Measure DP Adverbials:
Measure Phrase Modification in VP

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Abstract   This paper seeks to establish that measure phrases in the extended AP and PP—such as *six feet tall* and *twenty minutes before midnight*—have a direct counterpart in the verbal domain. These verbal measure phrases, exemplified in English in e.g. *He slept several hours*, constitute a natural class distinct from other DP adverbials and characterized by obligatorily narrow scope, low structural position, an Aktionsart-related presupposition, and quantificationally weak interpretations. This constellation of characteristics is shown to follow naturally from the view that these expressions mirror core syntactic and semantic properties of AP and PP measure phrases. In particular, it will be argued here that these expressions have a syntax that places them in the specifier of a functional projection, just as has long been assumed for AP/PP measure phrases and as has been proposed in a different and independent line of research for adverbials more generally; and that they have a semantics in which they are interpreted as arguments of the head of this licensing projection, and therefore scopally and distributionally constrained and implicated in the aspectual semantics of the clause. Aktionsart information which cannot plausibly come from the DP itself is thereby attributed instead to a verbal feature responsible for licensing the adverbial. Independent evidence for this approach is adduced from true adverbs and parallels with proposals made in the analysis of accusative adverbials in Slavic and in Finnish.

1   Introduction

Among the more interesting properties of measure phrases is that they are cross-categorial (as observed by e.g. Winter 2004). They have AP-modifying uses, as in (1); PP-modifying uses, as in (2); and NP-modifying uses, as in (3):[1]

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[1]More precisely, these are uses in the extended projection of these categories—the wording here does not presuppose a particular analysis.

(1) a. His nap was *twenty minutes* (too) long.
     b. He is *six years* old(-er).

(2) a. His nap ended *twenty minutes* after it began.
     b. He fell asleep *a few hours* before he had to leave.

(3) a. He took a *twenty-minute* nap.
     b. He got *twenty minutes* of sleep.

These facts seem to reflect a single more general syntactic and semantic pattern. The connection is perhaps less direct in nominal uses, but seems to be present even there (Schwarzschild 2002). What is conspicuously absent from this paradigm is a VP-modifying use.

A core empirical aim of this paper is to establish that there are in fact VP-modifying measure phrases, as the cross-categorial paradigm in (1–3) would lead us to expect, and that they directly parallel measure phrases in other categories. The crucial data will come from a particular natural class of DP adverbials (that is, of bare-NP adverbs in the sense of Larson 1985), which includes those in (4):

(4) a. He slept $\left\{\begin{array}{l} \textit{several hours} \\ \textit{eight hours} \\ \textit{two days} \end{array}\right\}$.

     b. It had been raining $\left\{\begin{array}{l} \textit{an hour} \\ \textit{a month} \\ \textit{several weeks} \end{array}\right\}$.

These sorts of expressions—which I will call 'measure DP adverbials'[2]—are normally regarded as simply a part of the long-vexing larger puzzle of DP adverbials, not all of which involve measurement, as (5) reflects:

(5) a. Clyde played the ukulele *every day*.
     b. Floyd slept *the wrong way* again.

I will argue that in fact, the measure DP adverbials in (1–3) are a distinct natural class, distinguished from other DP adverbials by restrictions on their scope, their distribution, the Aktionsart of the VP they modify, and their quantificational strength. In all of these respects, they resemble measure phrases rather than other DP adverbials.

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[2]Perhaps 'measure phrase adverbial' would be a better term, but in the current context it would beg the question. The merit of 'measure DP adverbial' is that it maintains consistency with respect to more familiar terms such as 'bare NP adverb' and 'DP adverbial', and with earlier incarnations of this line of research (Morzycki 2001, 2005). All of these share the difficulty that, on the traditional, extremely loose sense of 'adverbial', modifiers in PP and AP might also be called adverbials.

From these characteristics an argument will be woven that these expressions are in a sense argument-like, licensed by, and interpreted as arguments of, an aspectual head in verbal functional structure that imposes an Aktionsart restriction. This analysis parallels existing independently motivated analyses of measure phrases in other categories, thereby effectively assimilating measure DP adverbials to measure phrases more generally. Strikingly, though, the syntactic conclusions reached will also turn out to broadly agree with those reached on independent grounds by Pereltsvaig (2000) in the analysis of expressions in Russian and Finnish—known in the Slavic literature as accusative adverbials—that seem to be essentially measure DP adverbials.

Section 2 examines the essential properties of measure phrase adverbials, identifying several puzzles they present that distinguish them from DP adverbials more generally. Section 3 develops the analysis of measure phrase adverbials in which they are simply the verbal exponent of the more general cross-categorial phenomenon of measure-phrase modification. Section 4 concludes.

2 Distinguishing Characteristics of Measure DP Adverbials: Some Puzzles

Each of the distinguishing characteristics of measure DP adverbials presents a kind of puzzle, and of course is part of the larger puzzle of why they should be correlated. Collectively, they establish that measure DP adverbials differ fundamentally from superficially similar PPs and from other DP adverbials. In particular, they collectively establish that quantificationally strong DP adverbials don't don't manifest these distinguishing characteristics—that is, that measure DP adverbials are always weak.

2.1 *The Scope Puzzle*

The first puzzle is that measure DP adverbials obligatorily take narrow scope with respect to sentential negation, quantified DPs in argument positions, aspectual morphology (i.e., AspP), and—perhaps particularly striking—embedding verbs. Neither their PP counterparts nor strong DP adverbials are subject to this restriction.

NEGATION   Taking these in turn, negation must out-scope *an hour* and *a day* in (6), for example:[3]

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[3]In these examples, most of the measure DP adverbials will be indefinites headed by *a(n)*. This is not a coincidence. It is crucial here that weak and strong DP adverbials be kept distinct. While indefinites may of course generally have strong readings, for some reason I do not understand, this is not possible for adverbial DPs headed by *a(n)*—they have only the weak/measure

(6) a. Clyde didn't sleep an hour.   (¬ ≺ *an hour*; *an hour ≺ ¬)
    b. Greta couldn't stay a day.   (¬ ≺ *a day*; *a day ≺ ¬)

If, for example, a car alarm kept Clyde awake all night, (6a) is true. If, however, Clyde went to bed promptly at midnight, was awakened by a car alarm at 4:00 in the morning, and fell asleep again an hour later, (6a) is quite clearly false; it does not have a reading in which it asserts that there was an hour during which Clyde was awake. Likewise, (6b) can only be understood as claiming that the duration of Greta's stay had to be shorter than a day; a reading in which there is a particular day during which Greta can't stay is impossible. This contrasts with PP paraphrases of these sentences, which permit both scope possibilities:

(7) a. Clyde didn't sleep for an hour.   (¬ ≺ *an hour*; *an hour* ≺ ¬)
    b. Greta couldn't stay for a day.   (¬ ≺ *a day*; *a day* ≺ ¬)

In the situation above in which a car alarm interrupts Clyde's otherwise undisturbed and lengthy sleep, (7a) is true, unlike (6a). And if there was a particular day during which Greta had to be elsewhere, but her stay could otherwise in principle be of indefinite duration, (7b) is true, unlike (6b). Strong DP adverbials also allow both scope possibilities with respect to negation:

(8) Clyde didn't sleep the whole day.

(¬ ≺ *the whole day*; *the whole day* ≺ ¬)

This can mean either that during the whole day, Clyde went without sleep, or that Clyde's sleep did not last the whole day.

QUANTIFIED ARGUMENTS   The narrow-scope requirement measure DP adverbials manifest also holds with respect to argument DPs. In (9), *no one* and *few chiropractors* must scope above the measure DP adverbial:

(9) a. No one slept an hour.   (*no one* ≺ *an hour*; *an hour ≺ *no one*)
    b. Few chiropractors waltzed ten minutes.
       (*few chiropractors* ≺ *ten minutes*; *ten minutes ≺ *few chiropractors*)

It is not possible to take (9a) to assert that there is a particular hour during which everyone was awake—rather, it asserts that no one experienced an hours' sleep. And (9b) cannot be taken to assert that there was a particular ten-minute interval during which few chiropractors waltzed. As before, this restriction is not shared by the PP paraphrases of these sentences:

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phrase reading. In order to express the strong reading, it is necessary to resort to *one*, even in contexts that otherwise don't seem to involve counting (as on the true reading of *I expect to be dead one day*; cf. *I expect to be dead a day*, which is false). I take advantage of this convenient property here.

(10) a. No one slept for an hour.   (*no one ≺ an hour*; *an hour ≺ no one*)
      b. Few chiropractors waltzed for ten minutes.
            (*few chiropractors ≺ ten minutes*; *ten minutes ≺ few chiropractors*)

Both scope possibilities are available here—these can report interruptions in sleeping or in mass waltzing, respectively, of a particular length. Strong DP adverbials permit both scope possibilities as well:

(11) No one slept all afternoon.
                              (*no one ≺ all afternoon*; *all afternoon ≺ no one*)

This may mean that all afternoon, no one slept, or that no one slept through the afternoon.

ASPECT   Measure DP adverbials are obligatorily interpreted below aspect. In (12), for example, *an hour* cannot scope above generic (habitual) aspect:[4]

(12) Clyde swam a year.   (GEN ≺ *a year*; **a year ≺ GEN*)

The only reading possible here seems to be a pragmatically implausible one that involves a year-long swimming event by Clyde. Is it not possible to interpret this more plausibly as reporting that for a year, Clyde was a habitual swimmer. The PP counterpart of this sentence in (13), though, is not similarly restricted:

(13) Clyde swam for a year.   (GEN ≺ *a year*; *a year ≺ GEN*)

This *does* have precisely the pragmatically more plausible reading (12) lacks—and the implausible reading is of course possible as well. Strong DP adverbials again pattern with PPs in lacking this narrow-scope restriction:

(14) Clyde swam all year.   (GEN ≺ *all year*; *all year ≺ GEN*)

This may mean that for all of a year, Clyde habitually or regularly swam, or that Clyde's swimming lasted an entire year.

EMBEDDING VERBS   Perhaps most surprisingly, measure DP adverbials must also take narrow scope with respect to embedding verbs. That is, they are necessarily construed with the lower VP in an embedded clause. Thus in (15), *a few minutes* must be construed to be in the scope of *wanted*, and *at least two hours* must be construed in to be in the scope of *feared*:

(15) a. Greta wanted to talk a few minutes.
                        (*wanted ≺ a few minutes*; **a few minutes ≺ wanted*)
      b. She feared that Clyde would yodel at least two hours.
                        (*feared ≺ at least two hours*; **at least two hours ≺ feared*)

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[4]GEN here is represents the generic quantifier over intervals.

If what Greta desires is a few minutes of talking, (15a) is true. If she has been wanting for a few minutes to talk for some other length of time, (15a) is not true. Similarly, (15b) may report a fear of two-hour yodeling, but not a two-hour fear of (even momentary) yodeling. Again, this contrasts with the corresponding PPs:

(16)   a. Greta wanted to talk for a few minutes.
                        (*wanted ≺ a few minutes*; *a few minutes ≺ wanted*)
        b. She feared that Clyde would yodel for at least two hours.
                        (*feared ≺ at least two hours*; *at least two hours ≺ feared*)

These both manifest straightforward and familiar structural ambiguities—in (16a), what has a few-minute duration could be either Greta's desire or the talking she desires, and in (16b) what has a two-or-more-hour duration could be either her fear or the yodeling she fears. Strong DP adverbials also manifest this ambiguity:

(17)   Greta wanted to talk every morning.
                        (*wanted ≺ every morning*; *every morning ≺ wanted*)

This may mean that Greta's desire was daily, or that her desire was for daily talking.

2.2   *The Distribution Puzzle*

Another defining characteristic of measure DP adverbials is their relatively restricted distribution; they are limited to positions fairly low in the tree. They can't front in standard varieties of English:[5]

(18)   a. *An hour, Clyde slept.
        b. *Several minutes, it had been raining.

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[5]Interestingly, exactly this sort of fronting seems to be possible under restricted conditions in certain Yiddish-influenced dialects as the result of Yiddish Movement (Ross 1967, Hankamer 1971, Jackendoff 1972, Prince 1999, among others). Prince provides this example, attested in Studs Terkel's *Working* (1974):

(i)   'She works with me. *Twenty years we've been here almost.* They demand more from a hair stylist and you get more money for your work.

This difference between these dialects and standard ones is expected, in view of the independent fact that Yiddish Movement, unlike standard fronting, can target weak DPs. Thus (ii), again from Prince, is grammatical as Yiddish Movement, but not as standard fronting:

(ii)   A: Hello, Mrs. Goldberg. How's everything? How's your son?
            B: Oy, don't ask. *A sportscar he wants*—that's all I was missing.

In this respect, this point of variation supports the larger claim that measure DP adverbials are obligatorily weak.

The corresponding PPs and strong DP adverbials can:

(19)   a. For an hour, Clyde slept.
        b. For several minutes, it had been raining.

(20)   a. All afternoon, Clyde slept.
        b. The whole day, Floyd complained.

Nor can measure DP adverbials occur as modifiers of NP:

(21)   a. *Clyde's nap an hour was restful.
        b. *His vacation a week was largely wasted.

Again, this contrasts with PPs and strong DP adverbials:

(22)   a. Clyde's nap for an hour was restful.
        b. His vacation for a week was largely wasted.

(23)   a. Clyde's nap every afternoon was restful.
        b. His vacation last March was largely wasted.

Measure DP adverbials cannot occur above—that is, in English, right of—PPs and strong DP adverbials:

(24)   a.   Clyde slept an hour every day.
        b. *Clyde slept every day an hour.

(25)   a.   Clyde usually slept less than six hours for a year.
        b. *Clyde usually slept for less than six hours a year.

And again, PPs and strong DP adverbials manifest no analogous ordering restriction:

(26)   a. Clyde slept for an hour every day.
        b. Clyde slept every day for an hour.

So, measure DP adverbials are distinguished from PPs and strong DP adverbials by both narrow scope and low structural position.

2.3   *The Aktionsart Puzzle*

Measure DP adverbials are also distinguished by an Aktionsart restriction: they impose the requirement that the eventuality they measure be durative— or, to put it in a way that doesn't have this necessarily temporal flavor, aspec-

tually homogeneous (Moltmann 1991).[6] Thus they can modify states and activities, as in (27), but are not naturally compatible with achievements and accomplishments, as in (28):

(27) a. He slept an hour.
     b. He danced an hour.

(28) a. #He died an hour.
     b. #He walked an hour to the corner.

To the extent that the sentences in (28) are good at all, they must be coerced into activity interpretations.

This sort of restriction is, of course, not unique to measure DP adverbials. It is typical of numerous adverbials (as Moltmann 1991 shows), and indeed lies at the heart of the classic distinction between *for* and *in* PPs. But with PPs, the source of this restriction, if clearly identified, is often said to be the preposition (Dowty 1979, Krifka 1989). Here, though, no overt preposition is present. In the face of such a problem, a natural inclination is to posit a null preposition, and in fact null or deleted prepositions have been proposed quite a number of times in the analysis of DP adverbials (Emonds 1978a, 1987, Bresnan and Grimshaw 1978, McCawley 1988, Roeper et al. 2000). This assimilates measure DP adverbials to PPs, which are better-behaved, better-understood, more prototypical modifiers, so it's an appealing impulse—and it may actually be appropriate for *strong* DP adverbials, which pattern with PPs scopally and in distribution. But as the previous sections have observed, measure DP adverbials do not pattern with PPs in a variety of ways, and in assimilating them, such approaches leave no clear means by which to account for their different scope and distribution properties.

An alternative course one might pursue—indeed, one in some respects similar to what will ultimately be advocated here—is to posit not a null preposition, but rather, following Larson (1985), a generalized DP-adverbial-licensing feature that percolates from the head noun of a DP adverbial, which can perhaps be manipulated to impose the necessary restrictions. This, though, fails to make a crucial distinction in another respect—it would fail to distinguish measure DP adverbials from strong DP adverbials.

It's worth pausing to note, though, that it's certainly not the case that strong DP adverbials never impose an apparent homogeneity requirement

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[6]I'll prefer the term 'homogeneous' both because it's consonant with Moltmann's discussion of other adverbials that impose this restriction and because measure DP adverbials are not exclusively temporal modifiers, but also members of the larger class of measure modifiers, which can measure along other dimensions than time. That said, I will not have much to say about (apparent) non-temporal measure DP adverbials such as *slide several inches*, other than to suggest that at least some of them may actually be temporal after all. (See sections 2.5 and 3.8).

or in some intuitive sense *feel* durative. There are, in fact, some strong DP adverbials with pretheoretically durative or 'measuring' meanings that do seem to have this effect:

(29)   a. $\begin{Bmatrix} \text{All my life} \\ \text{My entire life} \\ \text{My whole life} \end{Bmatrix}$, I've been indifferent to rutabagas.

   b. $\begin{Bmatrix} \text{\#All my life} \\ \text{\#My entire life} \\ \text{\#My whole life} \end{Bmatrix}$, I've written a book about rutabagas.

But such cases are misleading—the internal semantics of the DP itself seems to be responsible for imposing the homogeneity requirement here. The DPs in (29) all introduce either universal quantification or something roughly like it (cf. Moltmann 1997, Morzycki 2002). To take the clearest example, *all my life* quantifies over subintervals of my life. For an eventuality to have taken place all my life, it must be the case that it took place at every subinterval of my life. Only a homogeneous eventuality could satisfy this requirement, virtually by definition. Tellingly, sentences like (29) without *all* or *entire* or *whole* not only do not impose any such requirement, but—a bit surprisingly—are in fact ungrammatical:

(30)   *My life, I've been indifferent to rutabagas.

The internal semantics of the DP, then, is crucial to the trick these adverbials perform. Strong DP adverbials that do not have this misleading characteristic do not have pretheoretically durative semantics or impose the homogeneity requirement:

(31)   a. Clyde wrote a book every year.
       b. Monday, Floyd ate a rutabaga.

This Aktionsart restriction, then, is not a characteristic of strong DP adverbials generally. Measure DP adverbials, on the other hand, systematically impose this restriction, even though it is not readily apparent from independently necessary assumptions about their internal semantics why they should.

2.4   *A Puzzle Measure DP Adverbials Don't Raise: The Head Noun Restriction*

DP adverbials are generally subject to idiosyncratic restrictions on which nouns can grammatically head them (Larson 1985):

(32)   Floyd played the ukulele $\begin{Bmatrix} \text{the wrong way} \\ \text{*the wrong manner} \end{Bmatrix}$.

Measure DP adverbials, though, are not subject to such a restriction. Any noun that can denote a property of intervals (or of spatial regions) seems to yield a grammatical measure DP adverbial.

2.5 *Spatial DP Adverbials*

There are are apparent measure DP adverbials that involve spatial nouns:

(33) a. The soap slipped several inches.
      b. On his way to Philadelphia, Clyde slept several miles.

The precise nature of these expressions, though, is a bit less clear than for their straight-forwardly temporal counterparts. But they do appear to have the distinguishing properties noted above.

One methodological complication is that such measure DP adverbials must not be confused with argument spatial DPs, like the objects of *run* or even *fly*, which can passivize (cf. Kural 1996):

(34) a. Many miles were run by Clyde.
      b. Many miles have been flown by this plane

(35) *Seven inches were slipped by the soap.

Argument spatial DPs need not even denote distances, unlike spatial measure DP adverbials:

(36) a. Clyde ran the race.
      b. This plane has flown this route.

(37) *The soap slipped the counter.

Among the other complications that make this somewhat treacherous terrain is that it's not always apparent that the Aktionsart restriction imposed is quite the same—*Floyd drove 20 miles to Greenfield* seems quite natural and can be interpreted as an accomplishment—and that it's not entirely clear to what extent some of these are genuinely spatial (see section 3.8). So these at least warrant a certain amount of additional caution.

2.6 *The Facts in a Nutshell*

Measure DP adverbials are quantificationally weak, cannot take wide scope, occur in a restricted set of positions low in the tree, and impose an aspectual homogeneity requirement.

3 Measure DP Adverbials and Functional Structure in the Extended Verbal Projection

3.1 *The Essential Idea*

The challenge measure DP adverbials present is (at least) twofold. First, an explanation is necessary of the Aktionsart requirement. This does does not obviously arise from properties of the DP itself—that is, there is nothing about the internal semantics of the DP that might be expected to contribute this requirement. Second, an explanation is necessary of the particular pairing of scope and distribution measure DP adverbials manifest.

Both problems can be addressed simultaneously. If the Aktionsart information associated with a measure DP adverbial does not come from within, the natural alternative is to suppose that its source lies outside the adverbial. What might this source be?
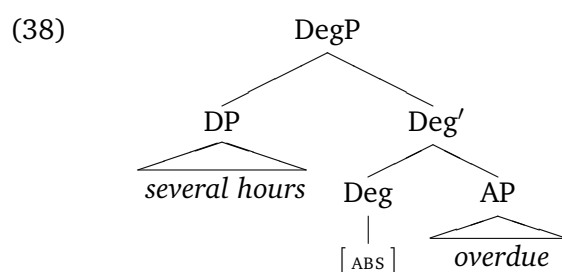
An answer to this question may arise from a solution to the other problem, that of scope and distribution. Measure DP adverbials are restricted to a fixed syntactic position, a restriction one can naturally understand as a need to occupy precisely one fixed 'slot' in verbal functional structure. But since they are not actually adverbs—that is, members of the category Adv—but merely adverbial modifiers, this does not follow from the common assumption that adverbs occur in fixed positions around which heads move (Emonds 1978b and many others). That it turns out, unexpectedly, to be true therefore seems important. There is a fairly straightforward means by which one might express this common property, made available by two distinct analytical currents in previous research that converge here on a common structure: the notion that measure phrases occupy (fixed) specifier positions (Abney 1987, Corver 1990, Grimshaw 1991, Kennedy 1997) in the adjectival projection, and the notion that adverbs occupy (fixed) specifier positions in the verbal projection (Cinque 1999, Alexiadou 1997, Laenzlinger 2000, and many others). Much more needs to be said, of course. But, supposing for the moment that measure DP adverbials therefore likewise occupy a specifier position at some appropriate fixed point (in this case, low in the extended VP), a need immediately arises for some independent structural element that they can be the specifiers of.

At this stage, then, the answer to one part of the puzzle would be a component of meaning—the homogeneity requirement—in need of a bit of structure to call home, and the answer to another part of the puzzle would be a bit of structure—the head to which measure DP adverbials may be specifiers—with no semantic work to do. Thus it seems natural to attribute the semantics of the homogeneity requirement to this bit of structure. So, given all this, measure DP adverbials can be said to be introduced as specifiers to some element in verbal functional structure that imposes the homogeneity requirement and occupies a fixed position relatively low in the tree.

3.2 *Phrase-Structural Position*

To flesh these general ideas out, we might begin with the observation that measure DP adverbials do in many ways resemble measure phrases in other categories—like other measure phrases, they occupy a fixed position, are obligatorily weak,[7] may bear morphological accusative case in languages that have it (more on this in a moment), and have a measuring semantics. Perhaps, then, measure DP adverbials and measure phrases in other categories share structural similarities as well.

Following Kennedy (1997) (who is himself following in this respect Abney 1987, Corver 1990, Grimshaw 1991, and others), I'll assume the structure in (38) for measure phrases in the extended AP:[8]

(38)

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                    DegP
                   /    \
                 DP      Deg′
                / \     /    \
        several hours Deg     AP
                       |      / \
                     [ABS]  overdue
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Here, the measure phrase *several hour* occupies the specifier position of a degree head. The particular degree head here happens to be a phonologically null one, [ABS], which Kennedy associates with measure phrases in absolute[9]

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[7]That measure phrases more generally are obligatorily weak is not uncontroversial. There are apparent counterexamples, but I believe them to be only apparent. Among these are expressions like *this tall*, which seem to involve a measure phrase consisting of only a demonstrative. But *this* is not in fact a measure phrase here, but rather a degree head like *very* or *more* that happens (presumably for the obvious historical reasons) to be homophonous with a demonstrative. This is reflected in its incompatibility with comparatives, exemplified in (i), and in its inability to occur with an NP complement, as the determiner *this* can, exemplified in (ii):
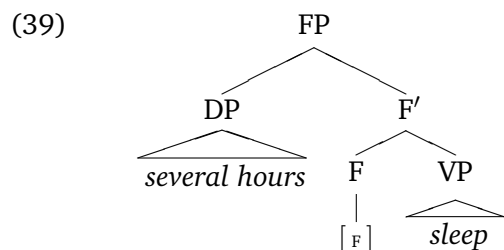
(i)   Clyde is $\left\{ \begin{array}{l} \text{three feet} \\ \text{*this} \end{array} \right\}$ taller that his filing cabinet.

(ii) a.   George is dishonest to this level.
      b.   George manifests this level of dishonesty.
      c.   *George is this level dishonest.

This many is of course a possible measure phrase, but it is also clearly weak (as its ability to occur in the existential construction reflects: *There were this many books on the table*; Milsark 1976)—it is merely an instance of degree-word *this* occurring with a comparative quantifier (Hackl 2000), structurally similar to *very many*.

[8]Measure phrases in PP have received relatively less attention (in the generative tradition), though see Zwarts (1997), Zwarts and Winter (2000) and Winter (2001); measure phrases inside DP present numerous idiosyncratic complications not immediately relevant here.

[9]In more recent work he uses the term 'positive'.

(i.e., non-comparative non-superlative) APs, though it could just as easily have been *more*.[10] Blindly translating this structure to the verbal domain, (39) results:

(39)

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                    FP
                 /      \
              DP          F′
            /    \       /    \
     several hours      F      VP
                        |      /\
                       [F]   sleep
```

Since DegP lacks an obvious analogue in the verbal domain, the corresponding projection has for the moment been labeled simply FP; for the same reason, the counterpart of $[\text{ABS}]$ is rendered as $[\text{F}]$. In (39), the order in which *several hours* and *sleep* occur is of course different from their surface order. This will be corrected by the effect of verb movement. Assuming verb movement in English is present though short (Johnson 1991, Runner 1995 a.o.), it will independently derive the surface order from (39) without anything further being said:

(40) sleep_i $[_{\text{FP}}$ several hours $[\text{F}]$ $[_{\text{VP}}$ t_i $]]$
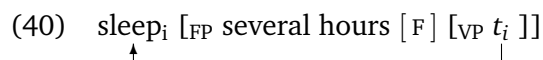
This sort of structure, then, maintains a parallel with measure phrases cross-categorially, and through its interaction with independent facts about VP yields the English surface order.

Alternatively, though, one might follow another analytical course. Since measure DP adverbials are after all adverbials, perhaps it may be more appropriate to look instead to adverbs for structural parallels—that is to say, true adverbs, not simply adverbial expressions of some sort, since measure DP adverbials manifest classic characteristics of adverbs proper like syntactic immobility and fixed scope. The adverbs most similar to measure DP adverbials are durative ones like *briefly*, which Cinque (1999) addresses specifically, proposing a functional projection Dur(ative)P whose specifier position these such adverbs occupy. Supposing, as seems natural, that measure DP adverbials occupy precisely the same position, a structure like (41) results:

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[10]For speakers for whom *overdue* is gradable.

(41)

$\vdots$

DurP
├── DP
│   └── *several hours*
└── Dur′
    ├── Dur
    │   └── [F]
    └── $\vdots$
        └── VP
            └── *sleep*
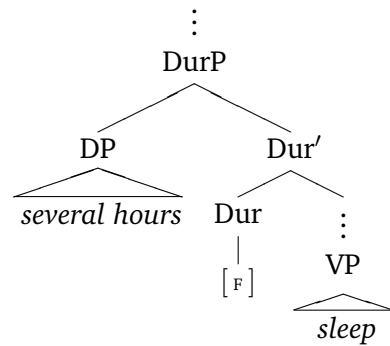
This elides the many other verbal functional projections that Cinque (famously) proposes, since none of them will be directly relevant here individually—all that is important is that DurP be in the appropriate hierarchal position relative to them, i.e., very low in the tree. Cinque proposes a feature-checking mechanism by which adverbs are bonded to the projections whose specifiers they must occupy. Thus the [F] feature[11] occupies the head of DurP, and, in a Cinquean framework, adverbs would be forced into its specifier to check this feature. In the current account, though, only the feature will be necessary and not the full feature-checking mechanics Cinque appeals to, for reasons made clear in section 3.6. So the [F] feature is not instantiated on *several hours* in (41). (I will, though, assume this projection is Cinque's DurP, though nothing hinges on this.) Again, verb movement would independently be expected to bring about the English surface order.

Thus, as already suggested, both these analytical roads lead to essentially the same syntactic destination. This is unlikely to be an accident, particularly because the structures on which (39) and (41) are based emerged separately in entirely independent threads of research. So a structure like (41) will be adopted here. Having done this, an obvious suspect emerges with respect to the aspectual homogeneity requirement—namely, the feature that, in both versions of this structure, heads the projection whose specifier the measure DP adverbial occupies. To reflect this semantic role, it will be renamed [+HOMOGENEOUS] here.

Importantly, though, although these structures reflect distinct functional projections associated with the [+HOMOGENEOUS] feature, this is not really what's at the heart of the proposal, and one might imagine other ways of implementing the core idea here. For example, [+HOMOGENEOUS] may be bundled with other features in some other functional projection, or for that matter it may be on the lexical head directly. In these cases, it could have denotations of the same type as it would in a structure such as (41), but be interpreted by function composition.[12] The question of whether this feature

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[11]Cinque doesn't call his feature this; I use [F] again only for consistency.

[12]For a more explicit elaboration of this idea, see Morzycki (2005).

occupies a distinct functional projection is therefore in principle independent from the basic idea here that a semantically contentful Aktionsart-related feature in the functional structure of VP licenses measure DP adverbials.

That said, (41) in its exact current form does reflect the intuition behind this approach quite naturally, and has the advantage of placing measure DP adverbials on a left branch—which, it will emerge, is independently necessary. And it accords with Cinque's broader vision, in which adverbs generally are specifiers of functional projections.
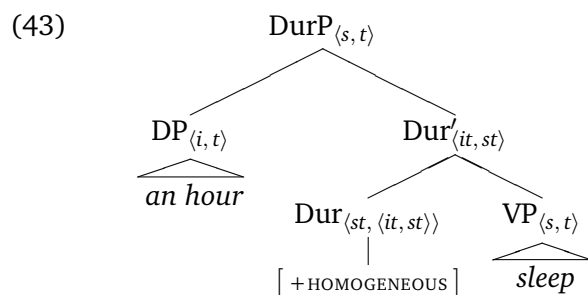
3.3 *The Denotation of* [+HOMOGENEOUS]

Semantically, as already suggested, the [+HOMOGENEOUS] feature imposes the homogeneity requirement, taking as arguments a VP denotation (a property of events) and a measure DP adverbial (a property of intervals):[13]

(42) $\llbracket [+\text{HOMOGENEOUS}] \rrbracket$
$= \lambda P_{\langle s,t \rangle} \lambda Q_{\langle i,t \rangle} \lambda e : \forall t[t \sqsubseteq \tau(e) \rightarrow \exists e'[P(e') \wedge \tau(e') = t]] . P(e) \wedge Q(\tau(e))$

This introduces the homogeneity requirement as a presupposition (represented here in the Heim and Kratzer 1997 colon notation) that every temporal part of an event satisfy the predicate expressed by the VP. It also predicates the measure DP adverbial denotation of the running time of the event. This formulation is roughly patterned after the denotations for measure adverbials proposed by Moltmann (1991). Essentially, this feature contributes what *for* might be taken (on a Dowty 1979-style approach) to contribute in a PP, with the order of arguments reversed. In this respect, (42) reflects the intuition that the semantic work that might otherwise have been done by *for* here must be done by the position of the modifier itself (relative to verbal functional structure).

A structure such as (41), as in (43) (subscripted here with semantic types), would thus be interpreted as in (44):

(43)

$\text{DurP}_{\langle s,t \rangle}$

$\text{DP}_{\langle i,t \rangle}$

an hour

$\text{Dur}'_{\langle it,st \rangle}$

$\text{Dur}_{\langle st, \langle it,st \rangle \rangle}$

[+HOMOGENEOUS]

$\text{VP}_{\langle s,t \rangle}$

sleep

---

[13]τ maps an event to its running time, and $\sqsubseteq$ is a part relation . Events are of type *s* and e, e', ... are variables over events; intervals are of type *i*.

(44) $[\![\,[\,+\text{HOMOGENEOUS}\,]\,]\!]\,([\![\,sleep\,]\!])([\![\,an\ hour\,]\!])$
$= \ \lambda e : \forall t[t \sqsubseteq \tau(e) \rightarrow \exists e'[\text{sleep}(e') \wedge \tau(e') = t]] \,.\, \text{sleep}(e) \wedge$
$\text{an} - \text{hour}(\tau(e))$

Because (42) ensures measure DP adverbials denote properties, it will now follow that they are always weak and do not QR—and hence that they have fixed in situ scope.[14]

3.4   *Case*

Since measure DP adverbials are after all DPs, some account is necessary of how their case requirements are met—a particularly pressing question given that they are also adverbial, and hence don't enter naturally into the usual system of case-licensing mechanisms for argument DPs.

This issue cannot merely be swatted away by supposing that, precisely because measure DP adverbials are adverbial, they are somehow exempted from the demands case places on other DPs. (Perhaps, for example, one might suppose they are excused in this way by some suitably updated version of Chomsky 1986's Visibility Criterion, which links the case needs of a DP to its thematic role.) The difficulty is that measure DP adverbials do not seem to be part of some secondary non-thematic system of oblique cases. Rather, in many languages that show case overtly, they are systematically accusative (more on this follows in section 3.5):

(45)   POLISH
Dwa   lata   pracowaliśmy nad tym projektem.
two.ACC years.ACC worked.2PL   on   this project
'We worked on this project for two years.'

(46)   FINNISH   (Mitchell 1991, via Pereltsvaig 2000)
Hän   asui siellä yhden   vuoden.
s/he.NOM lived there one.ACC year.ACC
'S/he lived there one year.'

(47)   GERMAN   (Paxton 1986)
Er war einen   Monat in London.
He was one.ACC month in London.
'He was in London for a month.'

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[14]I am being a bit sloppy with the wording here, in that if measure DP adverbials denote properties, they're not scope-bearing in a direct sense, of course—to be a bit more precise, the existential quantifier over events has scope, and the measure DP adverbial, being necessarily inside its scope, can in an extended sense be said to itself have the scope of this quantifier as its scope. I will continue to indulge in this simplification.

(48) KOREAN   (Wechsler and Lee 1996)
Tom-un   twu sikan-tongan-ul tali-ess-ta.
Tom-TOPIC two hour-period-ACC run-PAST-DECLARATIVE
'Tom ran for two hours.'

(49) LATIN   (Wechsler and Lee 1996)
Decem annos   regnavit.
ten   years-ACC he.reigned
'He reigned for ten years.'

These facts don't seem to be the consequence of some fairly superficial coincidence. In fact, more prototypical measure phrases—ones other than measure DP adverbials—demonstrate this fondness for the accusative as well:

(50) POLISH
Pracowaliśmy dwa   lata   dłużej.
worked.2PL   two.ACC years.ACC longer
'We worked two years longer.'

(51) GERMAN   (Paxton 1986)
Ich bleibe nicht einen   Tag länger.
I   stay   NEG one.ACC day longer
'I won't stay a single day longer.'

So at least in these languages, there is a systematic correspondence between measure DP adverbials and other measure phrases, and between measure phrases generally and accusative case.[15]

A structure like the one adopted here provides a straight-forward means of understanding these case properties. Since measure DP adverbials on this view occupy the specifier of Dur—plausibly a case position—they can check their case features there. This immediately frees them from the need to somehow weasel out of meeting the obligations case imposes. And it seems natural, on this view, that the case they bear should be a structural one, because it is checked in the specifier of a verbal functional projection, just like other structural cases. That this case should be fairly consistent cross-linguistically is also unsurprising from this perspective—after all, functional elements in fact tend to be fairly consistent cross-linguistically. As a kind of bonus, in connecting measure DP adverbials and other kinds of measure phrase by assigning them similar structures, this approach may shed light on the case properties of measure phrases more generally.

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[15]This correspondence also, incidentally, provides support for the Kennedy (1997)-style treatment of measure phrases in AP.

3.5 *An Interlude: Accusative Adverbials*

Apart from the observation of some connection to accusative case, the reasoning pursued in the previous section is for the most part a fairly direct extension of the structures already proposed—structures themselves motivated by semantic considerations involving scope, Aktionsart restrictions, and the compositional semantics required to relate them, as well as by distribution and parallels to measure phrases cross-categorially. Interestingly, these considerations lead here to syntactic conclusions that fully accord with what Pereltsvaig (2000) has proposed on mostly independent grounds for the Russian and Finnish cousins of measure DP adverbials.

These expressions—accusative adverbials—are either the same empirical phenomenon as measure DP adverbials or a closely related one. Their principal distinguishing property is, as the name implies, accusative case borne by a nominal in an adverbial position. What most clearly suggests that these might be measure DP adverbials in the sense of interest here is that they too introduce a durativity presupposition. Apart from the common thread of this temporal effect, the reasoning pursued here and Perelstvaig's are independent from each other. Perelstvaig's central aim is to develop a theory of how case works in these structures that can accommodate the observed cross-linguistic variation (while nonetheless reflecting parallels between Russian and Finnish) and capture syntactic connections between these expressions and direct objects. She consequently develops a sophisticated and cross-linguistically robust account of the case properties of these expressions and of the syntactic structures that give rise to them. In this respect, facts that played no role here or a distinctly secondary one—cross-linguistic variation, syntactic interactions with objects, and case—are her chief concern. On the other hand, the distributional facts noted here play no part in her reasoning, inasmuch as they are not the same in Russian and Finnish, the languages she is principally concerned with. Nor do the scope observations that play perhaps the most prominent role in motivating what has been proposed here play *any* role in her reasoning—indeed, again, it is not altogether clear how these facts even cash out in these languages, though it does seem clear that they are present in some form.[16] Nor does the cross-categorial parallel at the heart of the analysis here—between measure DP adverbials and measure phrases in the extended AP and PP—play any role in Perelstvaig's reasoning. Nor does Perelstvaig aim to develop an explicit

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[16]Examining the scopal properties of accusative adverbials in sufficient depth to be meaningful would take us too far afield, largely because each language presents substantial complications that need to be taken into account or controlled for and because undertaking this cross-linguistic enterprise would entail engaging more fully than is possible here in the notoriously tricky case issues Perelstvaig and others have addressed. I will therefore leave this important and interesting issue to future research, and adopt a more narrow focus here.

compositional semantics for these expressions.

Yet despite these very significant methodological, empirical, and theoretical differences, she reaches conclusions about the structures involved at whose core is the proposal that accusative adverbials are base-generated in the specifier of the Inner Aspect Phrase of Travis (1988), a syntactic projection associated with both accusative case and Aktionsart. Because she takes this to be a derived object position, the hypothesis that accusative adverbials are base-generated there correctly predicts that they should stand in a special syntactic relationship to objects, behaving in some ways object-like.[17] The conclusion that accusative adverbials occupy a specifier position is not reached in the treatment of accusative adverbials of Szucsich (2001, 2002)—he treats them as left-adjuncts to AspP—but the connection to an aspectual syntactic projection is present there, too.

It bears noting, though, that there is at least one significant difference between accusative adverbials and measure DP adverbials—accusative adverbials are not necessarily weak. Perelstvaig mentions these examples:

(52) FINNISH
    Maria kantoi kirjaa   koko illan.
    Mary carried book.PRT whole evening.ACC
    'Mary carried a book for the whole evening.'

(53) RUSSIAN
    Maria taskala   knigu   ves'   vecher.
    Mary carried.IMPRF book.ACC all.ACC evening.ACC
    'Mary carried the book for the whole evening.'

One could take this as evidence that measure DP adverbials in these

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[17]This special relationship to objects is observed in English as well, though in an elusive and vexing form. Sentences with overt direct objects resist measure DP adverbials, and in many cases appear to be flat-out ungrammatical in their presence:

(i)   Unbelievably, the band played 'Hail to the Chief' $\left\{ \begin{array}{l} \text{*six hours} \\ \text{for six hours} \\ \text{every day} \end{array} \right\}$.

In this respect too, measure DP adverbials contrast with their PP paraphrases and with strong DP adverbials, whose grammaticality is undiminished by the presence of an object, as (i) reflects. Part of what makes these facts tricky is that lighter objects seem more willing to cohabitate with measure DP adverbials that heavy objects, in a way that suggests that in English, this may not be a discrete, purely syntactic phenomenon:

(ii)   a. Unbelievably, the band played music $\left\{ \begin{array}{l} \text{*?six hours} \\ \text{for six hours} \\ \text{every day} \end{array} \right\}$.

       b. Unbelievably, the band played $\left\{ \begin{array}{l} \text{six hours} \\ \text{for six hours} \\ \text{every day} \end{array} \right\}$.

languages may be strong, but it seems more likely that this demonstrates only that not all accusative adverbials are measure DP adverbials.[18] Accusative case is borne by a number of temporal DP adverbials in Slavic, including ones very like strong DP adverbials in English:

(54) RUSSIAN   (Szucsich 2002)
      Ona každyj god   pokazyvala ego vračam.
      She every year.ACC showed.IMP him physicians
      'Every year she had him examined by physicians.'

As in English, then, it may be the case that (52–53) are not measure DP adverbials, and that they impose an Aktionsart requirement as a consequence of independent facts about their internal semantics. This, though, leaves unexplained why they should pattern with apparent measure DP adverbials with respect to the case facts Perelstvaig examines, so there is a genuine puzzle here.

This, though—and more broadly, case and its connection to compositional semantics—merits more attention than it can be given here without losing sight of the more immediate empirical goals, so I will not go further down this road than this. (For more on these issues, see Wechsler and Lee 1996, Pereltsvaig 2000, Szucsich 2001, 2002, Kratzer 2002, and references there.)

3.6   *The Role of Feature Checking: None*

Returning now to the core analytical proposal here, one desirable consequence of this approach is that there is no need for any specialized feature-checking to account for the distribution of measure DP adverbials. Since the $[+\text{HOMOGENEOUS}]$ feature on which they depend occupies a fixed position in the verbal projection, they too will occupy a fixed position. But why, one might reasonably ask, can't these DPs occur in other positions?

The answer comes from two considerations, each rooted in the immediately preceding sections: case and interpretability. Because measure DP adverbials are DPs, they need to check case features. So they need to occupy— at least at some point in the derivation—a case position. And because they denote properties of intervals, they will only be interpretable in the relatively few positions where properties of intervals are interpretable. Thus these DPs can't simply adjoin to some higher verbal projection—say, AspP, which might plausibly be semantically appropriate—because they could not their check case features there, and they could not occur in an arbitrary case position unless it meets their semantic requirements.

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[18]The converse, though, is apparently true, modulo effects such as genitive of negation.

3.7 *Accounting for the Scope Facts*

Since measure DP adverbials are interpreted as arguments of a feature in a fixed position, their scopal characteristics will follow from where this position is located. Thus, to account for the scope facts, it will have to be below the lowest landing site for QR, below negation, and below Aspect (where, I'll assume, the generic quantifier in habituals is located):

(55) a. Clyde didn't sleep an hour.
          n't [*Clyde* [*an hour* [[+HOMOGENEOUS] *sleep*]]]
      b. No one slept an hour.
          no one [*an hour* [[+HOMOGENEOUS] *sleep*]]
      c. Clyde swam a year.
          [$_{\text{AspP}}$ GEN [*Clyde* [*a year* [[+HOMOGENEOUS] *swam*]]]]

If Aspect is where existential quantification over events is introduced (Kratzer 1998, elsewhere), this position of [+HOMOGENEOUS] will follow from its type and the more general prohibition on nonpersistent quantifiers inside the scope of existential quantification over events.

  If the DP adverbial is on a left branch, as suggested here, low scope relative to embedding verbs will follow as well:

(56) Greta wanted to talk an hour.
      Greta wanted to [*an hour* [[+HOMOGENEOUS] *talk*]]

Since the feature in (56) is in the lower clause, it will necessarily scope below *wanted*. If *an hour* and its licensing feature had been introduced in the higher clause, the resulting sentence (after verb movement) would not have been the one in (56), but rather (57):

(57) Greta wanted an hour to talk.
      Greta [*an hour* [[+HOMOGENEOUS] *wanted to talk*]

Because, of course, *wanted to talk* cannot head-move like *wanted*, there is no way to derive (56) from (57).

3.8 *A Note on Spatial Measure DP Adverbials*

The [+HOMOGENEOUS] feature is defined in (42) to apply to properties of intervals, and it involves a temporal trace function. To extend the account to spatial measure DPs, one might formulate a denotation neutral between these.[19] Alternatively, one might suppose that there are two distinct features that impose temporal and spatial homogeneity.

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[19]Perhaps what is required is something like (i), again in the spirit of Moltmann (1991), where Q is a property of intervals or regions, a is an interval or region, and AT is a relation

Despite appearances, though, it may be that many apparent spatial measure DP adverbials are actually temporal. If Clyde is traveling as a passenger in a car, (58) may be true:

(58)   Clyde slept several miles.

If Clyde is sleeping fitfully in bed, however, rolling back and forth, and the bed is several feet across, (59) is not true:

(59)   Clyde slept several feet.

Yet it seems clear that the spatial trace of Clyde's sleeping extends several feet in (59), just as it extends several miles in (58). Even in a pragmatically somewhat less plausible circumstance in which Clyde rolls across his bed exactly once during the course of the night, without ever retreating, (59) would not be true. (Thus even what Krifka 1998 calls 'strict movements' may not be sufficient.) If these sentences involved measuring the extent of an event in space, this would be unexpected. The core difference between these sentences seems to be that in (58), because of the nature of car trips, one can naturally use units of spatial measurement to measure time, whereas in (59), there are no appropriate standard assumptions about how sleep works that might make this possible.

What this may be taken to suggest, then, is that at least certain spatial measure DPs are in fact instances of spatial nouns coerced into temporal interpretations in particular circumstances that naturally support this effect.[20]

3.9   *True Adverbs*

True adverbs may provide independent support for this approach. On syntactic grounds, Cinque associates his DurP projection with durative adverbs such as *briefly* and Italian *lungamente* 'long'. It seems reasonable, then, to suppose that such adverbs are also interpreted as arguments of the $[+\text{HOMOGENEOUS}]$ feature.

This would predict that all adverbs of this class should impose a homogeneity requirement. This seems to be the case:

(60)   a. Clyde slept briefly.
       b. Greta ran briefly.

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between an event and an interval or region that coincides with it (i.e., is either the temporal or spatial trace of e):

(i) $[\![\,[+\text{HOMOGENEOUS}\,]\,]\!]$
         $= \lambda P_{\langle s,t \rangle} \lambda Q \lambda e \,.\, \exists a[P(e) \wedge \text{AT}(e,a) \wedge Q(a) \wedge \forall b[b \sqsubseteq a \rightarrow \exists e'[P(e') \wedge \text{AT}(e',b)]]]$

[20]Strong DP adverbials manifest what may be a similar effect. One may claim of an assembly-line worker in a chair factory that she *took a break every third chair*.

(61)   a. #Clyde noticed the difficulty briefly.
       b. #Greta died briefly.

Similar facts obtain for *momentarily*[21] and the rather marginal *lengthily*:

(62)   a. Clyde slept $\left\{\begin{array}{l}\text{momentarily}\\\text{lengthily}\end{array}\right\}$.

       b. Greta ran $\left\{\begin{array}{l}\text{momentarily}\\\text{lengthily}\end{array}\right\}$.

(63)   a. #Clyde noticed the difficulty $\left\{\begin{array}{l}\text{momentarily}\\\text{lengthily}\end{array}\right\}$.

       b. #Greta died $\left\{\begin{array}{l}\text{momentarily}\\\text{lengthily}\end{array}\right\}$.

Without this feature, it would be necessary to encode this homogeneity requirement independently in the denotation of each of these adverbs:

(64)   a. $[\![\,briefly\,]\!] = \lambda P_{\langle s,t\rangle}\lambda e : \forall t[t \sqsubseteq \tau(e) \rightarrow \exists e'[P(e') \wedge \tau(e') = t]]$. $P(e) \wedge$
          $\mathrm{brief}(\tau(e))$
       b. $[\![\,momentarily\,]\!] = \lambda P_{\langle s,t\rangle}\lambda e : \forall t[t \sqsubseteq \tau(e) \rightarrow \exists e'[P(e') \wedge \tau(e') = t]]$.
          $P(e) \wedge \mathrm{momentary}(\tau(e))$
       c. $[\![\,lengthily\,]\!] = \lambda P_{\langle s,t\rangle}\lambda e : \forall t[t \sqsubseteq \tau(e) \rightarrow \exists e'[P(e') \wedge \tau(e') = t]]$.
          $P(e) \wedge \mathrm{lengthy}(\tau(e))$

A means of accounting for the distribution of these adverbs would still independently be required.

   If they were interpreted instead as arguments of the feature proposed above, though, they could simply denote properties of intervals, as in (65):

(65)   a. $[\![\,briefly\,]\!] = \lambda t$. $\mathrm{brief}(t)$
       b. $[\![\,momentarily\,]\!] = \lambda t$. $\mathrm{momentary}(t)$
       c. $[\![\,lengthily\,]\!] = \lambda t$. $\mathrm{lengthy}(t)$

The homogeneity requirement, then, would follow from the interpretation of the feature of which these adverbs are an argument, so it need not be encoded redundantly in the lexical entry of every such adverb. This would simultaneously capture the generalizations that both durative adverbs and measure DP adverbials occur in a particular structural position and that they both systematically introduce this presupposition.

   A secondary prediction of this is that these adverbs should obligatorily scope low. This appears to generally be the case:

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[21]When it occurs on the right, *momentarily* also has a reading paraphrasable as 'a moment from now'. This is not the reading at issue here.

(66)   a. Clyde didn't sleep briefly.   ($\neg \prec$ *briefly*; *briefly $\prec \neg$)
       b. No one slept briefly.   (*no one* $\prec$ *briefly*; *briefly $\prec$ *no one*)
       c. Greta wanted to talk briefly.

                                           (*wanted* $\prec$ *briefly*; *[?]*briefly* $\prec$ *wanted*)

In (66a) and (66b), *briefly* does indeed seem to require narrow scope. (In the clausal embedding example in (66c), though, the judgment is rather precarious, significantly more so than one might wish.)

So, from this perspective, it's not any one particular expression that's associated with requiring homogeneity, but rather a particular position.

3.10   *Overt Morphology*

In languages in which Cinque's Dur head is spelled out overtly, it appears to have roughly the kind of durative, Aktionsart-related semantics suggested for the [+HOMOGENEOUS] feature here. One of the potential overt occupants of Dur Cinque suggests is the Guyanese Creole particle *de*, which, according to Gibson (1992) 'occurs as a durative aspect marker':[22]

(67)   GUYANESE CREOLE   (Gibson 1992)
       a. Yu get fren wid hii, yuu an hii de nais.
          'You become friendly with him, you and him will get along well'
       b. Fu faiv yeerz ii de woking in di bush.
          'For five years he has been working in the bush'

Something similar could be said for the Tauya formative *tei* 'for a long time' (MacDonald 1990), and for Central Alaskan Yupik *uma* 'for long periods' (Mithun and Ali 1996).

In light of the connection to accusative adverbials in Slavic, though, it might well be the case that overt expressions of this licensing element are actually quite common, and that in fact, Slavic aspectual morphology can be taken to spell out this head, too.

4   Final Words

The analysis of measure DP adverbials requires an account of their narrow scope and low structural position, their obligatory weakness, and the durativity/homogeneity requirement they impose. In the approach suggested here, part of the apparent semantic contribution of a modifier—a measure DP adverbial or a *briefly*-class adverb—is attributed instead to a fixed position in functional structure. This provides a way for accounting for the essential

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[22]Gibson doesn't provide word-by-word glosses.

properties of measure DP adverbials, and leads to a simplified view of the interpretation of durative adverbs as well. Importantly, though, it also results in a treatment of these expressions in which they are parallel to measure phrases in other categories, simply the verbal exponent of the more general phenomenon of measure-phrase modification.

References

Abney, Steven. 1987. *The English Noun Phrase in Its Sentential Aspect*. Doctoral dissertation, MIT.

Alexiadou, Artemis. 1997. *Adverb Placement: A Case Study in in Antisymmetric Syntax*. John Benjamins, Amsterdam.

Bresnan, Joan and Jane Grimshaw. 1978. 'The syntax of free relatives in English'. *Linguistic Inquiry* 9:331.

Chomsky, Noam. 1986. *Knowledge of Language: Its Nature, Origin, and Use*. Praeger, New York.

Cinque, Guglielmo. 1999. *Adverbs and Functional Heads: A Cross-Linguistic Perspective*. Oxford University Press, New York.

Corver, Norbert. 1990. *The Syntax of Left Branch Extractions*. Doctoral dissertation, Tilburg University.

Dowty, David R. 1979. *Word Meaning in Montague Grammar*. D. Reidel Publishing Co., Dordrecht, Holland.

Emonds, Joseph. 1978a. *A Transformational Approach to English Syntax: Root, Structure-Preserving, and Local Transformations*. Academic Press, New York.

Emonds, Joseph. 1978b. 'The verbal complex V′–V in French'. *Linguistic Inquiry* 9:151.

Emonds, Joseph. 1987. 'The invisible category principle'. *Linguistic Inquiry* 18:613.

Gibson, Kean. 1992. 'Tense and aspect in Guyanese Creole with reference to Jamaican and Carriacouan'. *International Journal of american Linguistics* 58:49.

Grimshaw, Jane. 1991. 'Extended projection'. In *Lexical Specification and Lexical Insertion*. Erlbaum, Hillsdale, NJ.

Hackl, Martin. 2000. *Comparative Quantifiers*. Doctoral dissertation, MIT.

Hankamer, Jorge. 1971. *Constraints on Deletion in Syntax*. Doctoral dissertation, Yale University.

Heim, Irene and Angelika Kratzer. 1997. *Semantics in Generative Grammar*. Blackwell Publishers, Oxford.

Jackendoff, Ray. 1972. *Semantic Interpretation in Generative Grammar*. MIT Press, Cambridge, Massachusetts.

Johnson, Kyle. 1991. 'Object positions'. *Natural Language and Linguistic Theory* 9:577.

Kennedy, Christopher. 1997. *Projecting the Adjective: The Syntax and Semantics of Gradability and Comparison*. Doctoral dissertation, University of California, Santa Cruz. Published in 1999 by Garland, New York.

Kratzer, Angelika. 1998. 'More structural analogies between pronouns and tenses'. In *Proceedings of SALT VIII*. CLC Publications.

Kratzer, Angelika. 2002. 'Telicity and the meaning of objective case'. In Guéron, Jacqueline and Jacqueline Lecarme, eds., *The Syntax of Time*. MIT Press, Cambridge, Massachusetts.

Krifka, Manfred. 1989. 'Nominal reference, temporal constitution, and quantification in event semantics'. In Bartsch, Renate, Johan van Benthem, and Peter van Emde Boas, eds., *Semantics and Contextual Expression*. Foris Publications, Dordrecht.

Krifka, Manfred. 1998. 'The origins of telicity'. In Rothstein, Susan, ed., *Events and Grammar*. Kluwer, London.

Kural, Murat. 1996. 'Two types of bare measure phrases'. In *Proceedings of the Western Conference on Linguistics (WECOL) 1996*.

Laenzlinger, Christopher. 2000. 'French adjective ordering: Perspectives on DP-internal movement types'. In *Generative Grammar in Geneva*, vol. 1.

Larson, Richard. 1985. 'Bare-NP adverbs'. *Linguistic Inquiry* 16:595.

MacDonald, Lorna. 1990. *A Grammar of Tauya*. Mouton de Gruyter, Berlin.

McCawley, James D. 1988. 'Adverbial NPs: Bare or clad in see-through garb?' *Language* 64.

Milsark, Gary L. 1976. *Existential Sentences in English*. Doctoral dissertation, MIT.

Mitchell, Erika. 1991. 'Case and the Finnish object'. In *Cornell Working Papers in Linguistics*, vol. 9. Ithaca, New York.

Mithun, Marianne and Elisabeth Ali. 1996. 'The elaboration of aspectual categories: Central Alaskan Yup'ik'. *Folia Linguistica* 30:111.

Moltmann, Friederike. 1991. 'Measure adverbials'. *Linguistics and Philosophy* 14:6.

Moltmann, Friederike. 1997. *Parts and Wholes in Semantics*. Oxford University Press, New York.

Morzycki, Marcin. 2001. 'Interpreting measure DP adverbials'. In Megerdoomian, Karine and Leora A. Bar-el, eds., *Proceedings of the West Coast Conference on Formal Linguistics (WCCFL) XX*. Cascadilla Publications, Somerville, Mass.

Morzycki, Marcin. 2002. 'Wholes and their covers'. In Jackson, Brendan, ed., *Proceedings from Semantics and Linguistic Theory XII*. CLC Publications, Ithaca, New York.

Morzycki, Marcin. 2005. *Mediated Modification: Functonal Structure and the Interpretation of Modifier Position*. Doctoral dissertation, University of Massachusetts Amherst. To appear via GLSA in 2005.

Paxton, Norman. 1986. *German Grammar: A Modern Guide*. Hodder Arnold.

Pereltsvaig, Asya. 2000. 'On accusative adverbials in Russian and Finnish'. In *ZAS Papers in Linguistics 17*.

Prince, Ellen. 1999. 'How not to mark topics: 'topicalization' in English and yiddish'. In *Texas Linguistics Forum*. University of Texas, Austin.

Roeper, Thomas, Elaine Ramos, Harry Seymour, and Lamya Abdul-karim. 2000. 'Language disorders as a window on universal grammar: An abstract theory of agreement for IP, DP, and V-PP'. Ms, University of Massachusetts Amherst.

Ross, John Robert. 1967. *Constraints on Variables in Syntax*. Doctoral dissertation, MIT.

Runner, Jeff. 1995. *Noun Phrase Licensing and Interpretation*. Doctoral dissertation, University of Massachusetts Amherst.

Schwarzschild, Roger. 2002. 'The grammar of measurement'. In *Proceedings of SALT XII*. CLC Publications, Ithaca, New York.

Szucsich, Luka. 2001. 'Adjunct positions of nominal adverbials in Russian'. In Zybatow, Gerhild, Uwe Junghanns, Grit Mehlhorn, and Luka Szucsich, eds., *Current Issues in Formal Slavic Linguistics (Linguistik International 5)*. Peter Lang, Frankfurt/Main.

Szucsich, Luka. 2002. 'Case licensing and nominal adverbials in Slavic'. In Toman, Jindřich, ed., *Formal Approaches to Slavic Linguistics 10: The Ann Arbor Meeting 2001*. Michigan Slavic Publications, Ann Arbor.

Travis, Lisa. 1988. 'The syntax of adverbs'. In *McGill Working Papers in Linguistics*.

Wechsler, Stephen and Yae-Sheik Lee. 1996. 'The domain of direct case assignment'. *Natural Language and Linguistic Theory* 14:629.

Winter, Yoad. 2001. 'Measure phrase modification in vector space semantics'. In Megerdoomian, Karine and Leora A. Bar-el, eds., *Proceedings of WCCFL XX*. Cascadilla Publications, Somerville, Massachusetts.

Winter, Yoad. 2004. 'Cross-categorical restrictions on measure phrase modification'. Ms. Technion—Israel Institute of Technology.

Zwarts, Joost. 1997. 'Vectors as relative positions: A compositional semantics of modified PPs'. *Journal of Semantics* 14:57.

Zwarts, Joost and Yoad Winter. 2000. 'Vector space semantics: A modeltheoretic analysis of locative prepositions'. *Journal of Logic, Language and Information* 9:171.

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