Abstract

The purpose of this paper is to consider the proper treatment of short- and long-fronted adjuncts within HPSG. In the earlier HPSG analyses, a rigid link between linear order and constituent structure determines the linear position of such adjuncts in the sentence-initial position. This paper argues that there is a body of data which suggests that adjunct fronting does not work as these approaches predict. It is then shown that linearisation-based HPSG can provide a fairly straightforward account of the facts.

1   Introduction

The purpose of this paper is to consider the proper treatment of short- and long-fronted adjuncts within HPSG.[*] The following sentences are typical examples.

(1)   a.   *On Saturday*, will Dana go to Spain?   (Short-fronted adjunct)
       b.   *Yesterday* I believe Kim left.   (Long-fronted adjunct)

In earlier HPSG analyses, a rigid link between linear order and constituent structure determines the linear position of such adverbials in the sentence-initial position. I will argue that there is a body of data which suggests that adjunct fronting does not work as these approaches predict. I will then show that linearisation-based HPSG can provide a fairly straightforward account of the facts.

The organisation of this paper is as follows. In the next section we will provide detailed descriptions of the differences between long and short fronting of adjuncts. In section 3 we will point out some problems of the earlier HPSG analyses of adjunct fronting constructions. Our analysis of adjunct fronting, partly based on Bonami et al.'s treatment of incidentals, will be given in section 4. In section 5, we will see how our approach to fronted adjuncts handles the data observed in earlier sections. Section 6 is the conclusion.

2   The data

In this section, we will see that short-fronted adjuncts should be differentiated from fronted noun phrases and long-fronted adjuncts in important respects.

2.1 Information structure

Short fronted adjuncts can occur in a sentence focus context.

(2) A: What happened?

B: *Five minutes ago*, my car broke down.

A sentence with sentence focus can be an answer to *What happened?* The fact that a sentence with a short-fronted adjunct can be an answer to this question indicates that such an adjunct does not have a topic nor a narrow focus interpretation.

The following data indicates that the fronted noun phrase cannot be part of wide focus.

(3) A: What happened?

B_1: John broke the computer.

B_2: #*The computer*(,) John broke.

B1 has SVO word order: it can carry a sentence focus, as illustrated by the fact that it can be a felicitous answer to *What happened?* B2, with the fronted noun phrase, cannot be a felicitous answer to the question requiring a sentential focus domain.

Long fronted adjuncts do not occur in such a context, either.

(4) A: What happened?

B: # *With a hammer* I think he broke the window.

The data in (4) suggest that long-fronted adjuncts cannot be part of a broad focus domain, unlike short-fronted adjuncts.

The above observation suggests that short-fronted adjuncts can be a part of a broad focus domain, but long-fronted adjuncts and fronted NPs cannot.

2.2 Blocking of *wh*-extraction

It is difficult for fronted arguments to follow a fronted *wh*-phrase (See also Baltin 1982; Rizzi 1997).[1]

(5)   ?? the student to whom, *your book*, I will give tomorrow

(Haegeman 2003: 642, (3))

In Haegeman's (2003) terms, fronted arguments 'block *wh*-extraction'.

Now let us look at long adjunct fronting. The fronted adjuncts in (6), *on Tuesday*, cannot be construed with the lower clause.[2]

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[1] The observations in this and the following subsection depend on Haegeman (2003).

[2] (6) is grammatical with the interpretation that the adverbials modify the higher clause.

(6)   I called up my mother, who, *on Tuesday*, I had told it is likely
            that Sandy will visit Leslie.   (Haegeman 2003: 643–644)

This means that long-fronted adjuncts cannot follow fronted *wh*-phrases: they block *wh*-extraction.

        However, if the *wh*-phrase is followed by a short-fronted adjunct, the sentence is fully grammatical.

(7)   the student to whom, *tomorrow*, I will give your book

                                                    (Haegeman 2003: 642)

Thus, short-fronted adjuncts do not block *wh*-extraction.

        Thus, again, long fronted adjuncts behave like fronted arguments, rather than short-fronted adjuncts.   It is possible to say that positioning of short-fronted adjuncts is relatively free compared with the others in that the former can follow fronted *wh*-phrases while the latter cannot.

2.3   Restriction to root/root-like clauses

Argument fronting is restricted to root clauses or clauses with root behaviour.

(8)   * If *these exams* you don't pass, you won't get the degree.

                                                    (Haegeman 2003: 642)

The sentence in (8) has a fronted argument in a non-root clause, and it is un-grammatical.

        Turning to long fronted adjuncts, (9) shows that they resist non-root environments.

(9)   If *this afternoon* they say that it will rain, we won't go.

                                                    (Haegeman 2003: 644)

The fronted adverb *this afternoon* is only construed with the higher clause, which means that in such non-root environments as the *if*-clause in (9), long fronting of adjuncts is impossible.

        However, short adjunct fronting can occur in non-root clauses as well.

(10)   If *next week* you cannot get hold of me, try again later.

                                                    (Haegeman 2003: 642)

This sentence shows that short adjunct fronting is grammatical in the same environment as (8).

        Thus, again, long-fronted adjuncts behave like fronted arguments, rather than short-fronted adjuncts.   Again, it is possible to say that position-ing of short-fronted adjuncts is relatively free compared with the others in that the former can follow complementisers while the latter cannot.

2.4   Summary

Our observations in 2.1 to 2.3 are summarised in (11).

(11)

	Part of broad focus	Blocking of extraction	Root(-like) clauses
Short-fronted adjuncts	Yes	No	No
Long-fronted adjuncts	No	Yes	Yes
Fronted NP arguments	No	Yes	Yes

(11) clearly shows that long-fronted adjuncts and fronted arguments pattern alike, and short-fronted adjuncts are separate from them.

3   Earlier HPSG analyses

In this section, we look at three types of analysis of fronted adjuncts which have been proposed in the framework of HPSG: Pollard and Sag (1994), Bouma et al.'s (2001) and Levine (2003)/Levine and Hukari (2006).

In the version of HPSG developed by Bouma et al. (2001: 385) clause-internal fronting and long-distance fronting of adjuncts are treated in parallel, in terms of combination of the filler and the slashed construction, in the same way as fronting of noun phrases (Bouma et al. 2001: 45).[3,4]   The only difference between short and long fronting is where the SLASH inheritance terminates.   This unified treatment cannot capture the fact that there are important differences between the two types of adjuncts.

Pollard and Sag (1994: 385) analyse short fronted adjuncts as matrix modifiers, which are simply adjoined to the clause that they modify.   An adjunct and its head combine via the ID schema called 'Schema 5' (Pollard and Sag 1994:56).   Chapter 9 of Pollard and Sag (1994) gives a separate treatment to long adjunct fronting.   They posit the Adjunct Extraction Lexical Rule (Pollard and Sag 1994: 387).   Thus, Pollard and Sag's (1994) approach treats short and long fronting of adjuncts separately.   It would therefore be not difficult to capture the difference between these types of adjuncts observed above.

Let us turn to the analysis of adjunct fronting developed by Levine (2003)/Levine and Hukari (2006).   They assume that adverbials in adjoined positions can extract with leaving a trace behind.   With this assumption, it would not be difficult to differentiate between the two types of adjuncts:

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[3]   See also Sag (2005).

[4]   Bouma et al. (2001) and Sag (2005) assumes that the ARG-ST of the lowest verb contains an adverbial element which is slashed.

long-fronted adjuncts are extracted, and short-fronted adjuncts are adjoined to an S node.

However, the ungrammaticality of (12) is problematic for Pollard and Sag (1994), Levine (2003)/Levine and Hukari (2006).[5]

(12)   *I was wondering [$_S$ during the holidays [$_S$ for what kind of jobs [$_S$ you would go into the office.]]]

There is nothing in these analyses to prevent a filler from combining with an embedded *wh*-question.

One might introduce the head feature INDEPENDENT-CLAUSE (IC) (Ginzburg and Sag 2000: 45) to rule out (12). The [IC +] specification for the sister of the adjunct could exclude (12) since embedded *wh*-questions are [IC −]. However, this gives rise to another problem.

(13)   I was wondering [$_{S[IC-]}$ for what kind of jobs [$_{S[IC-]}$ during the holidays [$_{S[IC-]}$ you would go into the office.]]]

In (13) the preposed adjunct occurs in the clause with the specification [IC −]. This means that the S that the adjunct modifies is also [IC −] because the Head Feature Principle ensures that the HEAD value of the mother is structure-shared with the head value of the head daughter. This example is then predicted to be ungrammatical. However, it is grammatical.

In this section, we have discussed how earlier analyses of adjunct fronting work, and have pointed out problems that they are confronted with. The failure of these analyses is due to the fact that they are not aware of the distinction between extracted adjuncts and incidental adjuncts, and the peculiar properties of the latter.

4   Proposals

In this section we will provide an alternative analysis of fronted adjuncts. In the version of HPSG adopted here, linear order is determined in a level of 'order domains' (e.g., Kathol 1995, 2000; Kathol and Pollard 1995; Müller 1995, 1997, 2004; Pollard et al. 1994; Reape 1994, 1996). This is an ordered list of elements that contain at least phonological and categorical information (see, e.g., Pollard et al. 1993; Kathol 1995). Order domains are given as the value of the attribute DOM(AIN). At each level of syntactic combination, phonological and categorical information of the daughter may form a single domain element in the order domain of the mother (i.e., compaction) or the elements of the daughter's order domain may just become elements in the mother's order domain.

We further assume that each element of a clausal order domain is uniquely marked for the region that it belongs to (Kathol 1995, 2000, etc.).

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[5]   This data is problematic for Bouma et al. (2001) as well.

In our approach, the positioning of an element in a particular region is encoded as *first* through *fifth* on that element. We propose the following topological fields for English (cf. Kathol 2002; cf. Chung and Kim 2003).

(14) Topological fields for English

first	Extracted constituents except for subordinate *wh*-phrases
second	Finite auxiliary verbs in subject-auxiliary inversion (SAI) sentences, Complementisers, Subordinate *wh*-phrases
third	Non-*wh*-subjects
fourth	Finite verbs in non-SAI-sentences
fifth	Complements of the verb in *fourth*

There is a total order on these positional classes, enforced by the linear precedence (LP) constraint in (15).

(15) $first \prec second \prec third \prec fourth \prec fifth$

4.1 Long-fronted adjuncts and fronted NP arguments

In section 2 we saw that long-fronted adjuncts and fronted arguments behave in parallel. This fact strongly suggests that they are one and the same. We assume therefore that they are manifestations of a single extraction phenomenon, which should be handled by the SLASH mechanism. Thus, a sentence with a long-fronted adjunct and a sentence with a fronted NP argument are represented as in (16a) and (b), respectively.[6]

(16) a.   [DOM <[^{first} yesterday], [^{third} I], [^{fourth} believe], [^{fifth} Kim left]>]

        b.   [DOM <[^{first} the computer], [^{third} John], [^{fourth} broke] >]

The long-fronted adjunct *yesterday* and the fronted NP argument *the computer* are in *first* position since they are fillers (See (14)). We further assume that a filler with an empty REL and QUE value is given either a narrow focus or a topic interpretation.

4.2 Incidentality

We will now introduce the notion of 'incidentality' (Bonami and Godard 2003; Bonami, Godard and Kempers-Manhe 2004).[7] Adverbials are inci-

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[6] In the rest of this paper, position classes will be shown as superscripts as in (16a,b).

[7] Bonami and Godard (2003) and Bonami, Godard and Kempers-Manhe (2004) distinguish incidentality from 'parentheticality'. The latter term denotes the semantic/pragmatic property. Adverbials have a parenthetical interpretation when their semantic/pragmatic contribution is not integrated into the proposition which the sentence asserts.

dental when they have a special prosody which sets them apart from the rest of the sentence. Fronted adjuncts clearly have incidentality in this respect since they have 'comma intonation'. Moreover, incidentals have some flexibility with respect to positioning. For example, Bonami and Godard (2003) state that a French sentence (17) can contain incidentals in the positions indicated with dots.

(17) • Paul • a • envoyé • ses voeux • à ce vieil ami •
      Paul   has   sent   his wishes   to this old friend
      'Paul sent his best wishes to this old friend of his.'

(Bonami and Godard 2003: 2)

This is also characteristic of adjuncts which we are concerned with. (18) shows that the adverbial *at five* can occur in various positions.

(18) a. *At five*, John finally signed the form.
      b. John finally, *at five*, signed the form.
      c. John finally signed the form, *at five*.

(Adapted from Shaer 2004: 314)

Moreover, it has comma intonation wherever it occurs. It is thus reasonable to assume that these adjuncts are manifestations of the same incidental adverbial.[8]

We assume that incidental adverbials have the following description.

(19)   Description of incidental adverbials

$$\begin{bmatrix} \text{PHON} & \textit{incidental - phon} \\ \text{HEAD} & \begin{bmatrix} \text{INCID} & + \\ \text{MOD} & \text{VP} \end{bmatrix} \\ \text{CONT} & [1] \\ \text{INFO-STRUC} & \begin{bmatrix} \text{LINK} & [2] \\ \text{FOCUS} & [3] \end{bmatrix} \end{bmatrix} \text{, where } [1] \neq [2] \text{ and } [1] \neq [3]$$
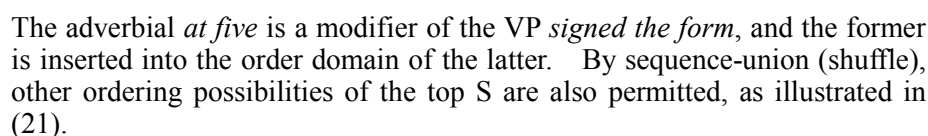
The PHON value specifies that they have incidental phonology ('comma intonation'), and [INCID +] specifies that they are incidentals (Bonami and Godard 2003: 10).[9] Incidentals are ordinary adjuncts in constituent structure (Bonami and Godard 2003: 11). We assume that they are VP adjuncts (Levine 2003; Levine and Hukari 2006). We assume, following Engdahl (1999: 186–187), that each of INFO-STRUC features takes *content* objects (i.e., values of the CONTENT feature) as its value. The LINK and FOCUS features are among those appropriate for INFO-STRUC. '[1] ≠ [2] and [1] ≠ [3]' in (19) specifies that the CONTENT value of incidental adjuncts is not

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[8] Shaer (2004: 314) call such adverbials 'orphans' (cf. McCawley 1982, Espinal 1991; Haegeman 1988).

[9] Phrases phonologically fully integrated into the rest of the clause have the [INCID −] specification.

identified with the LINK and the FOCUS value: incidental adverbials should be neither topic nor narrow focus.

We assume above that incidentals are ordinary adjuncts that modify a VP. To ensure that incidental adverbials are linearised in various positions of the sentence they modify (see (18)), we assume, along with Bonami and Godard's (2003: 12), that such modifiers are domain-inserted into the domain of the VP they modify.

We assign the following representation to (18b).

(20)   Structure for (18b)

$$
\begin{bmatrix}
\text{PHON} & \langle \text{John, at, five, signed, the, form} \rangle \\
\text{INFO-STRUC} & [\text{FOC} \quad [5]] \\
\text{CONT} & [5] \\
\text{DOM} & \langle [1][\text{John}], [2][\text{at five}], [3][\text{signed}], [4][\text{the form}] \rangle
\end{bmatrix}
$$

NP
$[\text{DOM} \quad [1]]$

VP
$[\text{DOM} \quad \langle [2],[3],[4] \rangle]$

$[7]$VP
$[\text{DOM} \quad \langle [3],[4] \rangle]$

PP
$$
\begin{bmatrix}
\text{DOM} & \left\langle [2]\begin{bmatrix} \text{PHON} & incid\text{-}phon \\ \text{INCID} & + \\ \text{MOD} & [7] \end{bmatrix} \right\rangle
\end{bmatrix}
$$

V
$[\text{DOM} \quad [3]]$

NP
$[\text{DOM} \quad [4]]$

The adverbial *at five* is a modifier of the VP *signed the form*, and the former is inserted into the order domain of the latter. By sequence-union (shuffle), other ordering possibilities of the top S are also permitted, as illustrated in (21).

(21)   a.   [DOM <[at five], [John], [finally], [signed], [the form]>]

       b.   [DOM <[John], [finally], [signed], [the form], [at five]>]

Thus, an approach along the lines of Bonami and Godard (2003) can give a unified treatment of the adverbials in various positions while maintaining the assumption that they are all VP modifiers. In the present approach, then, what we have called short-fronted adjuncts are incidentals which are in the initial position of a sentential order domain.

We argued that incidental adverbials can occur in various positions in a sentence (See (18) and (21)). This does not mean, however, that they are unconstrained in their positioning. Standard English does not allow anything in subordinate clauses to come before complementisers or fronted

wh-phrases.

(22) a. He said that *tomorrow* it will rain.

   b. * He said *tomorrow* that it will rain.

This restriction is not universal. The following example, cited from Hudson (2003: 640), is from Greek (Tsimpli 1990).

(23)   Mu-ipe   to vivlio   oti   edhoso   sti Maria.
       to-me-he-said   the book   that   he-gave to-the Mary
       'He said that he gave the book to Mary.'

In this example, the topicalised object *to vivlio* 'the book' which belongs to the subordinate clause precedes the complementiser *oti* 'that'. Due to the fact that there is a language where the pattern in (22b) is possible, we will not make this restriction a universal principle. We assume the following constraint, which requires that subordinate clauses have restricted order domains (cf. Kathol 2000: 120).

(24) $subordinate \rightarrow \left[\text{DOM} \quad \langle [second],... \rangle \right]$

(24) requires that the initial element in the order domain of a subordinate clause is an element in *second* position. The order domains of the embedded clause of the examples in (22) are represented as follows.

(25) a. [DOM < [^{second} that], [*tomorrow*], [^{third} it], [^{fourth} will], [^{fifth} rain]>]

   b. * [DOM <[*tomorrow*], [^{second} that], [^{third} it], [^{fourth} will], [^{fifth} rain]>]

(25b), in which the complementiser is preceded by an adverb, is excluded because it violates the constraint in (24).[10]

5   An account of the facts

In this section we will consider how our analysis outlined above accommodates the data that is problematic for the earlier HPSG analyses of fronted adjuncts.

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[10] Another constraint that is needed is the following.

(i) $\left[\text{DOM} \quad \left\langle ...,[\text{HEAD} \quad verb], [1], \begin{bmatrix} nominal \\ \text{MOD} \quad none \end{bmatrix}, ... \right\rangle \right] \rightarrow [1][\text{INCID} \quad -]$

This constraint bars incidentals from occupying the position between a verb and a noun phrase. It rules out examples like (ii), where there is an incidental adjunct between the verb and its object.

(ii)   * John signed *at five* the form.

As shown in (17), incidental adverbials can be in this position in French. The constraint in (i) is therefore an English-particular constraint.

5.1 Information structure

As discussed in 4.1, incidental adverbials have the description in (19). This definition states that incidental adverbials are neither a narrow focus nor a topic. This constraint captures the fact that such adverbials occur in a sentence focus context such as (2), repeated in (26).

(26) A: What happened?
　　 B: *Five minutes ago*, my car broke down.　　　　　　[= (2)]

In our analysis, a filler is only allowed to be a topic or a narrow focus (See 4.1). They cannot be part of a broad focus domain. This accounts for the unacceptability of B_2 in (3) and B in (4).

(27) A: What happened?
　　 B_1: John broke the computer.
　　 B_2: #*The computer*(,) John broke.　　　　　　　　[= (3)]

(28) A: What happened?
　　 B: # *With a hammer* I think he broke the window.　　　[= (4)]

5.2 Blocking of *wh*-extraction

We will see how our analysis captures the fact in (7), which is repeated in (29).

(29)　　　The student to whom, *tomorrow*, I will give your book.　 [= (7)]

This example is given the following DOM representation.

(30)　　　[DOM <[^{second} to whom], [*tomorrow*], [^{third} I], [^{fourth} will], [^{fifth} give your book]>]

The *wh*-phrase is in *second* in subordinate clauses. The incidental adverbial follows them. This positioning does not violate any LP constraint.
　　　Let us see how our analysis of extracted phrases given in 4.1 handles the ordering patterns of fronted NP arguments. As we have seen in (5) fronted arguments cannot occupy the position after the fronted *wh*-phrase. The data is repeated here for convenience.

(31)　　 ?? the student to whom, *your book*, I will give tomorrow.　 [= (5)]

The representation of the DOM value of the embedded clause of (31) is given in (32).

(32)　　　*[DOM <[^{second} to whom], [^{first} *your book*], [^{third} I], [^{fourth} will], [^{fifth} give tomorrow]>]

In (32), the relative *wh*-phrase *to whom* is in *second*. The fronted argument occupies *first*. In these examples, however, they follow the *wh*-phrase. This ordering violates Topological LP Statement (15), which states, among other things, that elements in *first* should precede those in *second* and those in *third*. The representation in (32) violates this constraint, so (31) is ungrammatical.

The fact that the fronted adjuncts in (6), repeated in (33), cannot be construed with the lower clause can be accounted for along the same lines.

(33)   I called up my mother, who, *on Tuesday*, I had told it is likely
         that Sandy will visit Leslie.   [= (6)]

In our analysis, long fronted adjuncts are fillers, and they occupy *first* position. The *wh*-phrase is in *second*. Thus, the relative clause of (33) has the following representation.

(34)   *[DOM <[^{second} who], [^{first} *on Tuesday*], [^{third} I], [^{fourth} had], [^{fifth} told
         it is likely that Sandy will visit Leslie]>]

The permutation in (33) is prohibited for the same reason as (31): it violates Topological LP Statement (15).

5.3   Restriction to root/root-like clauses

The fact that short adjunct fronting is not restricted to root/root-like clauses, as opposed to argument fronting and long adjunct fronting, can be accounted for in the same way.

(35)   If *next week* you cannot get hold of me, try again later.   [= (10)]

In our assumption, complementisers occupy *second* position in subordinate clauses. Therefore, we have the following representations for the subordinate clause of these sentences.

(36)   [DOM <[^{second} if], [*next week*], [^{third} you], [^{fourth} cannot], [^{fifth} get
         hold of me]>]

The incidental adjunct is between the complementiser and the subject NP. This positioning of incidental adverbial does not violate any LP constraint.

The fact that argument fronting and long adjunct fronting is restricted to root/root-like clauses can be accounted for in the same way. The subordinate clauses in (37) and (38) are non-root clauses. In (38), *this afternoon* cannot be interpreted to modify the lower clause.

(37)   *If *these exams* you don't pass, you won't get the degree.   [= (8)]

(38)   If *this afternoon* they say that it will rain, we won't go.   [= (9)]

In our analysis, complementisers occupy *second* position. Therefore, we

have the following representations for the subordinate clause of the sentences in (37) and (38).

(39) a. *[DOM <[^{second} if], [^{first} *these exams*], [^{third} you], [^{fourth} don't], [^{fifth} pass]>]

 b. *[DOM <[^{second} if], [^{first} *this afternoon*], [^{third} they], [^{fourth} say], [^{fifth} that it will rain]>]

In these structures, the complementiser in *second* is followed by a fronted argument in *first*, which violates the LP constraint in (15).

5.4 An account of (12) and (13)

Let us turn to the sentences in (12) and (13), which are repeated in (40).

(40) a. *I was wondering *during the holidays* [for what kind of jobs you would go into the office]. [= (12)]

 b. I was wondering [$_{S[IC -]}$ for what kind of jobs [$_{S[IC -]}$ during the holidays [$_{S[IC -]}$ you would go into the office.]]] [= (13)]

The DOM representation of the subordinate clause of (40a) and (b) is (41a) and (b), respectively.

(41) a. *[DOM <[*during the holidays*], [^{second} for what kind of jobs], [^{third} you], [^{fourth} would], [^{fifth} go into the office]>]

 b. [DOM <[^{second} for what kind of jobs], [*during the holidays*], [^{third} you], [^{fourth} would], [^{fifth} go into the office]>]

In our analysis, the initial positioning of incidental adjuncts is just one of possible alternative linearisation patterns. In (41a), the incidental adjunct is the first domain element of the subordinate clause. This violates the LP constraint in (24). The incidental adjunct in (41b), on the other hand, does not violate any LP constraint.

6 Conclusion

The arlier HPSG analyses of adjunct fronting face difficulties since they do not take into account the distinction between extracted phrases (long-fronted adjuncts and fronted NP arguments) and incidental adjuncts. In our linearisation-based analysis, extracted phrases are fillers which occupy *first* position in sentences; incidental adjuncts are not categorised into any position class, which enables them to have a rather free positioning. This characterisation of fronted adjuncts can provide a fairly straightforward account of the facts

that are problematic for earlier analyses.[11]

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[11] Once it is established that the long fronting of adjuncts is due to the SLASH mechanism, there should also be cases where the SLASH value is matched with a filler within the same clause as the trace. That is, there should be a variant of short adjunct fronting with the same effects as argument fronting and long adjunct fronting. The following examples illustrate.

(i)   LAST year we were living in St. Louis.   (Culicover 1991: 34)

(ii)   This is John's schedule. *On Monday*, he plays a match in London and meets the press. *On Tuesday*, he plays a match in Sheffield…   (Shaer 2004: 325)

In (i), the short-fronted adjuncts *last year* has narrow focus, and hence they have heavy stress. In (ii), the adjuncts *on Monday* and *on Tuesday* function as a topic or a 'link' (Birner and Ward 1998) in that the fronted adjunct stands in some salient and relevant relationship to elements that have been evoked in the prior discourse.

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