Abstract

This article investigates one of the discourse functions that has been proposed for the variation in English of the position of adverbials within the clause. The view that initial positioning, or ‘thematisation’, of adverbials establishes scope over larger discourse spans (Lowe 1987; Downing 1991) is tested by examining three kinds of adverbial in a corpus of short written expository texts in English: adverbials of location (prepositional phrases and when-clauses), nonfinite purpose clauses, and finite if-clauses. Objective methods are used to measure persistence of adverbial scope and how scope is cancelled. Data on length of scope and position of adverbial are compared to see whether there is evidence of a dependent relation. In most cases, initial adverbials do not appear to establish discourse scope and in some cases noninitial adverbials do appear to establish discourse scope: It is concluded that to establish scope cannot be the function of initial position. Because cancellation only occurs initially half the time, it is also concluded that there is no special relation between initial position and cancellation.

Keywords: adverbial/adverbial clause; theme; framework; scope; span; constituency.

1. Introduction

One of the goals of discourse analysis has been to account for syntactic variation that does not appear to be explicable in terms of sentence-level semantic analysis. Some of this variation involves no structural difference other than differing word order. Thus, for example, English allows speakers to say both members of the following pairs:

(1) I went to the office on Monday.
    On Monday I went to the office.
You must work hard to stay at the top. To stay at the top you must work hard.

I’d have gone there if I’d known. If I’d known I’d have gone there.

Such variants cannot be distinguished by semantic analysis at the word and sentence level. In the terms of Quirk et al. (1985), for example, the underlined element in both versions of the above sentences is a ‘sentence adjunct’, the position of which has ‘relatively little consequence for its stylistic or semantic effect’ (1985: 505). Semantically, that is, in both versions the adjunct has scope over the whole clause and not just the predication. Stylistically, because such adjuncts are formally optional, the pre-posed version does not sound marked or poetic, as would pre-posed obligatory predication adjuncts (‘complements’ in other grammars, e.g., Huddleston and Pullum 2002) such as:

To the office I went.

It has seemed natural, then, to suppose that the variation in Examples (1)–(3) is meaningful at a higher level, in units larger than the clause, that is, in discourse. What exactly does discourse analysis have to tell us about the meaning of such variation? This paper reviews some of the literature on this question and reports on some empirical work carried out by the author to test one of the answers that has been put forward, which relates the issue of syntactic positioning of adjuncts to their discourse scope.

The term ‘adjunct’ is used in rather different ways by different scholars; in this paper I shall hereafter follow the terminology of Biber et al. (1999), for whom the underlined elements in (1)–(3) are ‘circumstance adverbials’. I also draw on what is said about such elements by Quirk et al. (1985), for whom all are ‘adjuncts’, and Halliday (1985), for whom the elements in (1) and (2) are ‘circumstantial adjuncts’. The paper focuses on circumstance adverbials but makes reference at points to the two other major classes of adverbial commonly recognized (linking and stance adverbials [Biber et al. 1999]; conjuncts and disjuncts [Quirk et al. 1985]; conjunctive and modal adjuncts [Halliday 1985]).

2. Literature

At the level of syntax, Quirk et al. (1985) noted that initially positioned adjuncts had ‘the potentiality to relate to the whole sentence, even where the sentence comprises two coordinate clauses, while the same E-placed [end-placed] adjunct will normally be interpreted as predicational and
hence related only to the clause in which it is placed’ (1985: 512) and provided as an example the following pair:

(5) **In Australia**, he travelled a great deal and eventually settled down. He travelled a great deal and eventually settled down **in Australia**.

This overstates the case, in my view, and oversimplifies the process of discourse interpretation. The following final adverbials, for example, could be interpreted as related to both clauses:

(6) **He bought a lot of land in Australia** and raised a family.

(7) **He bought a lot of land and raised a family in Australia**.

The different predications in (6) and (7) and the removal of the temporal adverbial *eventually* evoke somewhat different prior contexts. In practice, interpretation of the scope of adverbials depends heavily on prior context and is hence beyond the purview of grammatical analysis.¹

Turning to discourse analysis proper, more work seems to have been done on the discourse role of initial placement or pre-posing of adverbial clauses (hereafter ACs), than on the pre-posing of structurally simpler clause elements (adverbs, noun phrases [NPs], prepositional phrases [PPs]). Thompson and Longacre (1985) illustrated how ACs ‘have considerable relevance to the structure of paragraphs and discourse’. They argued that ACs establish and maintain a discourse perspective, demonstrating, for example, how the ACs in a travel book both maintain a ‘“you’re on a journey” perspective’ and segment the discourse (e.g., *Leaving charming tourist-ridden Cuernavaca . . ., As you walk through these huge chambers . . .*). Overall, however, they do not claim that this function is confined to sentence-initial ACs, except in the special case where such clauses serve as topics. Thompson (1985) addressed more particularly the role of the positioning of ACs. Thompson considered a database of over 1000 nonfinite adverbials of purpose in their discourse contexts and concluded that it was erroneous to conceive of speakers making choices between initial and final purpose clauses. She concluded they are in fact ‘two quite different constructions’ which do ‘radically different jobs in the discourse’ (1985: 79). Specifically:

the initial purpose clause states a ‘problem’ within the context of expectations raised by the preceding discourse, to which the following material (often many clauses) provides a solution, while the final purpose clause plays the much more local role of stating the purpose for which the action named in the immediately preceding clause is performed. (Thompson 1985: 53)

Among Thompson’s evidence for this conclusion was that initial purpose clauses had scope over longer spans of discourse than final purpose clauses, quantifiable in terms of mean number of clauses. Thompson drew
on the work of Fries (1981) who in turn had drawn on Halliday (1967) to suggest that initial position in a sentence, ‘theme’ in terms of Hallidayan systemic-functional grammar, has the discourse role of guiding the reader as to textual organization. Thompson (1985: 60) inferred Fries as arguing that marked themes (those formed by nonsubject elements) are ‘strongly determined’ by discourse organization. Thompson (1985: 81) went on to hypothesize that a similar ‘thematic role’, a text-organizing role, might be played by other adverbials in English, such as manner adverbs and temporal clauses, but cautioned that more research was needed.

Working from the assumption that ‘the initial constituent in a sentence has a special function’, Lowe (1987: 5) looked at any ‘fronted element other than a subject or object NP’ (1987: 6)—in a historical narrative of 2200 sentences. Lowe borrowed the explanatory metaphor of ‘framework’ from Chafe’s (1976) definition of ‘topic’ (which Lowe aligned with Hallidayan ‘theme’) but modified it. While Chafe had described ‘topic’ in terms of syntax, as setting up a ‘framework within which the predication holds’ or restricting the ‘domain of applicability of the main predication’ (Chafe 1976: 50), Lowe concluded that the function of initial constituents was to ‘set up a framework for a span of the ensuing discourse’ (Lowe 1987: 5; my emphasis). The same elements in noninitial position did not set up frameworks for such spans. Lowe extended Chafe’s ‘framework’ concept from being a sentence-level to a discourse-level phenomenon. Like Thompson, Lowe gave examples of initial elements that served as frameworks not only for several predications, but for several sentences, such as the following:

(8)  At dawn on May 23 the two armies were in presence near Ramillies.  
    [introducing 16-sentence span]

Frameworks were ‘in the actual world, a possible world, a related mental world or of an interpersonal kind’ (Lowe 1987: 31).

Using evidence from another historical narrative, Downing (1991) argued that initial adverbials (marked themes in Hallidayan terms) served to ‘set up circumstantial or situational spans or settings, which can be of considerable length, and which serve to guide the reader’s attention through the text’ (1991: 141). Gomez (1994: 301), studying clause-initial elements in radio news broadcasts, endorsed Downing’s findings, reporting that ‘the discourse function of fronted adverbials is to introduce a new stage in discourse, the span of which usually extends over more than one clause’ (1994: 301).

The claim made, with some variations, by Thompson (1985), Lowe (1987), and Downing (1991) is that the ‘point of departure’ account of the meaning of initial position is explicable in terms of discourse. Initial
position for an adverbial means that its particular propositional meaning extends, always potentially and sometimes actually, beyond the boundaries of its host clause into the meanings not only of succeeding clauses but of succeeding sentences. Thus the discourse meaning of initial adverbials is fleshed out as ‘meaning which exceeds clause and sentence boundaries’, what we might for convenience call suprasentential scope. The sequential priority of an initial adverbial iconically expounds its semantic priority in the discourse. Unlike the metaphorical claim that initial adverbials are ‘frameworks’ or ‘points of departure’ for clauses, this is a claim about discourse and is falsifiable. The corpus-based grammar of English by Biber et al. (1999: 836) apparently endorses this account of the function of initial placement of ACs, noting that ‘clauses that set up a frame for several subsequent sentences tend to be in initial position’.

Ford (1993) considered ACs in conversation and alludes to a discourse function being performed by initial position: ‘discourse structuring functions are realized through initial ACs, while final ACs tend to work more locally in narrowing main clause meanings without creating links or shift points in a larger discourse pattern’ (1993: 146). Using rhetorical structure theory (Mann and Thompson 1987) to model discourse structure, Matthiessen and Thompson (1989: 305) argued that the rhetorical relations of Circumstance and Purpose are often found at major structural breaks in the text and thus ‘are typically involved in transitions from one major portion of the text structure to another’. Their conclusion is that initial ACs serve the discourse function of ‘orienting the reader to a new text span’ (Matthiessen and Thompson 1989: 307).

A similar claim is made in Prideaux and Hogan (1993), who found that initial ACs occurred significantly more often at unit boundaries and concluded that an important function of initial AC was ‘to manage discourse flow’ (1993: 397). Taking a language-typology perspective, Diessel (2001) concludes that ACs have the ‘discourse-pragmatic function’ of managing information flow in ongoing discourse by providing a ‘framework’ or ‘orientation’ (2001: 448).

Thus far, one can discern in the literature two related answers to the question posed at the beginning of this paper:

**Meaning 1.** Adverbials are placed initially to give them scope not just over a single clause but over larger discourse spans—a whole sentence, and in some cases over more than one sentence.

**Meaning 2.** Adverbials are placed initially to signal boundaries between spans of discourse, or units of discourse structure.

I assume that Meaning 2 is derivative from Meaning 1, with the common factor of being under the scope of the same adverbial helping to
constitute discourse spans. As to investigate Meaning 2 independently would require a fairly robust model of discourse structure, and I do not feel that such a model exists yet, I will confine my attention in this paper largely to Meaning 1.

Most of the work discussed thus far has been to some extent influenced by Hallidayan systemic-functional grammar. Within this school, the most oft-cited account of initial elements, notably in Halliday (1985) and Martin (1992), is that offered in Fries (1981). Fries set out to establish a somewhat different discourse basis for Halliday’s (1967) claim that initial elements are a clause’s ‘point of departure’. For Fries, all sentence-initial elements, whether unmarked or marked, expound a text’s ‘method of development’ (hereafter MOD). In brief, the MOD of a text or a text segment is realized as the lexical set formed by the initial elements of each of its component sentences: the more cohesive the set, the more pronounced the MOD. For Fries, the motivation for marked (nonsubject) themes such as pre-posed adverbials is to maintain a text’s MOD. This motivation is rhetorical and is based on informal research into reader perception suggesting that texts arranged in this way are easier to process. In terms of textual patterning, it can be seen that this MOD account of initial adverbials is at odds with both Meanings 1 and 2: the MOD concept suggests that initial adverbials sustain a particular textual pattern (the MOD), while Meanings 1 and 2 suggest that initial adverbials introduce new patterns. In terms of discourse constituency, for Fries both unmarked (subject) themes and marked (nonsubject) themes such as initial adverbials constitute a common MOD throughout a particular discourse span. Martin (1992) adds to the Fries’s original MOD model a hierarchical discourse structure, in which the higher level spans are presented as being bounded by sentences or larger discourse unit (macro- and hyper-themes) rather than individual clause or sentence themes. By contrast with both these versions of the MOD model, within the discourse ‘framework’ concept, initial adverbials themselves partition the discourse and serve as boundary markers between spans.

More widely, evidence that some sentence Themes have semantic scope over following sentences contradicts the conventional Hallidayan view of ‘theme’ as a syntactic phenomenon. An orthodox Hallidayan analysis allows unmarked subject themes to cross clause boundaries. For example, in discussing the following sentence,

(9) **He** roared in fury and ( ) struggled with all his might.

Martin et al. argue that the brackets mark an ‘understood’ or ‘ellipsed Subject of the second clause’ which ‘counts as the (ellipsed) topical Theme’ (Martin et al. 1997: 29). It is not clear whether they would analogously
analyze as ‘ellipsed topical Themes’ initial adverbials with supra-clausal scope, such as During the arrest in the following variant:

(10) **During the arrest** he roared in fury and ( ) struggled with all his might.

Different approaches to the apparent supra-sentential scope of marked themes have been adopted by different scholars within the systemic-functional school. It has been argued (Dubois 1987: 111) that extending the scope base of ‘theme’ beyond the upper bounds of syntax (as proposed by Taylor 1983) eliminates ‘a clearly delimited structural unit for thematization’. This is true if by ‘structure’ we mean syntax. An alternative might be to conclude that marked themes are associated with structural units at the level of discourse, such as Longacre’s (1979) ‘paragraph’ or the coherence relation-based units of rhetorical structure theory (RST). This is essentially Downing’s (1991) suggestion when she argues for a splitting of the ‘theme’ concept into at least two independent elements, (a) an ‘individual framework’ and (b) ‘circumstantial’ and ‘situational frameworks’. Downing notes that both may survive over stretches of text but does not appear to fully recognize two key differences between the two kinds of framework she proposes. Firstly, individual frameworks are obligatory for all clauses and the other frameworks are optional. Secondly, in cases where these frameworks survive clause boundaries, the manner in which they do so is quite different. Individual frameworks always survive in the syntax: after its first appearance, an individual framework requires a syntactic realization, such as a subject pronoun or a gap (as in [10]) to be ‘continued’ over following clauses and sentences. Circumstantial and situational frameworks, by contrast, after their first appearance may leave no trace in the syntax and to that extent are more purely discourse entities. However, unlike Halliday’s original ‘theme’ formulation and Fries’s development thereof, Downing’s ‘framework’ theory recognizes the supra-sentential scope of some adverbials.

To summarize this discussion of the role of initial adverbials within ‘theme’ theory, the existence of adverbials that have scope over discourse spans larger than the sentence poses problems for the orthodox Hallidayan view that the first topical element of each clause has a common function (‘theme’) and would seem to require that Fries’s (1981) original account of the discourse function of ‘theme’ be revised. Indeed, Fries suggests in a later paper as a further hypothesis to explore that ‘as one moves from one element of structure within a text to the next, that move will be signaled in the Themes of the clauses and clause complexes’ (1995a: 338).

Another issue I would now like to address explicitly also stems from the larger issue of how syntactic and discoursal constituency map onto
each other. Some of the literature discussed here has dealt only with ACs, and some with all types of adverbial. This raises a question: is the ordering variation demonstrated in the sentences in (1)–(3) actually one phenomenon, or are these two or more independent phenomena? Although most grammarians assume that ACs are a subclass of adverbials, this assumption is contested by Matthiessen and Thompson (1989): they reject the term ‘adverbial clause’, arguing that because ACs have scope over clause combinations rather than clauses, they cannot be considered as clause constituents like other adverbials. They instead prefer the term ‘enhancing hypotactic clause’ as more accurately depicting a head-dependent relation rather than a whole-part relation. In general, they consider enhancing hypotactic clauses as a grammaticalization of head-dependent discourse relations such as Circumstance in RST. What this argument appears to overlook is that all adverbials have potential scope over discourse units larger than single clauses. Matthiessen and Thompson (1989: 280) offer the following example of a clause combining with a clause combination:

(11) While Ed was coming downstairs, Mary slipped out the front door, went around the house, and came in the back door.

They argue of the initial clause ‘it is quite clear that there is no single clause it could be an embedded constituent part of’. Clearly, however, the same could be said of similarly placed nonclausal adverbials, for example:

(12) In the next two minutes/Back at home/On tiptoes, Mary slipped out the front door, went around the house, and came in the back door.

There seem to be two possible ways of analyzing an initial adverbial here: (a) as a constituent part of the three different co-ordinate clauses or (b) as a constituent part of a single larger discourse unit comprising all three clauses. Whichever analysis is adopted could also be adopted in the case of (11). In terms of RST, the initial elements in both (11) and (12) appear to be serving the Satellite role in a Circumstance relation. This problem of both constituency and nomenclature is also raised by Breul (1998) who argues that ACs are of two kinds, those that are indeed clause constituents and those that are constituents of a larger ‘textual unit’. I will return to this lack of fit between syntactic constituency and discourse dependency and the dual nature of adverbials later. For now, the point I would like to make is that although Matthiessen and Thompson raise a valid point about the misleading nature of the label ‘adverbial’ (which applies equally to ‘adjunct’), they do not, in my opinion, provide a functional
basis for distinguishing ‘clauses serving as adverbials’ from the larger class of adverbials.

Other possible evidence for the view that the variations in sentences (1)–(3) are three examples of a single phenomenon is an apparent similarity in the relation between degree of markedness in initial-ordering of a particular AC and the semantic category of that AC. Diezsel (2001) posits an ordering hierarchy across languages regarding frequency of the marked order, based on the semantic category of the clause (from least to most marked initial ACs: conditional, temporal, causal, result/purpose, respectively). I would like to suggest that this variation in AC positioning may be part of a more general pattern evident in adverbial positioning. Biber et al. (1999) note that although final position is overwhelmingly the most common position for all nonclausal adverbials, adverbials of time and contingency had the highest percentage of initial occurrences, 20% and 15% respectively, among various semantic categories. Their ‘contingency’ category, unhelpfully for our purpose, conflates cause, reason, purpose, concession, condition, and result. However, it is noteworthy that the rate of pre-posing for time adverbials (20%) is comparable to the rate of pre-posing for ACs of time (25% for written registers) (Biber et al. 1999: 802, 834). Biber et al. also note that ‘Initial time adverbials typically are used to set up a new time setting for the subsequent discourse’ (1999: 804).

For the purposes of this article, then, I shall treat as reasonable working assumptions (a) that adverbial clauses are indeed a subset of adverbials and (b) that initial positioning has a similar discourse function for the entire class of adverbials.

3. Method

Forming part of a larger research project into Hallidayan ‘theme’ in a corpus of argumentative written texts (Crompton 2003, 2004), the present study investigates evidence for Meaning 1. I hoped that the argumentative texts in my corpus would provide a useful supplement to previous data studied (written narrative, Lowe 1987; conversation, Downing 1991; Ford 1993). The data consists of 40 texts of about 500 words each; further details are summarized in Table 1. The texts come from two sources. The first was taken from essays forming part of the LOCNES corpus, written by students from Indiana University at Indianapolis taking an English composition course.2 The essays were produced in response to prompts requiring students to argue a case for or against statements such as ‘Crime does not pay’. The second was a collection of UK broadsheet newspaper editorials from January 2000. These two groups of texts are
similar to student essays in some important respects, namely text size, content, style, and purpose: I reckoned these to be about 500 words, non-technical, formal, and persuasive, respectively.

In particular, I wanted to test the claim (a) that initial or pre-posed adverbials have supra-sentential discourse scope and the implicit corollary claim, (b) that noninitial or post-posed adverbials do not have supra-sentential discourse scope. I decided to treat (a) and (b) as claims because they are not self-evident. To illustrate this contention, consider the following mini-texts (an adaptation of one of Halliday’s (1994: 346) examples of grammatical metaphor).

(13) [i] On the fifth day they were at the summit. [ii] They took photographs.

(14) [i] They reached the summit on the fifth day. [ii] They took photographs.

(15) [i] The fifth day found them at the summit. [ii] They took photographs.

(16) [i] The summit was reached on the fifth day. [ii] They took photographs.

All of the [i] sentences would seem to establish the fifth day and the summit as the temporal and spatial settings of the [ii] sentences. The fifth day, for example, seems to be the temporal setting for They took photographs regardless of its position (initial/thematic in texts [13] and [15], final/rhematic in texts [14] and [16]). These texts are of course invented. However, the current research is intended to test whether finally positioned adverbials with discourse scope occur in naturally occurring data. In particular, then, the current study attempts to answer the following research questions:

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<td>editorials (broadsheet newspapers)</td>
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RQ1. To what extent are initial adverbials supra-sentential in scope?
RQ2. To what extent are noninitial adverbials supra-sentential in scope?

To investigate these questions formally, one needs to have some means of measuring scope, or semantic domain. How do Hearers recognize the end of a discourse span established by a particular framework? This raises the issue of cancellation. Matthiessen (1992: 60) cites Fries (1981) and Thompson (1985) in support of the following claim:

if it appears in a rhetorically dominant clause (complex), a given thematic element of a clause or thematic clause of a clause complex is likely to extend its semantic domain beyond the grammatical unit it occurs in until it is ‘CANCELLED’.

What is the mechanism of cancellation? Neither Lowe (1987) nor Downing (1991) addresses this issue specifically. If one holds the view that discourse frameworks are only established by sentence-initial elements, it would be consistent to expect that frameworks could only be cancelled by other sentence-initial elements establishing new frameworks. Fries (1995b) indirectly argues that this is indeed the case. He formulates an overarching principle:

The Theme of a clause complex provides a framework within which the Rheme of the clause complex can be interpreted. (Fries 1995b: 58)

As more detailed, operational descriptions of this general principle, which are intended to be generative, as part of an automatic text production suite for computers, he proposes two subprinciples that relate to the issue of limiting scope by cancellation:

Principle 2. Cancel an assumption which has been established in a previous context
Principle 3. Prevent temporal or locational misinterpretation

An example of Principle 2 would be the fronting of the temporal adverbial in sentence [ii] of the following excerpt from one of Fries’s (1981) example texts, required to cancel the setting of ‘World War I’ established by the subject NP of [i]:

(17) [i] American soldiers who fought in World War I were taken overseas in transports and landed on docks or in protected harbors; [ii] In World War II the art of amphibious warfare had to be revived and developed, since assault troops were forced to fight their way ashore.

As an example of Principle 3, Fries (1995b: 61) provides the following text:

(18) [i] Jim attended the University of Michigan, in his native state, [ii] and received a Master’s in English from Syracuse University. [iii] While there he began working as music director at WONOFM.
Fries argues that without the marked Theme of [iii], Hearers would assume that the iconic relation between order of events and order of narration established by [i] and [ii] was being preserved and that therefore [iii] occurred after [ii]. Fries argues that Principle 3 leads to the ‘well-known phenomenon that each new incident in a story begins with a Theme which indicates the new temporal or locational setting or introduces new characters’ (Fries 1995b: 61). The literature on cancellation of discourse scope gives rise, then, to the following additional research questions:

**RQ3.** How is cancellation of the semantic domain of supra-sentential adverbials accomplished?

**RQ4.** Is such cancellation more likely to be initial (thematic in Halliday terms) or noninitial?

In this paper, the three kinds of adverbial earlier illustrated by sentences (1)–(3) are considered:

- **Adverbials of location:** (a) PPs headed by the prepositions in, at, by, ago, then, now, here, during, and after; (b) clauses headed by when—following Halliday (1994: 151), ‘location’ is taken to encompass spatial and temporal location
- **Purpose clauses:** nonfinite clauses headed by to or in order to
- **Conditional clauses:** finite clauses headed by if.

It is assumed that these three kinds of adverbial, varying considerably in meaning and form, are to some extent representative of adverbials as a class.

In the first stage of the analysis, all sentences containing instances of the search words listed above were identified. This set was then reduced to the sets of those that fulfilled the other formal and semantic criteria: sentences with ‘in a hurry’, and ‘if possible’, for example, were discarded. Adverbials syntactically subordinated below the level of independent clause do not have scope over the whole clause and thus do not have the potential to apply to whole sentences or discourse spans. In the next stage, such embedded adverbials were weeded out. Here is an example:

(19) (E16)

For Mr Mandelson to usurp that role, in order to throw a bone to the Unionists in advance of their decision on whether to remain in the executive, is outrageous.

Having identified the set of tokens, a measurement of the discourse span of each token was made. However, for each adverbial type, before attempting to answer RQs 1 and 2, RQ3 has to be answered.
3.1. Adverbial of location

3.1.1. Identifying cancellation. To identify canceling mechanisms for adverbials of location, I followed the procedure of assuming that the setting established by a particular adverbial applied to the sentence that followed, as in the fifth day at the summit mini-texts above, until such an interpretation became impossible. When the interpretation became impossible, I tried, by deleting or adapting words or phrases, to pinpoint which effected the apparent cancellation. In order to answer RQs 1 and 2, I made this assumption of all the tokens, both initial and noninitial. What follows is a listing with examples of the various cancellation options noted in the data (adverbial token underlined, canceling mechanism in italics).

a. Change of verb tense

(20) (A8)

[i] In the 1920s in American [sic], it became very popular to disdain people who did not actually work for a living, but merely lived off the interest of their investments. [ii] The stock market was experiencing a boom, and several formerly working-class citizens became wealthy and relished the idea of retiring early. [iii] But several great authors of that period questioned the right of these investors to effectively live as parasites; [iv] they received money, but they contributed nearly nothing to society.

[new para] [v] People who inherit money or live off the interest of investors often seem to spend their time in search of a new thrill, some sort of excitement that money cannot buy.

That cancellation is effected by verb tense can be shown by gauging the effect of altering seem in sentence [v] to seemed: if the verb were past tense, the default assumption would be that the text is still concerned, as shown by the past tense verbs in sentences [ii], [iii], and [iv], with the state of affairs in the 1920s in America. In [v], however, the present tense of the verb seem effectively cancels the scope of the adverbial.

b. Another adverbial of location

(21) (A5)

[i] The love of whatever represents the financial exchange between parties wreaks havoc in a nation, a family and even an individual life. [ii] Not the money itself but rather the love of it persuades men’s hearts, captivates their minds and influences their priorities
and their behavior. [iii] The hoarding of wealth for personal benefit or security when pushed to an extreme is the root of all evil. [iv] It produces selfishness in even the smallest child.

Here, the multiple adverbial of location in [i] seems to persist until replaced by the semantically narrower adverbial in [iv].

c. Another class of adverbial

(22)   [i] In the Big Top the disbeliefs of the crowd, like the bodies of the acrobats, are suspended in the bigger interest of having a good time. [ii] If asked the direct question, we watchers would say that there are certainly greater shows on earth, probably greater shows in the next village. [iii] But we are not asked and we do not want to be asked. [iv] We pay and we lose temporary touch with reality and we go away happy. [v] So if Tony Blair’s Millennium Experience is not the greatest show on the planet, not even much of a show at all, that is something that a part of each one of us would rather not know.

Here, the linking adverbial So and the new topic Tony Blair’s Millennium Experience cancel the span of In the Big Top.

d. An encapsulation of the text segment over which the adverbial has scope

(23) (E17)   
[i] In an interview last week with Le Monde, Jacques Delors, president of the European Commission from 1985 to 1995, deplored the plans for enlargement as the dilution of a political project into a ‘great single market’. [ii] All that sounds good news to those who would halt, even reverse, the process of deepening.

Here the subject of [ii] encapsulates (Sinclair 1993) the discourse segment over which the initial adverbial In an interview last week with Le Monde has scope, and in doing so cancels that scope.

e. Other methods

In the remainder of the tokens identified, cancellation was effected by other methods. These included lexical means, for example:

(24) [i] Mr Yeltsin captivated the world in 1991, when he stood on a tank to thunder to the leaders of the August coup that, while they might build a throne by force, ‘you cannot sit on bayonets for long’. [ii] And he continued, however unsteadily, ultimately to stand by democratic norms.
Here, the meaning of continued is indefinite in extent and might be limited to the setting of in 1991. The adverbial ultimately, however, indicates a new temporal setting, something like from August 1991 until the end of his political career (the text from which this is extracted is a kind of political obituary).

In the following case, the cancellation is effected by reference to an earlier discourse topic:

(25) [i] A controversy exists now in Indiana about the placement of juvenile offenders or CHINS (Children in Need of Services) outside the state. [ii] For some, the controversy [about X] is an ethical issue about the appropriate care; [iii] Placing a child in detention outside Indiana may cost several thousand dollars a year. [iv] The cost cutters argue that this money should stay in Indiana. [v] Some of them go on to argue for a local detention center, which, after [sic], not only saves money on placement, but also generates local jobs and stimulates the economy. [new para] [vi] Given the evidence that crime does, in fact, at least sometimes pay off, I think the phrase is better considered as wishful thinking than as a truism.

Here the settings of both now and Indiana survive until sentence [v]. This extract is taken from the end of an essay discussing the phrase ‘Crime doesn’t pay’. The initial element of sentence [vi] encapsulates the whole of the previous discourse and thus indirectly cancels the particular settings of the most recent topic, restoring the settings of the phrase under discussion ‘Crime doesn’t pay’, which are presumably by default unrestricted or universal—anywhere (spatial) and ever (temporal).

f. No cancellation

In the case of adverbials of location, it seems clear that scope does indeed endure until cancelled. In some cases there appears to be no cancellation and the scope of the adverbial apparently survives to the end of the text. Here are some examples:

(26) (A1)
You must work hard and be very patient before you can succeed in this country.

(27) (E6)
It is crunch time again in Northern Ireland.

These occur in the introductory sections of the texts from which they are taken, and there is no evidence to suggest that the remainder of either text wanders from the settings (spatial in these cases) so established. The A1
essay remains about whether crime pays in this country (the United States), and the E6 editorial is entirely about the political situation in Northern Ireland. Overall, it seems to be the case that once a setting has been established, it does not wither or decay but survives for as long as it remains uncancelled.

3.1.2. Findings. For each token it was noted whether the adverbial had scope over more than one sentence, and if so, the length of the span over which the adverbial had scope. Table 2 presents the findings for adverbials of location instantiated by PPs. As shown in Table 2a, initial positioning for adverbial PPs is the less frequent option in these expository texts in a ratio of approximately 1 to 2 (37 out of the 97 tokens). Compared with the global figures given in Biber et al. (1999) cited earlier suggesting a ratio of 1 to 4, this may suggest that initial positioning is distinctively associated with the register of argumentative prose. In any case, in this data, initial adverbials do not appear to be more likely than non-initial adverbials to have supra-sentential scope: for both initial and non-initial adverbials, a little over half the total had such scope.

To find out whether it was the case that initial adverbials had scope over larger spans than noninitial adverbials, the mean length of span was calculated and is shown in Table 2b. If anything, spans set up by non-initial adverbials appear to be longer than those set up by initial adverbials. It might be argued that uncanceled spans are atypical and should be left out of the reckoning. Doing this brings down the mean span figures considerably but again does not show a markedly greater span length for initial adverbials.

Table 3 shows comparable figures for adverbials of location instantiated by when-clauses. When-clauses appear in initial position more frequently than do adverbial PPs (11 out of 27 tokens). When-clauses appear more likely to have supra-sentential scope than not, by a ratio of 2 to 1,
but this applies to initial and noninitial instances almost indifferently. There were no instances of uncancelled *when*-clauses in the data. As with adverbial PPs, the mean length of span of the noninitial tokens was slightly larger than that of initial tokens.

For each token it was noted whether the scope appeared to be cancelled initially or noninitially (in the theme or rheme) of the sentence that effected the cancellation. Often there was more than one cancellation mechanism. For the purposes of this research, I noted where the first mechanism was located. Table 4 shows the results. Overall, there do not appear to be major differences between the means or place of cancellation of scope of adverbial PPs according to position. If cancelled, both initial and noninitial adverbials are more of the time cancelled initially than noninitially in a ratio approaching 2 to 1.

Table 5 shows the same information for *when*-clause adverbials. Again, the position of the original adverbial seems to make no difference to the likelihood of cancellation taking place initially or noninitially. Cancellation is, however, more likely to occur initially for ACs, in a ratio of about

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Table 3. The discourse span of initial and noninitial *when*-clauses

<table>
<thead>
<tr>
<th></th>
<th>Initial</th>
<th>Noninitial</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
<td>N (%)</td>
</tr>
<tr>
<td>(a) Tokens</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With span of 1 sentence</td>
<td>7 (64)</td>
<td>11 (69)</td>
<td>18 (67)</td>
</tr>
<tr>
<td>With span of &gt;1 sentence</td>
<td>4 (36)</td>
<td>5 (31)</td>
<td>9 (33)</td>
</tr>
<tr>
<td>Total</td>
<td>11 (100)</td>
<td>16 (100)</td>
<td>27 (100)</td>
</tr>
<tr>
<td>(b) Mean length of span (sentences)</td>
<td>1.55</td>
<td>1.69</td>
<td>1.63</td>
</tr>
</tbody>
</table>

Table 4. Place and method of cancellation of the scope of initial and noninitial adverbial PPs

<table>
<thead>
<tr>
<th></th>
<th>Initial</th>
<th>Noninitial</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
<td>N (%)</td>
</tr>
<tr>
<td>(a) Place of cancellation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial</td>
<td>20 (54)</td>
<td>30 (50)</td>
<td>50 (52)</td>
</tr>
<tr>
<td>Noninitial</td>
<td>17 (30)</td>
<td>17 (28)</td>
<td>28 (29)</td>
</tr>
<tr>
<td>None (not cancelled)</td>
<td>6 (16)</td>
<td>13 (22)</td>
<td>19 (20)</td>
</tr>
<tr>
<td>Total</td>
<td>37 (100)</td>
<td>60 (100)</td>
<td>97 (100)</td>
</tr>
<tr>
<td>(b) How cancelled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other adj. of location</td>
<td>7</td>
<td>16</td>
<td>23</td>
</tr>
<tr>
<td>Tense</td>
<td>6</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>Other class of adverbial</td>
<td>8</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>Encapsulation</td>
<td>5</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>12</td>
<td>17</td>
</tr>
</tbody>
</table>
3 to 1, than for PPs. There is also greater variation in means of cancellation, with another adverbial of location being the most likely option for initial adverbials and other means for noninitial adverbials.

3.1.3. Discussion. Overall, it seems that sentence-initial adverbs are not particularly associated with a broader discourse span for the adverbial. This finding appears to contradict Downing’s (1991: 133) assertion that ‘When time elements are placed in final position, they do not set up a span at all’. However, even the example Downing provides to support her claim in fact can be seen to suggest the opposite:

(28) [i] The extension of Roman power began in the fifth century BC. [ii] Until that time they had waged war and generally unsuccessfully, with the Etruscans.

It can be seen that were it not for the cancellation effected by the adverbial Until that time and by the tense change had waged in sentence [ii], the span of in the fifth century BC would extend to sentence [ii], as for example in the following modification:

(29) [i] The extension of Roman power began in the fifth century BC. [ii] They waged war with the Etruscans.

Observation of the fact that sentence-final adverbials are often cancelled seems to have led Downing to the wrong conclusion that sentence-final positioning itself effects cancellation. What has been overlooked are the following facts: (a) sentence-initial adverbials are also often cancelled immediately (e.g., Text Extract [23]); (b) not all sentence-final adverbials are cancelled immediately (e.g., Text Extract [26]).

### Table 5. Place and method of cancellation of the scope of initial and noninitial when-clauses

<table>
<thead>
<tr>
<th></th>
<th>Initial n (%)</th>
<th>Noninitial n (%)</th>
<th>All N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Place of cancellation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial</td>
<td>8 (73)</td>
<td>12 (75)</td>
<td>20 (74)</td>
</tr>
<tr>
<td>Noninitial</td>
<td>3 (27)</td>
<td>4 (25)</td>
<td>7 (26)</td>
</tr>
<tr>
<td>None (not cancelled)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>(b) How cancelled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not cancelled</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Another adverbial of location</td>
<td>8</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Encapsulation</td>
<td>1</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Adverbial of another class</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>
In Downing’s discussion of spatial frameworks, it can be seen that she has followed Halliday (1985) in assuming that Theme position has a particular textual significance rather than demonstrating it:

Spatials in clause-final position do not set up a span, and just as with temporals, the reason is that first position has been occupied by the topic:

(23) It probably varied widely in different places and at different periods.
(Downing 1991: 134)

The argument here that clause-final adverbials do not set up a span because they are not clause-initial is circular. A new participant or topic may, as we have seen, cancel an existing setting, e.g., a subject such as American soldiers who fought in World War II, but this is by no means always the case: Downing herself notes that ‘topic continuity does not appear to preclude the setting up of new circumstantial frameworks’ (1991: 134). However, in the sentence she cites above, there is no reason for arguing that the continuous topic It somehow prevents the new circumstances in different places and at different times from potentially applying to subsequent discourse. The issue of whether the circumstances expounded by the adverbials in the above sentence set up a span that survives this sentence could only be determined by looking at the subsequent discourse context, not by deciding whether the sentence topic is new or old.

Essentially, statements such as ‘temporal and spatial adverbials in clause-final position do not set up a span’ must be interpreted as generalizations based on empirical observations. As the data above show, this particular observation is not supported in the current data.

3.2. If-clauses

As with the other adverbials surveyed in this paper, there were many if-clauses that were subordinated to an element within the text sentence. I analyzed only those clauses that could conceivably apply to the whole sentence.

3.2.1. Identifying cancellation. With if-clauses, the issue of determining the length of the discourse scope is generally much simpler than with adverbials of location. The extension of the scope of a conditional clause beyond the sentence in which it originally appears may be judged from the modality, tense, and aspect of the main verb. Generally, this process occurs immediately and is not therefore immediately obvious. However, the following span demonstrates clearly how cancellation is not automatic:
(30)  (A14)

[i] If the individual is incarcerated whether for one hour or for a lifetime money will be lost on the cost of incarceration.  [ii] This money may not come from the perpetrator of the crime but it will come from the individual’s family, friends and acquaintances in the form of tax dollars.  [iii] As the number of criminals increases so will the tax money needed to house these individuals.  [iv] The moral aspect of crime for the criminal is also something to take into account.

It can be seen that the modal verbs may, will, and will in [ii] and [iii] parallel the modal will in the main clause of [i] and in so doing sustain the condition stated in the if-clause in sentence [i]. By contrast, the nonmodality of the verb is in [iv] cancels the condition. Notice that change of subject, from money [ii] to number of criminals [iii], does not effect a cancellation. Nor does the next subject change to moral aspect of the crime [iv] itself effect a cancellation. A modified version of [iv] illustrates this:

[iva] The moral aspect of crime will also be something to take into account.

Here, the continuity of tense and modality serve to sustain the earlier condition so that the contextual meaning of this sentence would be:

[ivb] If the individual is incarcerated, the moral aspect of crime will be something to take into account.

In fact, it is the absence of a modal verb in the original that signals that the situational framework has been left behind: the linking adverbial also additionally serves to bring out the writer’s intention to leave the setting of a possible world, one in which all criminals are incarcerated, and return to the more universal setting of the discourse topic (‘Crime doesn’t pay.’).

3.2.2. Findings. Table 6 shows the relation between the scope and position of if-clauses. It can be seen that AC-MC is the unmarked order for

<table>
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<th>Initial n (%)</th>
<th>Noninitial n (%)</th>
<th>All N (%)</th>
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<tbody>
<tr>
<td>(a) Tokens</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With span of 1 sentence</td>
<td>45 (94)</td>
<td>20 (100)</td>
<td>66 (96)</td>
</tr>
<tr>
<td>With span of &gt;1 sentence</td>
<td>3 (6)</td>
<td>0 (0)</td>
<td>3 (4)</td>
</tr>
<tr>
<td>Total</td>
<td>49 (100)</td>
<td>20 (100)</td>
<td>69 (100)</td>
</tr>
<tr>
<td>(b) Mean length of span (sentences)</td>
<td>1.1</td>
<td>1</td>
<td>1.1</td>
</tr>
</tbody>
</table>
if-clauses by a ratio of 5 to 2. Very few in fact set up a discourse span of more than a sentence; most are immediately cancelled whether appearing initially or noninitially.

In addition to cancellation in the verb phrase, it is noticeable that in many cases cancellation of the scope of the if-condition is initiated before the verb and in a similar way to that described for adverbials of location. In particular, linking adverbials and various kinds of encapsulating label seem to be associated with the cancellation of the condition, as demonstrated in the following examples:

(31) (A17)
[i] If women can tell everyone that females should be the dominant gender and all men should adhere to their wishes and call it feminism then they are home free. [ii] Consequently, the feminist movement has become a shelter for the radical women to get angry under, to shout from and to feel safe within.

(32) (E4)
[i] if he is, then this key plank of Labour’s decentralisation programme will be seen as a sham. [ii] That is the risk of the Dobson candidacy.

(33) (E13)
[i] if he had been allowed to keep the circus whip for longer, he might just have persuaded more people for more time that the show was the greatest; [ii] but reality of a different sort drove him far away out of town.

Linking adverbials and encapsulating labels seem to be a particularly common method of cancellation for if-clauses. In some cases, it appears that the prospective quality of the if-clause is actually cancelled within the same sentence as the if-clause. Here are some examples:

(34) (A20)
So if one wants to eat, have some where to sleep, have transportation and clothing, the almighty dollar is a must.

(35) (A17)
If society should learn anything from the turn of events, it is this:

I have put in italics the elements that appear to cancel prospection: in (34) a linking adverbial that signals that this sentence is a conclusion and not a premise, and (35) a pronoun that encapsulates the meaning of the clause (encapsulation serves to cancel prospection according to Sinclair 1993).
Another common means of cancellation is a new adverbial that replaces the setting established by the *if*-clause. In the following example, a new *if*-clause cancels the scope of its predecessor:

(36) (A13)

[i] If they are too forward, they will be slapped with ‘date rape’ or ‘sexual harassment’. [ii] *If they offer to pay for dinner*, they are told ‘no thanks, Dutch treat’.

Another means of early cancellation is change of syntactic type. Thus, the scope of an *if*-clause that conditions an interrogative appears to be cancelled if the next sentence is a declarative:

(37) (A6)

[i] If, however, crime does not pay, then why does it persist? [ii] Behavior that is not reinforced in some way will not persist.

If [ii] were an interrogative, by contrast, and the verb preserved the tense and modality of the original main clause, the scope of the *if*-clause would survive:

(38) [i] *If, however, crime does not pay*, then why does it persist? [ii] Why are more jails having to be built?

For each token I recorded whether the sentence in which the span was cancelled contained any of the canceling devices discussed in this and the previous section in addition to that of verb modality, aspect, and tense (which, like the verb, was nearly always noninitial). Table 7 shows the

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<th>Initial n (%)</th>
<th>Noninitial n (%)</th>
<th>All N (%)</th>
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<tbody>
<tr>
<td>(a) Place of cancellation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial</td>
<td>24 (49)</td>
<td>11 (55)</td>
<td>35 (51)</td>
</tr>
<tr>
<td>Noninitial</td>
<td>24 (49)</td>
<td>8 (40)</td>
<td>32 (46)</td>
</tr>
<tr>
<td>None (not cancelled)</td>
<td>1 (2)</td>
<td>1 (2)</td>
<td>2 (3)</td>
</tr>
<tr>
<td>Total</td>
<td>49 (100)</td>
<td>20 (100)</td>
<td>69 (100)</td>
</tr>
<tr>
<td>(b) How cancelled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not cancelled (text-final)</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Linking adverbial</td>
<td>9</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>Tense/aspect/modality</td>
<td>15</td>
<td>6</td>
<td>21</td>
</tr>
<tr>
<td>Another adverbial</td>
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<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Encapsulation</td>
<td>7</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Other</td>
<td>10</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>49</td>
<td>20</td>
<td>69</td>
</tr>
</tbody>
</table>
results of my analysis of the place and method of cancellation of the scope of if-clauses in the data. These figures suggest that sentence-final if-clauses are marginally more likely to be cancelled initially. However, as in the case of adverbiaal PPs, there does not appear to be much variation between the method of cancellation for initial and noninitial tokens.

3.2.3. Discussion. The overwhelming majority (96%) of if-clauses did not establish a supra-sentential discourse span. Overall, the data suggests that the unmarked position for if-clauses that have scope over entire text sentences is initial position. The latter finding agrees with those of Lowe (1987: 22), who reports that he found only one instance in his corpus (a historical narrative) of a sentence-final if-clause and this in his view did not perform the textual function of defining ‘a possible world’, a function that he attributes to sentence-initial if-clauses. Downing explicitly argues:

It is obvious that, with a sentence-final if-conditional clause, no span would be set up and the point of departure would be different, probably set up by the main participant. (1991: 139)

However, the ‘obviousness’ of this claim appears predicated on the belief that the main participant or topic of the sentence establishes a new framework. As in the case of locational adverbials discussed in the previous section, Downing has overlooked that there may not be new frameworks (a new participant or new circumstantial framework). I would contend that (a) in such cases old circumstances persist and that (b) even in cases where a circumstance is cancelled, the curtailment of the span of the if-clause is not effected by its sentence-final placement but by the canceling device in the following sentence. To support these contentions, consider the following (confected) mini-texts:

(39) [i] If I were you, I’d buy a dog. [ii] I’d bolt the door as well.
(40) [i] I’d buy a dog if I were you. [ii] I’d bolt the door as well.
(41) [i] I’d buy a dog if I were you. [ii] But it’s your choice.

Presumably all would agree that the initial AC in (39) of If I were you in [i] extends to [ii]. It does not appear obvious—to this analyst at any rate—that sentence-final placement of the if-clause in (40) [i] prevents its span similarly extending to [ii]. In (41), by contrast, cancellation does occur in [ii] but as effected by the linking adverbial But and the encapsulating pronoun it—not as a function of the position of the if-clause in [i].

Lowe’s and Downing’s data were both historical narratives: Lowe identified 14 if-clauses in 2200 sentences compared with the 69 instances of sentence-level if-clauses in the 1100+ sentences in my data. This disparity
suggests that if-clauses are commoner in expository than in narrative prose, which seems intuitively likely. It would also seem that noninitial if-clauses themselves are not as marked in expository text as in narrative text. However, the two kinds of discourse appear similar in that neither of Lowe’s noninitial tokens appeared to him to establish a span and nor do any of mine. Although the overall number of tokens that establish a span (three out of 69) is too small a basis to conclude that noninitial clauses never establish a span, there appears to be a prima facie case for the view that although they could be so used, noninitial if-clauses are not used to establish settings broader than the clause.

3.3. Purpose clauses

Thompson (1985) suggests that while ‘initial purpose clauses operate simultaneously at the ideational and textual levels’, final clauses serve only at the ideational level. In particular she argues that initial clauses name a problem and final purpose clauses name only the motivation for a particular action. She found in her research corpus that no final purpose clause had ‘more than a single clause in its scope’.

3.3.1. Identifying cancellation. Measuring the scope of purpose clauses is not as clear-cut as for locational adverbials and if-clauses. Semantically, space and time are general circumstances that appear to be sustained over clause/sentence boundaries unless cancelled, nearly always in the verb phrase for temporal settings but in other clause elements for spatial settings. The hypothetical circumstance established by an if-clause can be sustained over clause/sentence boundaries by modality in the verb phrase. A purpose clause can be a similar kind of hypothetical circumstances, similarly sustained by verb modality. I did not find any examples in my data, but here is one from the British National Corpus:

(42) (British National Corpus 2000: C9U)

So in order to have a reasonable chance of seeing an explosion before your research grant ran out, you would have to find a way to detect any explosions within a distance of about one light-year. You would still have the problem of needing a large gamma ray detector to observe several gamma ray quanta from the explosion.

Another similar means of sustaining scope is the repeated use of an imperative verb. Thompson found particularly long sentential spans under the scope of initial purpose clauses in procedural texts:
To true a blade, hold the steel firmly in the left hand, thumb on top of the blade. Hold the hand slightly away from the body. Hold the knife in the right hand . . .

I found no examples of either of this kind of scoping in my data. A variety of mechanisms served to cancel the scope of purpose clauses. The commonest of these was a new subject, introducing a new participant, for example:

(44) (3A15)

[i] To me, an unorganized criminal must be very good and have considered all aspects of what they are doing in order not to get caught. [ii] The types of crimes these individuals commit are things like: robbery, assault, rape, and theft.

New adverbials cancel previous adverbials, for example:

(45) [i] In order to live you had to build. [ii] In order to feed your family you had to plant.

In some cases the subject may plausibly retain the purpose of the earlier clause but the verb may be incompatible with such a purpose:

(46) [i] Both men need an early triumph to interrupt the momentum of their better known and, in Governor Bush’s case, far better funded, rival. [ii] Mr Bradley and Senator McCain may both benefit from peculiar features of New Hampshire life.

Here, Bradley and McCain are the subjects of both clauses but the circumstance of the purpose attributed to the predication in [i] cannot plausibly be attributed to the predication in [ii].

Only four of the 24 purpose clauses found in the data had a scope of more than one sentence, and in these cases the scope was different in kind from the scope described for the other types of adverbial. In Thompson’s (1985: 73) terms, these clauses are nonliteral in that they ‘do not, in any literal sense, provide a possible motivation for a main clause action’. In each case, the purpose clause expounds a textual prospection and invokes a hypothetical reader-judge (one) to whom the purpose can be attributed.

(47) [i] In order to determine whether or not crime pays, one should first define what is meant by the word ‘pays’. [ii] If a person gains $100 in a jewelry store theft, yet uses ten dollars worth of gas to get away, cuts his hand on a broken window and pays $50 in medical bills, and spends another $50 for a hideout hotel room, then his crime has actually left him ten dollars in the hole . . .
This sentence is the first in the text, and its initial adverbial provides a framework for the whole of the subsequent discourse, which is a discussion of the saying ‘Crime doesn’t pay’. However, unlike the locational and conditional settings established by the other adverbials considered here, this circumstance cannot felicitously be added to subsequent sentences.

The purpose clause in Extract (48) makes a smaller prospection. It labels in advance (Tadros 1994) the questions asked in [ii] and [iii] as problems.

(48)    [i] One has only to consider what form a remarriage service might take to see the problems it could involve. [ii] Would such a ceremony still talk of ‘till death us do part’? [iii] Would it even be able to ask anyone who knew of any just impediment to state it, when the Church’s own doctrine (not to mention the possible appearance of an ex-spouse) would be exactly that?

In the next example, the purpose clause is literal, but also prospectively labels (Tadros 1994) the next five sentences, the conclusion of the essay, as a point.

(49)    (A11)    [i] I told this story to make a point. [ii] Now, if these two guys had just robbed the convenient store and got caught [. . .] [v] Something that was supposed to be so simple ended up to be a big mess.

Although they are not sentence-initial, the purpose clauses in Extracts (48) and (49) seem to me to be similar in kind to the initial clause in Extract (47); they are counterevidence to Thompson’s (1985) claim that final purpose clauses only explain the motivation for a particular action and are purely ideational and not textual.

3.3.2. Findings and discussion. The data in Table 8 show that purpose clauses are usually final, but do not support the view that initial clauses are more likely to have supra-sentential scope.

Table 8. The discourse span of initial and noninitial purpose clauses

<table>
<thead>
<tr>
<th></th>
<th>Initial n (%)</th>
<th>Noninitial n (%)</th>
<th>All N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>With span of 1 sentence</td>
<td>5 (83)</td>
<td>15 (83)</td>
<td>20 (83)</td>
</tr>
<tr>
<td>With span of &gt;1 sentence</td>
<td>1 (17)</td>
<td>3 (17)</td>
<td>4 (17)</td>
</tr>
<tr>
<td>Total</td>
<td>6 (100)</td>
<td>18 (100)</td>
<td>24 (100)</td>
</tr>
</tbody>
</table>
Table 9 shows that whether purpose clauses are placed initially or noninitially, the cancellation of their scope is most likely to take place initially.

These findings appear to be quite different from those of Thompson, possibly reflecting differences in the text-type of the data.

4. Summarizing the findings

I will now address the research questions established earlier, in view of all the data assembled here.

RQ1. To what extent are initial adverbials supra-sentential in scope?
RQ2. To what extent are noninitial adverbials supra-sentential in scope?

Table 10 combines the data for each of the adverbial types considered in this paper.

Overall, it seems that that supra-sentential scope is not unique to initial adverbials. Combining each adverbial-type discussed above into a single set of 217 tokens, of the subset of adverbials found to have supra-sentential scope a little over a third (28 out of 71) were sentence-initial.

How likely is a sentence-initial adverbial to have supra-sentential scope? A little over a quarter (28 out of 103) of all the initial adverbials found here had supra-sentential scope. This compares with a little over a third (43 out of 114) for noninitial adverbials. Overall, then, the initial

Table 10. The discourse span of all initial and noninitial adverbials

<table>
<thead>
<tr>
<th></th>
<th>Initial</th>
<th>Noninitial</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
<td>N (%)</td>
</tr>
<tr>
<td>With span of 1 sentence</td>
<td>75 (73)</td>
<td>71 (62)</td>
<td>146 (68)</td>
</tr>
<tr>
<td>With span of &gt;1 sentence</td>
<td>28 (27)</td>
<td>43 (38)</td>
<td>71 (32)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100)</td>
<td>114 (100)</td>
<td>217 (100)</td>
</tr>
</tbody>
</table>
positioning of an adverbial does not seem to increase its likelihood of having supra-sentential scope.

The data on span length are combined in Table 11. As can be seen, it does not appear to be the case that sentence-initial adverbials have scope over longer spans of discourse than noninitial adverbials.

In view of the emphasis in the literature on the discourse scope of ACs, perhaps the most surprising finding in this research is that nonclausal adverbials seem more likely than ACs to have supra-sentential scope. In fact, unlike ACs, the adverbial PPs considered here were more likely than not to have supra-sentential scope. Clearly, larger samples of adverbials, particularly of ACs, would be useful to clarify the point; however, the data available here are enough to suggest that there is no straightforward connection between initial position and extended discourse scope.

RQ3. How is cancellation of the scope of sentential adverbials accomplished?

There is a similar variety in the forms used to cancel the scope of sentential adverbials across each adverbial-type discussed above. The particular circumstances established by adverbials may be cancelled by other adverbials, subjects that by themselves entail new settings, and the tense, aspect, and modality attached to the verb phrase. Alternatively, they may survive uncanceled to the end of the discourse.

RQ4. Is cancellation more likely to be initial (thematic in Hallidayan terms) or noninitial?

Table 12 combines the data on position and place of cancellation for all of the adverbial types considered in this paper. Of the subset of adverbials found to have supra-sentential scope, only half (35 out of 71) were

Table 11. Mean span length for initial and noninitial adverbials

<table>
<thead>
<tr>
<th></th>
<th>Initial</th>
<th>Noninitial</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean span length (sentences)</td>
<td>2.52</td>
<td>3.75</td>
<td>3.17</td>
</tr>
</tbody>
</table>

Table 12. Place of cancellation of initial and noninitial adverbials with supra-sentential scope

<table>
<thead>
<tr>
<th>Place of cancellation</th>
<th>Initial n (%)</th>
<th>Noninitial n (%)</th>
<th>All N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial</td>
<td>14 (50)</td>
<td>21 (49)</td>
<td>35 (49)</td>
</tr>
<tr>
<td>Noninitial</td>
<td>14 (50)</td>
<td>22 (51)</td>
<td>36 (51)</td>
</tr>
<tr>
<td>Total</td>
<td>28 (100)</td>
<td>43 (100)</td>
<td>71 (100)</td>
</tr>
</tbody>
</table>
cancelled sentence-initially. There were differences between the likelihood of initial cancellation according to adverbial type: adverbial PPs and if-clauses were equally likely to be cancelled initially or noninitially, while when-clauses and to-clauses were more likely to be cancelled initially. Overall, however, whether the adverbial appeared initially or noninitially appeared to have no relation to place of cancellation.

5. Discussion

5.1. Reviewing the ‘framework’ account of initial position

The ‘framework’ account of initial position (Thompson 1985; Lowe 1987; Downing 1991) can be seen as having proposed that whether a particular adverbial has scope over a span broader than its host clause is indicated by position: initial position indicates larger discourse scope, noninitial position indicates clause scope only. Expressed as a principle for discourse processing, the ‘framework’ account would be something like the following:

– If an adverbial appears initially, apply the circumstance expounded by that adverbial to the next clause in the discourse unless cancelled.
– If an adverbial appears noninitially, apply the circumstance expounded by that adverbial only to the host clause. Do not apply the circumstance to the next clause.

This principle does not account for two findings revealed in the current data: (a) many sentence-initial adverbials do not exert supra-sentential scope; (b) some noninitial adverbials exert supra-sentential scope. These findings suggest, I would like to argue, that all adverbials at independent clause level have potential scope over a span broader than their host clause. It seems to be the case that the circumstances expounded by adverbials are discourse entities, which may survive in the discourse beyond the predication to which they originally apply. I would like to suggest, then, a simpler and more cognitively plausible processing principle as follows:

– Wherever (initially or noninitially) and however (adverbially or non-adverbially) a new circumstance is presented, apply the circumstance expounded to the next clause in the discourse unless cancelled.

To turn specifically to the issue of cancellation, Fries (1995b), as we have seen, suggests that assumptions about circumstances ‘established in a previous context’ are likely to be cancelled initially (in theme). The current
findings do not support this suggestion: as we have seen, cancellation of circumstances is only half the time effected sentence-initially. The default mechanism for cancellation appears to be the tense, aspect, or modality of the verb and only rarely are verbs sentence-initial. The findings suggest that in processing new clauses, Hearers are prepared to suspend judgment until the end of the clause about whether circumstances previously specified in the discourse survive: Speakers may cancel circumstances initially but are not obliged to do so.

Logically, if only sentence-initial adverbials established potential suprasentential scope—as Downing (1991) argues—it would follow that only sentence-initial adverbials would require initial cancellation. In practice, as we have seen (Table 12), initial cancellation seems equally likely for initial and noninitial adverbials.

As new circumstances generally cancel old circumstances, Fries’s (1995b) ‘prevent misunderstanding’ principle would also lead us to predict that adverbials expounding new circumstances would usually be placed sentence-initially. However, this is far from being the general case: whether new circumstances appear initially varies considerably according to semantic category.

To summarize, neither the data regarding the establishment of suprasentential scope nor the data regarding cancellation of such scope support the proposition earlier described as Meaning 1, i.e., that the communicative function of initial position for adverbials is to establish suprasentential scope. It may still be the case that initial position has the function described earlier as Meaning 2, i.e., to signal boundaries between discourse units. However, if this is so, it seems from the current data that the size of the discourse units involved is usually no greater than a sentence.

5.2. Implications: Scope and discourse constituency

The existence of suprasentential scope throws light on the issue discussed earlier of the relation between syntactic and discourse constituency. At the syntax level, circumstance adverbials are clause constituents and dependents of a particular verb. At the discourse level, they are, as Matthiessen and Thompson (1989) argue for ‘hypotactic enhancing clauses’, constituents and dependents of discourse units that may be larger than the maximal unit recognized by syntactic analysis (the clause complex or sentence). In exploiting both aspects of this dual nature, circumstance adverbials that exert suprasentential scope resemble the category of linking adverbial. Linking adverbials are called ‘conjuncts’ by Quirk et al. (1985: 632), who gloss their function as showing how the Speaker ‘views the
relation between two linguistic units’. It would seem correct to add that the ‘linguistic units’ in question may be discourse units larger than the sentence, as is recognized in the common term for such adverbials used in composition materials—‘discourse markers’. Items such as Thirdly, In conclusion, and To sum up have scope over the sentence in which they appear, but in addition they have potential scope over larger discourse segments; the marker In conclusion, for example, often applies not just to a sentence, but to an entire paragraph. This potential for supra-sentential scope, which all linking adverbials have, seems analogous to the potential for supra-sentential scope noted earlier for locational adverbials such as *In the 1920s in America* and *in Northern Ireland* (see Examples [20] and [27]). Just as the scope of Thirdly appears to survive until cancelled by another linking adverbial (Fourthly, In conclusion), or by means of another clause constituent such as Another advantage, the locational adverbial *In the 1920s* is likely to survive as a setting until cancelled by one of the mechanisms described earlier.

Like linking adverbials, supra-sentential circumstance adverbials are traditionally analyzed as syntactic constituents of the first clause over which they have scope. In terms of discourse dependency, however, it would seem appropriate to analyze them as dependents of a discourse unit that may vary in size from one clause to many sentences. In this respect they resemble textual apparatus such as descriptive headings (e.g., Method, Conclusion).

5.3. Implications: An alternative motivation for variation in position

If it is not to establish discourse scope or mark textual boundaries, what discourse function is served by the option of positioning adverbials initially? In this paper I have focused on claims made regarding supra-sentential scope of adverbials exerted prospectively, that is to subsequent discourse. However, much of the literature concerns how adverbials are related retrospectively, to preceding discourse. There seems to be general agreement (Winter 1982; Thompson 1985; Sperber and Wilson 1986; Ramsey 1987; Firbas 1992; Givon 1995) that if the invocation of a particular circumstance involves referring back to previous discourse, there is an apparent preference for doing this initially rather than noninitially. Sperber and Wilson (1986) and Givon (1995) attempt to account for this preference as being based in cognition, in particular a communicative requirement to reduce processing costs. If they are correct, the semantic function of positioning adverbials initially operates at a local, clause level rather than at a higher level within the discourse. Rather than providing an orientation for new discourse segments and thus making explicit
higher-level text structure, positioning an adverbial initially serves to pro-
vide an orientation for a single new clause: in cases where comprehension
of a particular circumstance depends on reference to previous discourse,
the function of pre-posing of the adverbial would be to facilitate the pro-
cessing of the host clause.

To summarize, in this paper I have considered adverbials in terms of
two parameters:

- **Position**: whether the adverbial is placed initially
- **Scope**: whether the scope of the adverbial is likely to survive beyond
  its host sentence boundary and thus, by implication, mark the initial
  boundary of a supra-sentential discourse unit

On the parameter of scope, the current research shows *if-* and *to-*clauses
to behave quite similarly, with very few clauses of either type having
 supra-sentential scope. On the parameter of position, the current research
shows that *if-*clauses and *to-*clauses behave quite differently (usually ini-
tial and noninitial, respectively). This fact suggests that these parameters
should be recognized as independent. The research on relation to previous
context would suggest that it would be worth investigating whether there
is a dependent relationship between position and a third parameter:

- **Reference**: whether the particular circumstance established by the ad-
  verbial makes reference to previous discourse

### 6. Conclusion

In the course of this paper I have put forward evidence for various argu-
ments. Firstly, I have argued (*contra* Matthiessen and Thompson 1989)
that ‘adverbial clause’ is a legitimate subcategory of the class ‘adverbial’
and consequently that the discourse role of the positioning of ACs—
whatever that proves to be—will not be different from the discourse role
of the positioning of adverbials generally. That position has a discourse
role appears to have been recognized in the literature as true of ACs but
not of adverbials generally. Secondly, I have argued that the discourse
property of having supra-sentential scope is not limited to initial adver-
bials. Thirdly, I have argued that although it may be that adverbials are
used to partition discourse and thus signal discourse structure, this func-
tion is not, as has sometimes been claimed, confined to initial adverbials.
Fourthly, I have argued that analysis of circumstance and linking adver-
bials as formal syntactic constituents does not always accurately reflect
their role as semantic discourse constituents.
Notes

1. In the case of spoken texts, intonation can indicate scope. Research into clause-combining has considered subordinate clauses in terms of their ‘integration’ or ‘non-integration’ into the intonation contour of the main clause (e.g., Chafe 1984; Verstraete 2002). However, in the case of the written texts with which this research is mainly concerned, readers are obliged to rely on context.

2. The Louvain Corpus of Native English Speaker texts (LOCNES) was kindly supplied to me by Professor Sylviane Granger, Center for English Corpus Linguistics, Université Catholique de Louvain.

3. The tense of *inherit* in the subject NP might be thought to cancel the scope of *In the 1920s*, but it can be seen that if the main clause predicate were in the past tense its scope would survive, e.g., ‘People who inherit money or live off the interest of investors were portrayed unsympathetically.’

4. Regarding the greater apparent likelihood of the scope of PPs surviving, as one of the anonymous reviewers has suggested, this may be a formal reflection of a functional tendency in discourse behavior: ‘[it] seems reasonable that spatial and temporal location may remain constant for a while in the discourse, while events and states of affair with these spatial and temporal coordinates are discussed’ whereas ‘more specific rhetorical “frameworks” . . . possibly have an inherently more restrictive nature’.

References


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