János was not late' (adjunction to NegP)}\]
Multiplicatives which appear with *is* 'too, even' (e.g. *kétszer is* 'even twice') can appear in a more restricted set of environments; they have the same distribution as other constituents with *is* (e.g. *két vendég is* 'even two guests') do. These expressions all appear in the same positions as (distributive) quantifiers; that is, they are adjoined to some projection below TopP, but they cannot be focused. Two representative examples are given below.

(34) a  *Két vendég is háromszor is minden fogásból*
    two guest-NOM too three-times too every dish-FROM took
    'Even two guests took some from every dish even three times'
    (*is*-multiplicative adjoined)

b  *János ÖTSZÖR IS köstolta meg a csirkét*
    J-NOM five-times too tasted part the chicken-ACC
    'János tasted the chicken EVEN FIVE TIMES' (Spec,FP)

The distribution of both freq-adverbs and of Q-adverbs is more restricted than the range of positions a multiplicative can occupy. In addition, the distribution shows a variation that is puzzling at first sight.

Some Q-adverbs are marked when they appear between negation and a finite verb. Other Q-adverbs and freq-adverbs are felicitous (35).
Q-adverbs, but not freq-adverbs can appear in positions which precede quantifiers, such as mindenkit 'everyone-ACC':

When appearing between two topicalized constituents, only Q-adverbs are acceptable. Freq-adverbs are all ungrammatical, and some Q-adverbs are marked as well:

When appearing between two topicalized constituents, only Q-adverbs are acceptable. Freq-adverbs are all ungrammatical, and some Q-adverbs are marked as well:
Let us consider some higher adverbs as well. Evidential adverbs like látszólag 'apparently' (cf. Egedi (this volume), É. Kiss (this volume a)) are ambiguously ordered with Q-adverbs, but they must precede freq-adverbs.

\[
\begin{align*}
A & \quad \text{főszakács gyakran}_q \quad \text{látszólag} \quad \text{igazságtalan} \\
\text{the chef-NOM} \quad \text{often} \quad \text{apparently} \quad \text{unfair}
\end{align*}
\]
' The chef often appears to be unfair' (Q-adverb)

\[
\begin{align*}
A & \quad \text{főszakács látszólag gyakran}_q \quad \text{igazságtalan} \\
\text{the chef-NOM} \quad \text{apparently often unfair}
\end{align*}
\]
'Apparently the chef is often unfair' (Q-adverb)

\[
\begin{align*}
A & \quad \text{főszakács sűrűn}_f \quad \text{látszólag} \quad \text{igazságtalan} \\
\text{the chef-NOM} \quad \text{frequently} \quad \text{apparently unfair}
\end{align*}
\]
'The chef is frequently apparently unfair' (Freq-adverb)

\[
\begin{align*}
A & \quad \text{főszakács látszólag sűrűn}_f \quad \text{igazságtalan} \\
\text{the chef-NOM} \quad \text{apparently frequently unfair}
\end{align*}
\]
'Apparently the chef is frequently unfair' (Freq-adverb)

In terms of the clause structure adopted, repeated below, freq-adverbs are restricted to positions within FP. Q-adverbs, in contrast, show varied distribution. Some Q-adverbs – such as néha 'sometimes' and rendszerint 'habitually' – are marked in positions below FP (e.g. when following negation), but can appear among topics. Other Q-adverbs – including mindig 'always' – can follow negation and appear among quantifiers, but are marked when preceding a topic. Even for those adverbs that can appear below FP, the position is somewhat marked (cf. the discussion in the following section). In general, however, Q-adverbs precede – and are therefore structurally higher than – freq-adverbs.

The distribution with respect to evidential adverbs is also consistent, on the assumption that evidentials appear below TopPs, but above FP (cf. the projection Speaker Deixis Phrase in Egedi (this volume)). A Q-adverb adjoined to TopP precedes evidentials, and one adjoined to FP, NegP or PredP follows evidential adverbs. Freq-adverbs, which are restricted to positions internal to FP, can only follow evidentials, as shown above.

The domains where the two types of adverbs can appear are schematized in the following example, with square brackets indicating universal restrictions on distribution, and angled brackets showing restrictions applying to a subset of the adverbs.
Conspicuously, Q-adverbs show a heterogeneous distribution. The remainder of this section and section 4.2 offer a more detailed discussion and an account of the distinct distribution patterns.

4.1.2 More on ordering among adverbs

The ordering between preverbal freq-adverbs and Q-adverbs is rigid: the latter must precede the former. Rigid ordering is predicted for the Q-adverb néha 'sometimes' (cf. (39)). Concerning gyakran 'often' and mindig 'always', which also precede freq-adverbs, it is tentatively assumed that their lower position is marked, hence dispreferred when they would follow freq-adverbs preverbally.

Given the flexible distribution of multiplicatives, it is expected that these adverbs can either precede or follow both Q-adverbs and freq-adverbs. These predictions are borne out.

Q-adverbs consistently precede freq-adverbs (both fixed and relative freq-adverbs) when both occur preverbally. As expected given pervasive surface scope, Q-adverbs have wide scope. A paraphrase for the marked order, showing that ineffability is not at play, is also provided. The paraphrases show that it is not the different length of time interval that is at the heart of the contrast between the two types of adverbs (cf. Ernst (2002)).

(40) a János gyakran Q sűrűn F el ájult
J-NOM often frequently part fainted
'It often happened that János fainted often'

b ?? János sűrűn F gyakran Q el ájult
J-NOM frequently often part fainted
'It frequently happened that János fainted often'

c Sűrűn F előfordult, hogy János gyakran Q el ájult
frequently happened that J-NOM often part fainted
'It frequently happened that János fainted often'
(41) a János  gyakran_Q  naponta_F  el ájult  
   J-NOM  often  daily  part  fainted  
   'It often happened that János fainted daily'
 b János  gyakran_Q  el ájult  
   J-NOM  often  part  fainted  
   'It happened often that János fainted'
 c János  minden nap  gyakran_Q  el ájult  
   J-NOM  every day  often  part  fainted  
   'János fainted often every day'

With multiplicatives, flexible ordering possible, and scope relations correspond to surface order, as expected. However, the examples can be marked, partly due to coercion (cf. section 5).

(42) a János  sűrűn/F  rendszeresen/F  háromszor_M  kopogott  
   J-NOM  frequently  regularly  three-times  knocked  
   'János frequently / regularly knocked three times'
 b János  háromszor_M  sokszor_M  gyakran_Q  el késett  
   J-NOM  three-times  many-times  often  part  was.late  
   'It happened three times / many times that János was often late'

4.1.3 Postverbal positions

In the postverbal domain word order is more flexible, as predicted by the freedom of linearization noted in section 2. More surprisingly, however, the scope of the adverbs is also ambiguous, a generalization that extends to all Q-adverbs in Hungarian.

(43) a JÁNOS  ájult  el  mindigQ  sűrűn_F  
   J-nom  faint.past,3sg  part  always  frequently  
   'It was János who always fainted frequently' / 'It was János who frequently always fainted'
 b JÁNOS  ájult  el  sűrűn_F  mindigQ  
   J-nom  faint.past,3sg  part  frequently  always  
   'It was János who frequently always faint' / 'It was János who always fainted frequently'

The variation in linear order can be ascribed to the linearization process, which does not need to reflect syntactic structure. Variable scope, however,
is unexpected; if Q-adverbs are consistently introduced at a point higher than freq-adverbs, then Q-adverbs should always have wide scope.

In order to resolve this conflict, I suggest – in line with É. Kiss (this volume a) and Bende-Farkas (this volume) – that in the presence of focus, Q-adverbs can be adjoined to either FP (as assumed earlier) or to PredP. 10 This flexibility in the position of Q-adverbs suffices to derive ambiguous readings, as shown in the schematized structures below. The c-commanding adverb has wide scope:

\[(44)\]
\[\begin{array}{ll}
\text{a} & \text{FP} \left[ \text{FP} \left[ \text{XP} \left[ \text{Np} \left[ \text{PredP} \left[ \text{PredP} \left[ vP \ldots \right] \text{freq-adv} \right] \right] \text{Q-adv} \right] \right] \right] \right] \text{Q-adv} \\
\text{b} & \text{FP} \left[ \text{XP} \left[ \text{Np} \left[ \text{PredP} \left[ \text{PredP} \left[ vP \ldots \right] \text{Q-adv} \right] \right] \text{freq-adv} \right] \right] \text{Q-adv} \\
\end{array} \]
\[\text{(Q adv > freq-adv)}\]
\[\text{(freq-adv > Q adv)}\]

As expected given the structure above, a postverbal Q-adverb can take narrow scope with respect to focus. The following example shows that the Q-adverb can take either narrow or wide scope, depending on the adjunction site (cf. Bende-Farkas (this volume), who also addresses the role of stress in disambiguating the two structures).

\[(45)\]
\[\text{SOK EMBER késsett el mindig mány person-NOM was late part always }\]
\[\text{MANY PEOPLE were always late}'\]
\[\text{(many > always, always > many)}\]

Before concluding this discussion, let us address a concern about the direction of adjunction. Recall that in focus constructions, the verb moves to the Non-Neut head. After this movement all PredP-adjoined constituents – both left- and right-adjoined elements – will follow the verb.

If it was an option for Q-adverbs to be left-adjoined to PredP, then they would be indistinguishable from their right-adjoined counterparts: they would follow the verb and take narrow scope with respect to a c-commanding freq-adverbs.

The possibility of left-adjoining Q-adverbs to PredP is excluded by appealing to two considerations. First, it was noted that preverbal Q-adverbs exhibit rigid ordering with respect to freq-adverbs, an ordering that is unexpected if both (a) Q-adverbs can left-adjoined to PredP (by assumption) and (b) freq-adverbs can left-adjoin to PredP, as shown below.
It can be concluded that Q-adverbs cannot left-join to PredP. Further support is provided by the following pair of English examples from Cinque (1999). If the Q-adverb *often* is preverbal, it can bind an indefinite expression. No unselective binding is possible, however, if the Q-adverb is postverbal:

(47) a Texans often drink beer (Texans bound by *often*)
    b Texans drink beer often (Texans bound by GEN, not by *often*)

In present terms, the contrast can be explained if in English, Q-adverbs must be left-joined in a higher position (when preverbal) but right-joined at a lower site (when postverbal).

For Hungarian, there are apparently more possibilities; it is only left-adjunction to PredP, the lower position, which is ruled out.

4.2 Accounting for the distribution

The distribution of adverbs of counting, in spite of the complex distributional patterns, is determined by relatively simple and natural regularities.

4.2.1 Multiplicatives and freq-adverbs

Bare multiplicatives, which are not modified by *is*, have a rather free distribution, as noted above. Essentially, they can either adjoin to any projection or they can be focused, as long as the expression in the scope of the multiplicative is countable. The scope principle leads to the requirement that the c-command domain of preverbal multiplicatives denote a countable event description. The requirement accounts for the markedness of the following example (cf. section 5):

(48) ???Jásos háromszor aludt
    J-NOM three-times slept
    'János slept three times'
As noted above, the distribution of is-multiplicatives is identical to that of other expressions with is, including három pincér is 'even three waiters/three waiters, too'. All of these expressions occupy the adjoined positions of quantifiers.

Concerning the distribution of freq-adverbs, note that the domain where freq-adverbs appear is the focus position and the domain where temporal intervals can appear as arguments. The clause structure, amended with time intervals, is repeated below from section 2.

(49) \[\text{TopP}^* \text{[FP [Non-NeutP [TP t_{speech} T \ldots [Asp t_{reference} Asp \ldots [vP t_{event} v \ldots ]]]]]}\]

This correlation is not accidental; it can be reduced to the assumption that freq-adverbs require a time interval argument (cf. section 3). If time intervals can only appear below FP (more specifically, below Non-NeutP) in the clause structure, and if arguments must be local to their respective predicates, then it follows that freq-adverbs are restricted to FP and constituents contained within FP.

4.2.2 General distribution, multiplicatives and freq-adverbs

Before addressing the distribution of Q-adverbs, let us embark on a short detour.

Within the clause structure adopted in section 2, the general distribution of constituents can be described by appealing to quantificational/referential properties and specificity. Only specific, referential and non-distributive elements can appear in Spec,TopP. Distributive, quantificational elements can be adjoined to projections other than TopP. Among others, it follows that distributive quantifiers can appear between topics and a focused constituent. A focused constituent occupies Spec,FP (including constituents that are obligatorily focused; cf. É. Kiss (this volume b)). Spec,PredP and postverbal positions can be occupied by non-specific expressions (cf. Szabolcsi (1997), É. Kiss (2002) and references cited there).

(50) \[\text{TopP}^* \text{[FP [NegP [Non-NeutP [PredP [vP \ldots ]]]]]}\]

Based on these generalizations, an indefinite expression such as egy gyerek 'a child' can appear as Spec,TopP (if specifically interpreted); Spec,FP (if...
focused) and as Spec,PredP or as a postverbal constituent if it is nonspecific. A universal expression, like *mindenki* 'everyone', appears in an adjoined position, similarly to other quantificational expressions which can be interpreted distributively.

With these observations in place, let us return to adverbs of counting. Among these adverbs, *is*-multiplicatives conform to the previous generalizations; they have the same distribution as other expressions modified by *is* do – they are adjoined, identically to other (distributive) quantificational expressions.

Multiplicatives and freq-adverbs, however, differ in behavior from their non-counting counterparts. First, multiplicatives can appear between preverbal quantifiers, but indefinite expressions (whether specific or nonspecific) cannot do so. The bracketed constituents are quantifiers and appear in adjoined positions (lowercase \( q \) in the subscript indicates quantifiers; uppercase \( Q \) marks Q-adverbs, as before).

\begin{align*}
(51) & \\
& \text{a } [\text{Két vendég is]_q három tányérra [mindenből]_q} \\
& \hspace{1cm} \text{two guest-NOM too three dish-ONTO everything-FROM} \\
& \hspace{1cm} \text{took} \\
& \hspace{1cm} '\text{Even two guests took some food onto three dishes}' \\
& \text{b } [\text{Két vendég is]_q háromszor [mindenből]_q} \text{ vett} \\
& \hspace{1cm} \text{two guest-NOM too three-times everything-FROM took} \\
& \hspace{1cm} '\text{Even two guests took some three times from every dish}'
\end{align*}

It was suggested in section 3 that fixed freq-adverbs involve generic quantification. The distribution of freq-adverbs and generic expressions is distinct, though. While generically interpreted expressions can precede preverbal quantifiers (*a leveleket* 'the letters' in (52a)), this is not possible for fixed freq-adverbs (52b).

\begin{align*}
(52) & \\
& \text{a } A \text{ leveleket [több postás is]_q délutan} \\
& \hspace{1cm} \text{the letter-PL-ACC more mailman-NOM too afternoon} \\
& \hspace{1cm} \text{hozza ki} \\
& \hspace{1cm} '\text{Letters are delivered in the afternoon by several mailmen}'
\end{align*}
Fixed freq-adverbs also differ from universally quantified expressions in the positions they can occupy. Only the latter can precede quantifiers:

\[ (53) \begin{array}{l}
a \text{Minden nap } [\text{mindenki}]_q \text{ el késett} \\
\text{every day everyone-NOM part was late}
\end{array} \]

'b Everyone was late every day'

\[ b \text{NapontaFF } [\text{mindenki}]_q \text{ el késett} \\
\text{day-BY everyone-NOM part was late}
\]

'b Everyone was late daily'

The distribution of multiplicatives and freq-adverbs cannot be assimilated to the general restrictions on distribution, but they follow from natural considerations, as detailed above. The behavior of Q-adverbs, however, conforms to the general pattern.

### 4.2.3 Q-adverbs

Recall from section 4.1 that Q-adverbs vary with respect to a position following negation, among others. The Q-adverbs *gyakran* 'often' and *mindig* 'always' can appear between negation and a verb, while *rendszerint* 'habitually' and *néha* 'sometimes' are excluded from this position. This difference shows a striking similarity to the following contrast:

\[ (54) \begin{array}{l}
a \text{János nem } [\text{sok süteményt}] / [\text{minden süteményt}] \text{ evett} \\
\text{J-NOM not many cake-ACC every cake-ACC ate}
\end{array} \]

'János didn't eat many cakes / all the cakes'

\[ b \text{*János nem } [\text{néhány süteményt}] \text{ evett} \\
\text{J-NOM not some cake-ACC ate}
\]

'János did not eat something'

It was noted in section 3 that Q-adverbs contain a quantificational component. *Gyakran* 'often' contains a component corresponding to *sok* 'many'; *mindig* 'always', to the universal *minden* 'all/every'; and *néha*...
'sometimes', a component that corresponds to the existential valami 'something (cf. Bende-Farkas (this volume)).\textsuperscript{11}

The preceding examples show that as far as negation is concerned, the distribution of Q-adverbs is identical to that of comparable quantificational elements.

In addition, Q-adverbs and comparable quantifiers also behave identically with respect to focusing. Gyakran 'often' and sok 'many'-phrases can appear in Spec,FP (55), while mindig 'always', néha 'sometimes' and the corresponding expressions are excluded from this position (56).

\begin{align*}
(55) \ a \ & \text{János} \ SÖK \ SÜTEMÉNYT \ evett \ meg \\
& \text{J-NOM many cake-ACC ate part} \\
& \text{'János ate MANY CAKES'} \\
\ b \ & \text{János} \ GYAKRAN \ evett \ meg \ egy \ sütémenyt \\
& \text{J-NOM often ate part a cake-ACC} \\
& \text{'János OFTEN ate a cake'}
\end{align*}

\begin{align*}
(56) \ a \ & * \text{János} \ MINDEN \ SÜTEMÉNYT / NÉHÁNY \ SÜTEMÉNYT \\
& \text{J-NOM every cake-ACC some cake-ACC} \\
& \text{evett meg ate part} \\
& \text{'János ate EVERY CAKE / SOMETHING'} \\
\ b \ & * \text{János} \ MINDIG / NÉHA \ evett \ meg \ egy \ sütémenyt \\
& \text{J-NOM always sometimes ate part a cake-ACC} \\
& \text{'János ALWAYS / sometimes ate a cake'}
\end{align*}

In addition to the preceding structures, topics also constitute an environment where the distribution of Q-adverbs resembles that of comparable quantificational expressions. Mindig 'always' and universally quantified expressions cannot precede topics, but néha 'sometimes', gyakran 'often' and related quantificational expressions can do so. The topicalized constituent is bracketed in the following examples, and is identified by a subscript \(t\).

\begin{align*}
(57) \ a * \& MINDIG [a \ postás], \ A \ FÖLDRE \ dohta \\
& \text{always the mailman-NOM the ground-ON threw} \\
& \text{a leveleket} \\
& \text{the letter-PL-ACC} \\
& \text{'Always the mailman brings}
b* Minden levelet [a postás]₁ A FÖLDRE dobott
every letter-ACC the mailman-NOM the ground-ON threw
'The mailman brought every letter'

(58)a Néha / gyakran [a postás]₁ A FÖLDRE dohta
sometimes / often the mailman-NOM the ground-ON threw
a leveleket
the letter-PL-ACC
b Néhány levelet / sok levelet [a postás]₁
some letter-ACC many letter-ACC the mailman-NOM
A FÖLDRE dobott
the ground-ON threw
'The mailman brought some letters / many letters'

To summarize: Q-adverbs behave similarly to related quantificational expressions as far as focusing, appearance below negation, and preceding topics are concerned. In this respect, the behavior of Q-adverbs is unremarkable, since it follows the general pattern in Hungarian clause structure. Q-adverbs are adjoined, but the domains where they can appear conforms to more general restrictions.

In addition, Q-adverbs can either left-adjoin or right-adjoin to an appropriate projection. It was suggested that if they adjoin from the left, Q-adverbs must appear in a relatively high position; they must adjoin to some projection above PredP. No such restriction is operative if they adjoin from the right. In this case, the adverbs can be adjoined in a lower position as well, accounting for narrow scope with respect to freq-adverbs and focus.

4.3 Adverbs in marked positions: focus and contrastive topic

As noted above, several adverbs of counting can also appear in focus position, in Spec,FP (for some exceptions, see the preceding subsection):

(59) János KÉTSZER₁/ SŰRÜN₁ / GYAKRAN₁ késett el
J-NOM twice frequently often was late part
'János was late TWICE / FREQUENTLY / OFTEN'

What has been conspicuously missing from the earlier discussion is the distribution of the freq-adverb ritkán 'rarely'. This adverb, in contrast with other freq-adverbs, is obligatorily focused:
É. Kiss (this volume b) explores an account of obligatory focusing of *ritkán* 'rarely' and of similar elements, including *rosszul* 'badly' and *kevés* 'few'. She argues that obligatory focusing arises because the relevant expressions are members of a pair where the pair refers to the lower and upper domain of a bidirectional scale (bidirectional scales proceed from a central point to the lower and upper domains of the scale). Under this view, *ritkán* 'rarely' and *sűrűn* 'frequently' refer to the lower and upper domain of a frequency scale, respectively.

In general, non-focus positions allow upward implicatures; an indefinite expression such as *egy gyerek* 'one child' in non-focus position refers to at least one child. In Spec,FP positions the implicature is unavailable; a focused *egy gyerek* 'one child' can only refer to exactly one child.

In the case of *ritkán* 'rarely', upward implicatures are not available; the adverb cannot denote a frequency that is higher than the contextually determined average. É. Kiss (this volume b) suggests that the lack of upward implicature can be tied to the fact that the relevant scale for freq-adverbs is bidirectional, and the upper domain is not entailed by elements denoting a point in the lower domain. Given that positions other than Spec,FP give rise to upward implicatures, adverbs like *ritkán* 'rarely' are excluded from non-Spec,FP positions.

Obligatory focusing reveals a contrast between the freq-adverb *ritkán* 'rarely' and the Q-adverb *néha* 'sometimes'. The former must be focused, as shown above, while the latter does not require focusing. This distributional difference is consistent with the differences in implicature, shown below.

The freq-adverb *sűrűn* 'frequently' and the Q-adverb *néha* 'sometimes' can give rise to upward implicatures; the frequency can be made more specific by an expression that refers to a higher degree of frequency or to a higher quantity (61a,c). This is not possible for *ritkán* 'rarely'; no higher frequency is implicated in (61b).
(61) a János sűrűnF kühögött. Sőt, szinte egyfolytában
  J-NOM frequently coughed rather almost continuously
  'János coughed frequently. More specifically, he coughed almost continuously'
b János ritkánF kühögött. #Sőt, élég sűrűn
  J-NOM rarely coughed rather fairly frequently
  'János rarely coughed. More specifically, he coughed fairly frequently'
c János néhaQ kühögött. Sőt, élég gyakran
  J-NOM sometimes coughed rather fairly often
  'János sometimes coughed. More specifically, he coughed fairly often'

The contrast between ritkán 'rarely' and néha 'sometimes' is consistent with the characterization of néha mentioned in the preceding subsection, where it was noted that néha involves existential quantification. The Q-adverb generally has an interpretation expression low quantity (similarly to seldom). This interpretation is probably due to the Gricean maxim of Quantity.

Finally, all adverbs of counting can appear as contrastive topics; this is independent of the distribution patterns described above. Contrastive topics (e.g. É. Kiss and Gyuris (2003)) are usually at the left edge of the clause, but can be interspersed among topicalized constituents as well. Prosodically, they involve rising contour and an intonational break following the contrastive topic. As for the interpretation, they require comparable entities that the contrastive topic can be contrasted with.

Since contrast is required, the availability of contrasting elements often affects the grammaticality of certain contrastive topics. In the following example ritkán 'rarely', an adverb that must be focused otherwise, appears as a contrastive topic.

(62) RitkánF János evett a házi szalonnából
  rarely J-NOM ate the home bacon-FROM
  'Rarely, János ate home-made bacon' (others ate it frequently)

The example is often judged to be marked, unless a more specific context (with some people eating home-made bacon frequently) is set up. Still, once that interpretation is available, ritkán is not confined to a focus
position. Contrastive topic position is thus available for all adverbs of counting.

As shown in this section, the distribution of adverbs of counting can be characterized by appealing to the adverb classes established in section 3. The distribution of these adverb classes can be described based on general distributional patterns and on regularities of specific types of adverbs of counting. Within the confines of these distributional restrictions, adverbs can also be iterated. The following section discusses iterated adverbs and the interpretation of these constructions.

5. Coercion and adverb iteration

All of the adverbs discussed here – multiplicatives, freq-adverbs and Q-adverbs – apply exclusively to delimited, countable event descriptions. This is expected, since counting occurrences of situations or determining the frequency of multiple recurring situations requires bounded descriptions.

For bounded event descriptions, the possibility of multiplicative, frequency or Q-adverb modification is expected. In addition to these, unbounded situation descriptions (including atelic, iterated or habitual descriptions) can also be modified by these adverbs, as long as some (arbitrary) limit is imposed. These externally imposed boundaries, which I assume to arise from coercion\textsuperscript{12}, have different degrees of acceptability. The naturalness of contextually available limits, among others, significantly affects acceptability of examples that require coercion\textsuperscript{13}.

The following examples illustrate environments where a non-delimited situation description must be reinterpreted as a delimited, countable description:

\begin{enumerate}
\item (63)a \textit{János két\textsubscript{M}sz\textsubscript{M} aludt itt}
    \begin{itemize}
    \item J-NOM twice slept here
    \end{itemize}
    'János slept here twice' (e.g. spent two nights here)
\item b \textit{János súr\textsubscript{F}tott}
    \begin{itemize}
    \item J-NOM frequently ran
    \end{itemize}
    'János ran frequently' (e.g. ran a race or a certain distance frequently)
\item c \textit{János gyakran\textsubscript{Q} olvasott}
    \begin{itemize}
    \item J-NOM often read
    \end{itemize}
    'János often read' (e.g. was often engaged in reading)
\end{enumerate}
A structure containing multiple adverbs can also require coercion. Freq-adverbs, Q-adverbs and vague multiplicatives, among those discussed, convert delimited entities into non-delimited, non-countable descriptions. Thus if the complex description containing the adverb is modified by an additional multiplicative, freq-adverb or Q-adverb, coercion is required.

(64) János \text{gyakran}_Q \text{ritkán}_F \text{aludt} \text{itt}
    J-NOM often rarely slept here
    'János often rarely slept here'

There are two instances of coercion in (64). First, the non-delimited sleeping eventuality is reinterpreted as being bounded – for instance, as being restricted to one night's sleep. This coercion is required by \text{ritkán} 'rarely'. Second, the non-delimited situation of János rarely sleeping here is delimited, as required by the adverb \text{gyakran} 'often'. The resulting interpretation can be paraphrased as follows:

(65) It occurred often that there were periods during which
    János rarely spent nights here

For instance, (64) can describe a situation where János is in an unstable relationship. He often spends time at his partner's place, but there are also frequently recurring periods during which he sometimes spends the night there.

Similarly, coercion operations are responsible for yielding an interpretation for examples where a specific adverb is iterated. The following examples are synonymous:

(66) a  János \text{sűrűn}_F \text{aludt} \text{itt} \text{sűrűn}_F
    J-NOM frequently slept here frequently
    'János frequently slept here frequently'
b  János \text{sűrűn}_F \text{sűrűn}_F \text{aludt} \text{itt}
    J-NOM frequently frequently slept here
    'János frequently slept here frequently'

The two occurrences of \text{sűrűn} 'frequently' specify the (high) frequency of (a) sleeping situations and that of (b) frequent situations of sleeping.

The examples shown above involve up to two adverbs of counting, but as long as coercion operations are available, any number of adverbs of counting can cooccur. That is, the number of cooccurring adverbs of
counting is not inherently constrained, but the multiple coercion operations lead to markedness with a high number of adverbs. The claim that coercion allows the theoretically unlimited iteration is at odds with the position of Cinque 1999, 2004, who argues that adverbs of counting (specifically, freq-adverbs) can appear as specifiers of two distinct heads; a maximum of two of these adverbs is predicted to be possible under his approach.

Even though coercion operations are available and permit multiple iterations, they still cannot yield orderings that would contradict the restrictions on adverb distribution noted in section 4. A freq-adverb such as sűrűn 'frequently' cannot take wide scope over a clausemate Q-adverb like gyakran 'often'.

(67)a *János sűrűnF aludt itt gyakranQ
   J-NOM frequently slept here often
   'János frequently slept here often'

b ??János sűrűnF gyakranQ aludt itt\textsuperscript{14}
   J-NOM frequently often slept here
   'János frequently slept here often'

6. Conclusion

It was shown that among adverbs of counting, it is necessary to distinguish multiplicatives, freq-adverbs and Q-adverbs. In addition to a number of differences, the distributional properties of these adverbs also differentiate between the three groups of adverbs.

The distribution of some of these adverbs – specifically, that of multiplicatives and freq-adverbs – was argued to follow from independent factors: the requirement of countable, bounded event descriptions and in addition, from the requirement of a time interval argument, respectively. No independent, external specification or hierarchical structure is required to account for these adverbs. At the same time, the distribution of Q-adverbs can be assimilated to that of comparable quantificational expressions. It is not necessary to specify the distribution of Q-adverbs independently; it follows from more general guidelines which regulate the distribution of quantificational elements.

In the account advocated in this chapter, adverbs of counting are flexible; they can be freely iterated, as long as a coercion operation can yield a plausible interpretation. The adverbs also show flexibility appearing in a number of distinct positions, if the positions are consistent with the distributional restrictions presented above.
The significant transparency between the interpretational properties
and the behavior of adverbs of counting, as well as scope relations and the
interaction of coercion processes and adverb distribution all reveal a tight
connection between semantic properties and syntax. Other issues –
including prosodic characteristics and the properties of adverbs in focus or
postverbal positions – in light of this view of adverbs is left for further
research.

References
[supplied separately]

1 For discussions and comments, I am especially grateful to Katalin É. Kiss, and
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my own.
2 In the following examples, the focused constituent is capitalized and particles,
which appears in Spec,PredP, are glossed as part.
3 The realization of the vowel (yielding the allomorphs -szor, -szer and -ször of the
suffix) is determined by vowel harmony in Hungarian. In the glosses, a capital letter
marks a vowel whose surface realization is determined by vowel harmony, where
relevant.
4 Some comprehensive works on adverbs, including Alexiadou (1997), do not
distinguish between adverbs of counting, and do not distinguish freq-adverbs and Q-
adverbs either. Others who do acknowledge a difference (e.g. Cinque (1999), Ernst
(2002)) fail to provide specific arguments and criteria for the distinction.
5 In the examples subscripts identify the relevant adverb type. M marks
multiplicatives, Q marks Q-adverbs and F app appears with freq-adverbs. Whenever a
distinction is relevant, RF marks relative freq-adverbs and FF marks fixed freq-
adverbs.
6 The interpretation of often 'often' is similar to (the morphologically unrelated) sok
'many'.
7 In these examples, a more detailed gloss is provided for verbs, to highlight the
presence of a semelfactive or iterative suffix.
8 All Q-adverbs are felicitous if an explicit contrast is given, as illustrated in (i).
(i) János was not SOMETIMES late, but frequently
Such an instance of corrective negation, however, does not signal an unmarked
position. Even structurally high sentence adverbs, which normally precede foci and
negation (cf. Egedi (this volume)) can be forced to appear in a similar environment:
(ii) János nem SZERENCSÉRE jött kezőn, hanem sajnos
J-NOM not fortunately arrived late but unfortunately
'János didn't arrive late FORTUNATELY, but unfortunately'

9 The possible higher structural position of Q-adverbs is also consistent with Jóhannsdóttir (2007). For Icelandic, she notes that only Q-adverbs (but not freq-adverbs) can be preposed. This is consistent with a lower position of freq-adverbs, from which preposing is (apparently) impossible.

10 The scope facts in the preverbal field are also consistent with Bende-Farkas (this volume) as well as surface scope hypothesis. In the discussion of the relative scope of focus and Q-adverbs, Bende-Farkas notes that Q-adverbs have wide scope in the preverbal domain, but are ambiguous with respect to focus when following the verb.

11 Rendszerint 'habitually' lacks an appropriate quantificational counterpart.

12 The coercion operations that yield bounded eventuality descriptions can be seen as the Universal Packager or as the operation

13 Speakers also vary to the extent they allow the marked, coerced reading. This view of coercion (and the markedness due to the necessity of coercion) thus differs from the view of markedness in Ernst (2002). He notes that some examples require context, but he claims that all examples are fine once the context has been established (Ernst (2002)).

14 Main stress on sűrűn 'frequently' can ameliorate the example for some speakers, yielding an interpretation similar to It happened frequently that János often slept here. This effect of main stress (especially on adverbs not in Spec,FP) is, however, ignored here, but it is tentatively ascribed to a contrastive, focus-like interpretation of the stressed constituent.