

Main clause phenomena and the derivation of adverbial clauses*

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Abstract: English adverbial clauses are incompatible with argument fronting (1a) (Haegeman 2006) and with markers of epistemic modality (1b) (Nilsen 2004), while initial adjuncts are allowed (1c).

- (1)a *When this book I find, I will buy it.
b *I will come when it may be warmer.
c When on Friday he had not arrived, I called him.

I will first review an earlier analysis (Haegeman 2003 etc.) of these data in which I related the absence of topicalisation in adverbial clauses directly to the absence of illocutionary force, as encoded by a functional head, 'Force' (Rizzi 1997). I will show that this analysis poses a range of theoretical and empirical problems.

In the main body of the paper I will propose an alternative analysis according to which the absence of topicalisation in adverbial clauses such as (1a) is accounted for by assuming that such clauses are derived by movement of a (possibly null) operator to the left periphery. (For movement analyses of adverbial clauses cf. Geis 1975, Larson 1987, 1990, Dubinsky & Williams 1995, Penner & Bader 1995, Demirdache & Etxebarria 2004, Bhatt & Pancheva 2002, 2006.) Some suggestive crosslinguistic and diachronic evidence will be provided in support of this analysis.

The movement analysis of adverbial clauses allows us to account for the patterns displayed in (1) as well as for a number of other phenomena such as:

- (i) the fact that a sub-set of adverbial clauses in English are compatible with topicalisation and with markers of epistemic modality (Haegeman 2006);
- (ii) the fact that adverbial clauses are more easily compatible with clitic left dislocation in Romance;
- (iii) the fact that among adverbial clauses in French a distinction is to be found between those that licence stylistic inversion of the subject without requiring any additional trigger and those that require a specific trigger for stylistic inversion (Lahousse 2003, 2005).

Key words: Main clause phenomena, adverbial clauses, topicalisation, clitic left dislocation, argument/adjunct asymmetry, intervention

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1. A movement analysis of adverbial clauses

This paper is concerned with the syntactic derivation of adverbial clauses such as the underlined clauses in (1).

- (1)a When I heard this song, I remembered my first love.
 b If they don't find him, they will call the RSCA.

In the literature it has repeatedly been proposed that the adverbial clause in (1a) can be derived by *wh*-movement of an operator to the left periphery (Geis 1975, Enç 1987: 655, Larson 1987, 1990, Dubinsky & Williams 1995, Declerck 1997, Demirdache & Uribe-Etxebarria 2004) and some evidence has been put forward. Recently Bhatt and Pancheva (2002, 2006) have extended the movement analysis to conditional clauses such as that in (1b). In this paper I first provide a brief discussion of the movement analysis as discussed in the literature and the arguments that have been proposed in its favour. Section 2 first formalizes the movement account and sketches a theory of locality for movement. It is then shown that the account makes the correct predictions concerning the distribution of fronted arguments in adverbial clauses in English. The data discussed in this section thus offer further empirical support for the movement analysis of the adverbial clauses in (1). Section 3 shows that the account leads to a number of additional correct predictions for operations affecting the left periphery in English and in other languages. Section 4 examines whether the incompatibility of other clause types with MCP in English can also be accounted for by assuming a movement account for the relevant domains.

1.1. Temporal adverbial clauses

1.1.1. The proposal: (null) operator movement in temporal clauses

It has been proposed by, among others, Geis (1975), Enç (1987: 655), Larson (1987, 1990), Dubinsky & Williams (1995), Declerck (1997), Demirdache & Uribe-Etxebarria (2004), that temporal adverbial clauses such as those in (1a) are derived by the movement of an IP-internal operator to the CP domain. This is schematically represented in (2a) in which the relevant operator is *when*. Alternatively one might assume that *when* spells out a C-head and opt for a null operator movement account, as shown in (2b):

- (2)a $[_{CP} \text{ when } [_{TP} \text{ I } \dots [_{VP} \text{ heard this song }] \text{ when }]]$
 b $[_{CP} \text{ OP } [_{C} \text{ when}] [_{TP} \text{ I } \dots [_{VP} \text{ heard this song }] \text{ } \emptyset]]$

The null operator account (2b) is more attractive for those adverbial clauses that are introduced by prepositions, in which case one might adopt a derivation as that in (3b) (but see Dubinsky and Williams (1995) for an alternative).

- (3)a Before/after/since/until I heard this song
 b $[_{PP} \text{ before/after/since/until } [_{CP} \text{ OP } [_{C} \emptyset] [_{TP} \text{ I } \dots [_{VP} \text{ heard this song }] \text{ } \emptyset]]]]$

1.1.2. Support for the movement account

On an anecdotal level there is cross-linguistic support for the movement derivation of adverbial clauses. The very fact that *when*, the ‘conjunction’ introducing temporal clauses, is isomorphic to an interrogative operator as well as to a relative pronoun (see below, (8a)) supports this idea. In other languages too, temporal clauses are introduced by an interrogative element (French: *quand*, Italian: *quando*, Spanish *cuando*, Catalan *quan*, Dutch *wanneer*) or by a relative element (Norwegian *når* (Stephens 2006)). In

other cases, a ‘conjunction’ introducing the temporal clause may correspond to an IP-internal adverb. For instance, in Dutch the temporal adverb *toen* (‘then’) in (4a) can also be used to introduce an adverbial clause (4b). It is tempting to assume that the latter is derived by leftward movement of *toen* (for a similar case in Norwegian see Stephens 2006).

- (4)a Hij is toen aangekomen.
 He is then arrived
 ‘He arrived then.’
 b Toen hij aangekomen is...
Toen he arrived is...
 ‘When he arrived...’

A syntactic argument that is standardly adopted in favour of the movement account of temporal adverbial clauses concerns the observation that in addition to cases of short movement, as those illustrated in (2b, 3b), one also finds instances in which the operator has undergone long movement. The standard example for this is given in (5). This example is ambiguous: the relevant time expressed by *when* might be either that of the higher portion of the adverbial clause, giving the so-called ‘high construal’ in (i), with the corresponding derivation, or it may be that of the lower portion of the adverbial clause, giving the low construal in (ii), with the corresponding derivation. (i) illustrates short movement of the operator, (ii) illustrates long movement, with an operator originating in the embedded clauses and targeting the higher clause of the adverbial adjunct.

- (5) I saw Mary in New York when [_{IP} she claimed [_{CP} that [_{IP} she would leave.]]]
 (i) high construal: I saw her at the time that she made that claim.
 I saw Mary in New York [_{CP} when_i [_{IP} she claimed [_{CP} that [_{IP} she would leave]] t_i]]
 (ii) low construal: saw her at the time of her presumed departure.
 I saw Mary in New York [_{CP} when_i [_{IP} she claimed [_{CP} that [_{IP} she would leave t_i]]]]
 (Larson 1987)

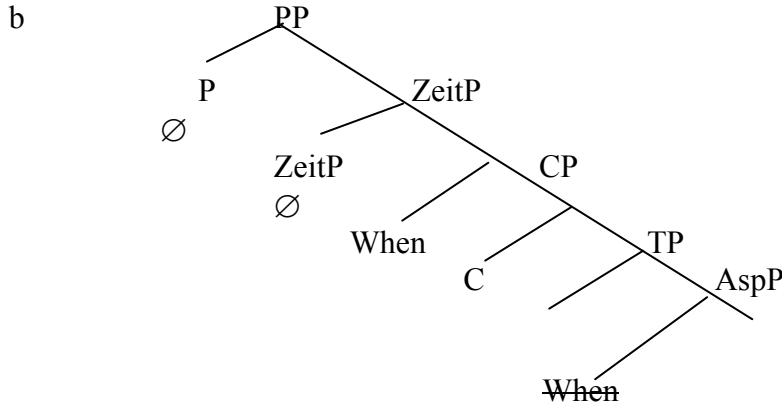
As discussed in the literature (Geis 1970, 1975, Larson 1987), the movement analysis leads to the prediction that low construal (i.e. long movement) should be impossible when the lower clause is contained in a strong island. This prediction is borne out by (6), in which the low construal is made impossible by the fact that long movement would have to take place out of a syntactic island created by the complex DP.

- (6) I saw Mary in New York
 when [_{IP} she made [_{DP} the claim [_{CP} that [_{IP} she would leave.]]]]
 (i) high construal: I saw her at the time that she made that claim.
 (ii) low construal: 'I saw her at the time of her presumed departure.'
 (Geis 1975, Larson 1987)

1.1.3. Temporal adverbial clauses as free relatives (Demirdache and Uribe-Etxebarria (2004), see also Declerck 1997, Lipták 2005, Stephens 2006)¹

With respect to the precise implementation of the analysis, Demirdache and Uribe-Etxebarria (2004) propose that the operator movement that derives temporal clauses is launched from SpecAspP and moves to SpecCP. The relevant CP modifies a ‘ZeitP’, which in turn is the complement of an abstract preposition: (7b) is their representation for (7a).

(7)a When Zooey arrived...



The derivation in (7b) implies that temporal clauses introduced by *when* are free relatives. This is intuitively plausible since such *when* clauses can also function as relatives to a syntactic head (8a), and moreover there is a variant with *ever* (8b) which is typical of free relatives (see discussion in Declerck 1997):

(8)a The days when he is depressed he eats chocolate .

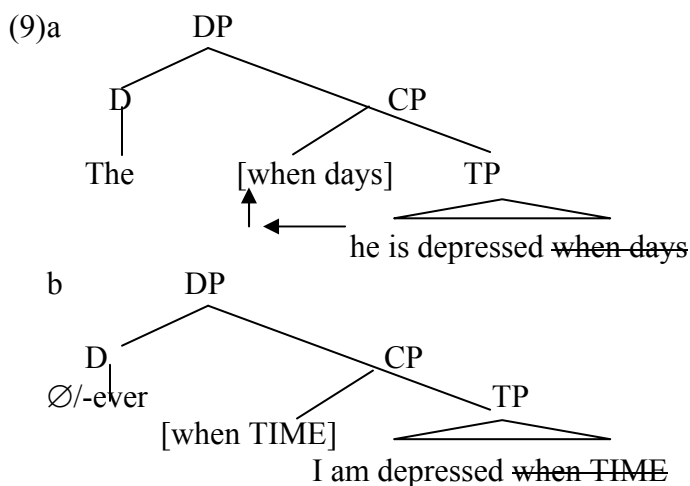
b He eats chocolate when(ever) he is depressed.

Following Kayne’s head-raising analysis of relative clauses (1994), one might slightly recast Demirdache and Uribe-Etxebarria’s proposal as in (9). (9a) is the derivation for the headed relative structure in (8a). Following the head-raising analysis, I assume that relative *when* originates as a determiner element associated with the ‘head’ N, *days*. The constituent *when days* undergoes leftward movement to the C domain, and *days* moves to the left of its determiner *when*. For precise implementation I refer to Kayne (1994) and also to Bianchi (1999) for a variant. (9b) represents the free relative variant, in which the relative ‘determiner’ *when* is associated with a null nominal TIME, in the same way that temporal *then* is argued to be associated with a null head (*then TIME*), cf. Kayne (2005: 13).

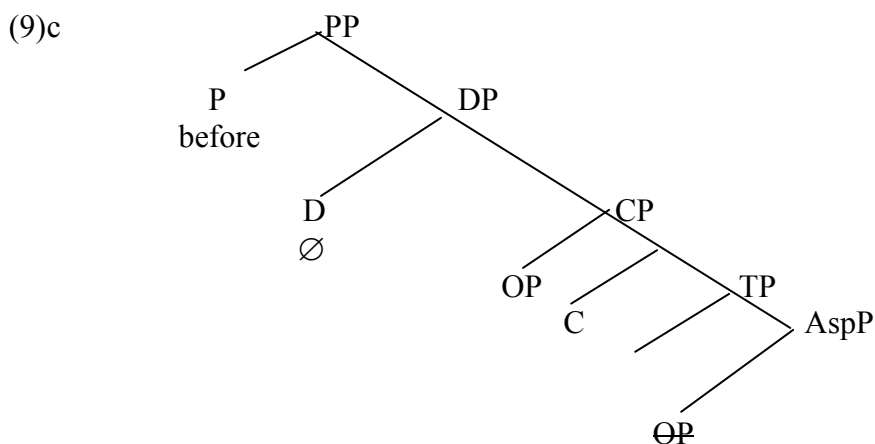
¹ French poses a problem in that *quand* (‘when’) functions as an interrogative *wh* constituent (ia) and as a ‘temporal conjunction’ (ib) but it cannot introduce a relative clause (ic):

- (i) a Quand vient-il?
 when comes he
 b the year when we met him
 c *l’année quand nous l’avons rencontré
 the year when we him have met

See Starke (2001: 89-90), Kayne (2005 : 312-13). I have nothing to say about this at this point.



Temporal clauses introduced by a preposition (*before*, *after*, *until*, *since*) would have a null operator.² Provisionally one might adopt the representation in (9c), though see also Dubinsky and Williams (1995) for an alternative.



The derivation finds cross-linguistic support. As shown by Lipták (2005), Hungarian temporal adjunct clauses also are amenable to an account in terms of relativisation. In particular, as illustrated in (10a,b), a subset of temporal clauses contain the relative marker *a*. As shown in (10c), this is ‘a morpheme that adorns relative *wh*-phrases in Hungarian’ (Lipták 2005: 139).

- (10) a [(A)mikor Peter nincs otthon]
REL-what-at Peter is.not home
‘When Peter is not at home’
b [(A)mióta ismeri Annát]
REL-what-since knows Anna-ACC
‘Since he knows Anna’ (Lipták 2005:138)

² Conceivably, Old English displays the so called ‘light headed temporal relative’ (Citko 2004), as suggested by the following citation:

Similarly, the conjunction *before* has developed from a phrase of the form ‘before the time that’ (variously realized in Old English as *toforan þam timan þe*, *foran to þam timan þe*, and *toforan þam þe* – see Mitchell 1987: 379) (Declerck 1998: 97-8)

The diachronic development of adverbial clauses would obviously be of interest but it is beyond the scope of the present paper.

- c A nap [amikor Anna megjött]
 the day REL-what-at Anna arrived
 ‘The day when Anna arrived’ (Lipták 2005: 142)

Recall that the basic argument in favour of a movement derivation which one finds cited in the literature is the observation that adverbial clauses allow low construal of the temporal operator, which is taken to reflect long movement. In English, the high/low construal ambiguity is also found with temporal adverbial clauses introduced by *before/after*, *until*, (temporal) *since* (Geis 1970, Larson 1987, 1990). This is shown in (11):

- (11) a I saw Mary in New York before/after John said that she left.
 (Larson 1987: 261: (45a))
 b I can't leave until John says I can leave. (based on Larson 1990: 170: (2b))
 c I haven't been there since I told you I was there. (Larson 1990: 170: (2d))

On the other hand, it has been noted low construal is unavailable with temporal *while* (Geis 1970, 1975, Stump 1985, Larson 1990: 174, (11a)):

- (12) I didn't see Mary in New York while she said she was there.

For reasons that will become clear presently, I assume that the absence of low construal cannot be taken as evidence against the movement account per se, but must find an independent explanation. However, at this moment I have nothing further to offer by way of an explanation for the absence of low construal with *while*. For discussions of the availability of high/low construal readings see also Stephens (2006) on Norwegian (*når* (high/low construal) vs. *da* (no low construal), Lipták (2005) on Hungarian (see below), on Serbian (Lipták 2005: 171), and on German (cf. also Larson 1988), and Bhatt & Lipták (2005) on Hindi, among others.

1.2. Conditional clauses as free relatives

1.2.1. The proposal

If the movement analysis is intuitively plausible for temporal adverbial clauses, it is less so for conditional clauses. Yet, Bhatt and Pancheva (2002, 2006) derive conditional clauses by A' movement of a covert/overt operator to SpecCP. They say: ‘Our proposal that [conditional clauses] are interpreted as free relatives amounts to the claim that they are definite descriptions of possible worlds.’ (Bhatt & Pancheva 2006: 655). A conditional clause such as (13a) would be derived by the leftward movement of a world operator (13b):

- (13) a If John arrives late..
 b $OP_w C^\circ$ [John arrives late in w]

1.2.2. The absence of low construal

Bhatt and Pancheva also observe that conditional clauses do not allow the low construal found with temporal adverbial clauses (but see above) (Bhatt & Pancheva 2002, 2006): while *when* in (14a) can have a high or a low reading, the latter reading is unavailable for the conditionals in (14b) or (14c):

- (14) a I will leave when you say you'll do. high/low
 b I will leave if you say you'll do. high/*low
 c Had he said he would leave, I would have left. high/*low
 (Bhatt & Pancheva 2002: 13, a-b their (50a, c), (51e), 2006: 655-6: their (47a, c, 48b))

Interestingly, the absence of low construal is also found in West Flemish conditionals, introduced by the ‘conjunction’ *oa*. WF *oa* allows for both a temporal (‘when’) and a conditional (‘if’) reading. In the former (15a,b) low construal is available, while it is unavailable with the conditional interpretation (15c):

- (15) a je was doa nie oan-ze zeiden da tje doa ging zyn high/low
 he was there not when-they said that he there would be
 ‘He wasn’t there when they said he would be.’
- b ge moet kommen oan-k zeggen da-j moe kommen high/low
 You must come when I tell you that you must come
 ‘You must come when I tell you to.’
- c k’goan kommen oa-j zegt dan-k moeten kommen high/*low
 I will come when-you say that I must come
 ‘I will come if you tell me to.’

See also Bhatt and Pancheva (2002, 2006) for a similar observation in relation to German.

To account for the absence of low construals, Bhatt & Pancheva (2002, 2006) propose that conditionals involve the creation of a world variable, which needs to be locally bound.³

1.2.3. Support for the movement account

One piece of support for the movement derivation of conditional clauses comes from their formal similarity to *yes/no* questions. In particular, as shown by (14c) above, subject-auxiliary inversion may be used to derive a conditional as well as a *yes/no* question (16a). (16b) shows that in so called Verb Second languages like Dutch, which have the finite verb in second position in root clauses, direct *yes/no* questions constitute an apparent exception to the V2 constraint in that here the fronted verb is the first constituent. This ‘exception’ can be eliminated if one adopts the view that *yes/no* questions contain an initial abstract operator in their left periphery (16c). If the relevant operator originates in a lower position, then *yes/no* questions are derived by movement, and the formally identical conditional clauses could then also be said to be derived by movement:⁴

- (16) a Had he said he would leave?
 b Had hij gezegd dat hij zou vertrekken?
 had he said that he would leave
 c [_{CP} OP [_{Vfin} had] [_{IP} Subject ... ~~OP~~]]

If direct *yes/no* questions are derived by the movement of an operator to the left periphery, the analysis can be extended to the derivation of indirect *yes/no* questions. (17a) would be derived by moving an operator to the left periphery (17b). Once again, then, the same derivation could be appealed to for the conditional variant of this.

³ Bhatt and Pancheva observe that low construal is available with conditionals formed by relativization:
 (i) I will leave in any circumstance in which you say you’ll leave. high/low
 (Bhatt & Pancheva 2002: 13, a-c their (50), d,e: their (51), 2006: 655-6: their (47))

Such ‘conditionals’ do not involve the world operator and that they involve the movement of a different operator (Rajesh Bhatt, p.c)

⁴ Cf. Den Dikken (2006: 729), on *either* in *whether* and *if* clauses. But see Roberts and Roussou (2002: 41).

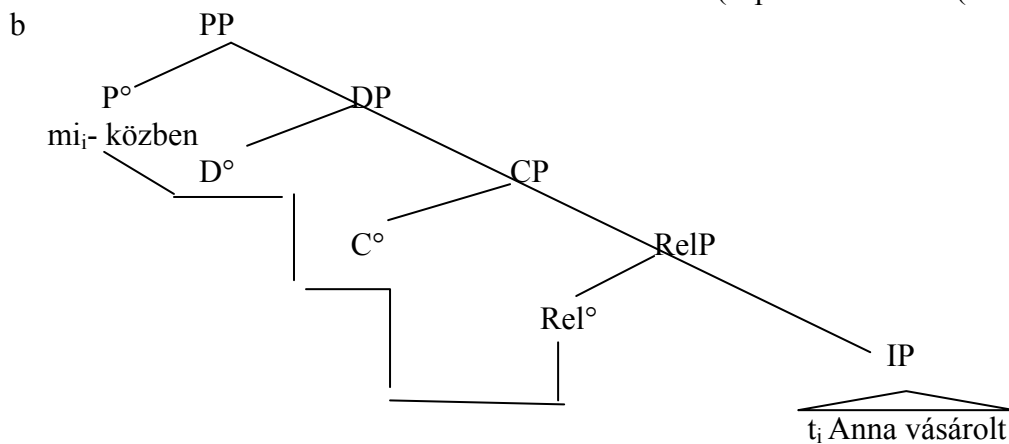
- (17) a I wonder if he said he would leave
 b [CP Op_w if [he said he would leave Op_w]]⁵

Like conditionals, *yes/no* questions do not allow for low construal of the operator. In (16a), for instance, the question bears on the polarity of the matrix clause ('had he said') and not on the embedded clause ('he would leave'). The same observation holds for (17a).

1.2.4. IP-relatives

Recall that a subset of temporal clauses in Hungarian is derived by the same strategy that derives relative clauses (see (10) above). In addition, though, another set of temporal clauses are derived by a different relativization strategy. This is true, for instance, for the *while* clause in (18a). For such clauses Lipták proposes what she calls the 'IP relativization' strategy, represented in (18b): where *mi* is a relative head that moves to adjoin to the preposition that introduces the temporal clause.

- (18) a [Mi közben Anna vásárolt], Péter megezte a postáját.
 what-during Anna shopped Peter checked the mail-his-ACC
 (lit) 'During what was (the event of) Anna shopping, Peter checked the mail.'
 (Lipták 2005: 153 (her 49))



Crucially, in (18b) the moved element originates IP-externally. As an adaptation of Lipták's proposal, I would like to propose that the relevant world operator in relative clauses originates in the specifier of FinP, the projection which hosts finiteness features⁶.

- (19) [CP Op_w if [FinP t_w [IP YOU [VP read ~~this book~~]]]]

2. The movement analysis and intervention effects

2.1. Fronting in English

2.1.1. Argument fronting and adverbial clauses

The movement account of adverbial clauses finds empirical support from the long-standing observation (cf. Hooper and Thompson 1973, Emonds 1970, 1976, 2004) that argument fronting is not possible in English adverbial clauses. To the best of my

⁵ Cf. among others Larson (1985), Den Dikken (2006: 729), with evidence from the distribution of *either* in indirect question introduced by *whether* and *if*.

⁶ For some discussion of the interpretive role of FinP see Bianchi (2003).

knowledge, this evidence has not been advanced in the literature in support for the movement analysis. Consider the contrast in (20):

- (20) a When she started to write her column again last week, I thought she would be fine.
 b *When her column she started to write again last week, I thought she would be fine.

On a movement account, the ungrammaticality of (20b) follows: the fronted argument *her column* is an intervener and blocks the movement of the temporal operator *when*:

- (20) c *_{[CP when [_{TopP} her column [_{TP} she... [_{VP} began to write ~~her column~~] ~~when~~]]]}

Observe that if one adopts an operator movement account for *yes/no* questions and for conditional *if*-clauses, the ungrammaticality of argument fronting will also follow:

- (21) a Bill asked if John only reads such books at home.
 b *Bill asked if such books John only reads at home (Schachter 1992:108 (16a))
 c If John passes this exam next week, he'll get his degree.
 d *If this exam John passes next week, he'll get his degree.

2.1.2. Argument adjunct asymmetries

It would not be correct to say that adverbial clauses do not allow any kind of fronting, and perhaps lack a left periphery⁷. In particular, while argument fronting is excluded (20b, 21d), circumstantial adjuncts can precede the subject:

- (20) d When last week she started to write her column again, I thought she would be fine.
 (21) e If next week John passes his final exam, he'll get his degree.

This is not unexpected. It has been established independently that fronted arguments may act as interveners while fronted adjuncts do not intervene. This is illustrated in (22): subject extraction across the argument *this new column* is ungrammatical, subject extraction across the adjunct *last year* is grammatical. For reasons of space I cannot go into this point here, for discussion see Haegeman (2003b).

- (22) a *This is the author who this new column started to write last year.
 b This is the author who last year started to write a new column.

2.2. Features and intervention

This section outlines the type of account that would be required for the intervention effects discussed in section 2.1. The account remains fairly neutral and is compatible with a range of different formal implementations.

It has often been observed in the literature that extraction out of a weak island (as that created by *whether* in (23)) is facilitated by an extra factor. Notions such as D-linking,

⁷ The fact that clitic left dislocation is possible, cf. section 3.2., also shows that adverbial clauses must potentially have a left periphery.

referentiality, argument-status, thematic status, specificity, presuppositionality, topicality have been invoked (cf. Cinque 1990, Rizzi 2001, Starke 2001, Miyagawa 2004, Grohmann 2005, Endo 2007 etc.) to account for the fact that while the adjunct *how* cannot be extracted across *whether* in (23a), extraction of *which problem* in (23b) and relativization in (23c) is possible.

- (23) a *How do you wonder whether John will solve the problem?
 b ?Which problem do you wonder whether John will solve?
 c ?These are the problems which I wonder whether John will solve.

I will provisionally represent the additional factor that is involved in overcoming the island by the feature δ . I leave it open whether this is a unitary feature or whether several different features may be involved (cf. Starke 2001).

I assume that movement is subject to a locality condition: a constituent with the feature α will block the extraction of a constituent with the same feature. However, following Starke (2001) I adopt a ‘relativised’ version of this locality condition: the intervention effect induced by α can be overcome if the moved constituent has an additional feature. In terms of a probe-goal relation one might adopt the following formulation, from Lahne (2008):

- (24) Maximizing matching principle (MMP)⁸.
- (Let π be a Probe and P the feature set of π . Let γ be a Goal in the search space of π and G the feature set of γ .)
 - A feature set $Q \subseteq P$ with $|Q| \geq 1$ must be satisfied with a feature set $H \subseteq G$ iff H is the most specific goal in the search space of π .
 - Specificity is determined by cardinality: A Match between Q and H is more specific than a Match between Q' and H' iff $|Q| > |Q'|$.
- (Lahne (2008: Glow handout: p. 2, her (6))

I assume that *wh*-phrases, including *whether*, are associated with an operator feature, here represented as Q. Schematically, the present/absent intervention effects in (23) could be summarized as in (25). In (25a), the feature Q on *whether* will intervene between a higher probe with Q and a lower *wh*-constituent with the same feature Q, creating a weak island (WI). The blocking effect of the intermediate Q can be overcome if the probe/goal relation is constructed on the basis of Q + an additional feature (here δ):

- (25) a *whether* wh_{int}
 Q Q Q
 b *whether* $wh_{int,D-linked}$
 Q+ δ Q Q+ δ
 c *whether* Rel
 Q+ δ Q Q+ δ

In English: fronted topics create islands for *wh*-extraction (26a,b,c), while they themselves can escape from WI (26d):

⁸ For a similar recent proposal see also Landau (2008: 15 (his (54))).

- (26) a *Who did you say that to Sue Bill introduced? (Boeckx & Jeong 2004: (3))
 b *How do you think that, this problem, we will solve ?
 c *A student to whom, your book, I will recommend.
 d ?This problem, I wonder whether John will be able to solve.

Since they can escape from WI, this suggests that fronted arguments are like D-linked constituents and associated with the relevant feature that allows them to avoid WI. Since fronted topics also prevent *wh*-extraction (26a,b,c) they must share a relevant feature with *wh*-constituents. Boeckx and Jeong (2004: 18)⁹ say: ‘we regard [Topicalized and Focused elements] both as quantificational elements (forming operator variable chains), possessing a [+Q], feature’. Following (Boeckx & Jeong 2004) I will assume that English fronted topics bear the features δ and Q and that by virtue of this specification they will be interveners both for constituents which simply have the feature Q as well as for those with the feature specification $\delta + Q$.

If the operator that derives the temporal and conditional adverbial clause also has the feature Q, it will follow that topicalization in adverbial clauses gives rise to an intervention effect. (27) is a schematic representation for a temporal clause:

- (27) *when/if this problem you are able to solve t
 *Q $\delta+Q$ (topic) Q

The fact that adjuncts can occur in the left periphery of adverbial clauses (cf. section 2.1.2) must mean that they are featurally distinct from the operator involved in the derivation of adverbial clauses.

3. Further predictions of the movement account

3.1. English

3.1.1. ‘Main Clause Phenomena’ are illicit in adverbial clauses

The movement analysis of adverbial clauses provides us with an account for the fact that other so called ‘Main Clause Phenomena’ (Hooper and Thompson 1973) are excluded in adverbial clauses. For instance, neither VP-preposing (28a,b) nor preposing around *be* (28c,d) are possible. This follows if such preposing operations also create an operator variable relation. The fronted constituent in the left periphery will then intervene with the movement of the operator that derives the adverbial clause.

- (28) a *When passed these exams you have, you’ll get the degree.
 b *If passed these exams you have, you’ll get the degree.
 c *While watching them from the street corner was a policeman from London, they emptied the house.
 d *If waiting for you when you arrive should be a police officer, get in touch with me.

There is a consensus in the literature that so called Locative inversion preposes a PP in the SpecTopP position (cf. Den Dikken and Naess 1993, Rizzi and Shlonsky 2006). Once again, such preposing will give rise to an intervention effect and hence is expected to be ruled out in adverbial clauses:

⁹ This implies a similarity between topics and D-linked *wh*-phrases (cf. Grohmann 2005, Boeckx and Grohmann 2004)

- (29) a *Helen and Jack had dinner before into the kitchen trooped the children.
 b *We were all much happier when upstairs lived the Browns.
 (Hooper&Thompson 1973: 496 (their (251) & (253))

3.1.2. 'Peripheral' adverbial clauses (Haegeman 2003a)

So far I have only discussed temporal and conditional adverbial clauses. Their main function is to modify the event expressed in the main clause. In Haegeman (2003a) I have shown that such clauses are subordinated to the main clause and I have provided a number of arguments for this. I have labelled such integrated adverbial clauses 'central' adverbial clauses. However, not all clauses usually labelled adverbial are integrated. There is a second class of adverbial clauses which have a much looser relation with the matrix clause (see Haegeman (2003a) for arguments). This was already pointed out by Hornstein:

There is a **secondary conjunctive interpretation** that all these connectives (*as*, *while*, *when*) shade into. They get an interpretation similar to *and* in these contexts. *And* is not a temporal connective, and these conjunctive interpretations do not tell against the theory [of temporal subordination and complex tense structures] (Hornstein (1993: 206: note 19)).

Such 'peripheral' adverbial clauses also arguably are not derived by operator movement. Bhatt & Pancheva say: '*because* and *since* are sentential functions and not quantifiers, that is, they do not bind positions inside their clause.' (Bhatt & Pancheva 2006: 656). The same applies to concessive/contrastive *while* clauses. Unlike temporal *while* clauses, which are temporally subordinated to the main clause, contrastive *while* clauses are temporally independent from the main clause. In (30) the first *while* clause is contrastive/concessive, and the second one is temporal. Concessive clauses introduced by (*al*)*though* and *whereas* also belong to this class. For conditionals see the discussion in Haegeman (2003a).

- (30) While_{conc} [the lawsuit challenging the legitimacy of lethal injections] probably won't stop the use of lethal injection altogether, it will certainly delay its use while_{temp} [the supreme court decides what to do]. (*Guardian* G2, 12.12., 2003, page 4, col 4)

If such peripheral adverbial clauses are not derived by movement of a temporal/modal operator from IP to CP (i.e. if there is an operator in their CP domain, it is externally merged) then we predict that they will be compatible with argument fronting. This is confirmed by the examples in (31):

- (31) a His face not many admired, while his character still fewer felt they could praise. (Quirk et al 1985: 1378)
 b It is amazing how this view could have spread about someone who changed the image of causes like Aids and landmines, and in doing so showed a possible new role for the royals. It is particularly ironic since so much of what Diana did for her fellow humans she did with no concern for publicity whatsoever. (*Guardian*, G2, 31.8.4 page 9 col 2)
 c I think we have more or less solved the problem for donkeys here, because those we haven't got, we know about. (*Guardian*, G2, 18.2.3, page 3, col 2).

- d We don't look to his paintings for common place truths, though truths they contain none the less (*Guardian*, G2, 18.02.3, page 8, col 1)

A further correct prediction of the account is that Locative Inversion will also be acceptable in 'peripheral' adverbial clauses:

- (31) e At one end of the tranquil valley stood the towering form of Turch Mir, the highest mountain in the Hindu Kush, while at the other swept a row of icy peaks. (Travel, *Guardian*, 13.1. 7 page 2 col 2)

3.2. CLLD in Romance adverbial clauses

The intervention account developed here leads to the prediction that if there is a type of argument fronting that is known not to give rise to the intervention effects observed for English argument fronting, then this type of argument fronting should be compatible with temporal and conditional clauses. Romance clitic left dislocation (CLLD) is a case in point: Romance CLLD differs from English style argument fronting in that the intervention effects are notably reduced (cf. for analyses: Cinque 1990, Cecchetto 2000)¹⁰. For instance, multiple argument fronting leads to a degradation in the English (32a), while multiple CLLD is possible (32b):

- (32) a *Bill_i, that house_j, she took t_i to t_j for the weekend (Emonds 2004: 95 (27b))
 b Il libro, a Gianni, glielo darò senz'altro.
 the book, to Gianni him-it give-FUT-1SG without doubt
 'This book, I will give it to Gianni without doubt.' (Rizzi 1997: 290, his (21))

A fronted topic creates an island in English, both for *wh*-movement (33a) and for topicalisation (33b), but in Italian a CLLD argument does not create an island for *wh*-movement (33c) nor for CLLD (33d). For an account: see Rizzi (2004).

- (33) a *To whom_j do you think that these books_i he has shown t_i t_j ?
 b *These books_j I think that his brother_i he has shown t_i t_j ?
 c ?Non so a chi pensi che, tuo fratello, lo potremmo affidare (Rizzi 2002: his (64a))
 'I don't know to whom you think that, your brother, we could entrust'
 d Loro, il libro, credi che a Carlo sia sicuro che non glielo darano mai.
 them, the book, I think that to Carlo it is certain that *non* them it give-FUT-3PL ever. (Cinque 1990: 63, his (10))

As expected, CLLD (34a) and multiple CLLD (34b) are allowed in adverbial clauses¹¹.

- (34) Italian
 a Se gli esami finali non li superi, non otterrai il diploma.
 if the final exams not them pass-2SG, non obtain-FUT-2SG the degree.
 'If you don't pass the final exams, you won't get the degree.'

¹⁰ It is not the case, though, that no island effects are found with CLLD. For instance, CLLD is sensitive to the CNPC, as shown in (i) from Alexopoulou et al (2004: 343: (40)

(i) *A Carlo, ti parlerò solo delle persone che gli piacciono.

To Carlo, you talk-FUT-1SG only of-the people that him please-3PL

¹¹ See Haegeman (2006a) for more examples, but with a different analysis.

- b Se a Gianni questo libro non glielo mostro, sarà molto deluso.
 if to Gianni this book *non* him-it show-1SG, be FUT-3SG very disappointed
 ‘If you don’t show this book to Gianni, he will be very disappointed.’

Observe that focalization is not allowed in Italian adverbial clauses¹²:

- (35) a *Se IL MIO LIBRO riesci a leggere, supererai l'esame.
 If MY BOOK manage-2SG to read, pass-FUT-2SG the exam
 b OK Se il mio libro riesci a leggerlo, supererai l'esame.
 if my book you manage-2SG to read-it, pass FUT-2SG the exam
 ‘If you manage to read my book, you’ll pass the exam.’

Cardinaletti (2007) discusses the examples in (36): while CLLD is allowed in the conditional clause in (36a), the preposing without a clitic is disallowed (36b).

- (36) a Se la stessa proposta la fa anche l’altro candidate,
 If the same proposal it make-3SG also the other candidate,
 non otterrai quel posto.
non obtain-FUT-2SG that position
 ‘If the other candidate makes the same proposal, you won’t get that position.’
 (Cardinaletti 2007: 5: her (11a))
 b *Se la stessa proposta fa anche l’altro candidate,
 If the same proposal make-3SG also the other candidate,
 non otterrai quel posto
non obtain-FUT-2SG that position (Cardinaletti 2007: 5: her (11a))

3.3. Operators in Romance adverbial clauses

Hernanz (2007a,b) discusses the distribution of polarity emphasizer *bien* in Spanish (37a). This operator is found in the left periphery of the clause and Hernanz proposes it is a *wh*-operator which moves to SpecFocP. Adopting the movement derivation for adverbial clauses we correctly predict that the presence of emphatic *bien* will lead to an intervention effect and that it will be incompatible with adverbial clauses (37b):

- (37) a Bien me gustaría ayudarte, pero no puedo. (Hernanz 2007b : 113 (17b))
 well CL-DAT would please help+CL-ACC, but (I) can’t.
 ‘I would indeed like to help you, but I can’t.’
 b Cuando Pepe (*bien) trabaja, ve la televisión. (2007b : 130 : (51b))
 when Pepe (*well) works , he watches television
 ‘When Pepe works, he watches television.’

For additional predictions of the account see Haegeman (2008) and Haegeman (to appear).

4. Other finite domains that resist MCP

As discussed by Emonds (1970, 1976, 2004), Hooper and Thompson (1973), Heycock (2006) among others, adverbial clauses are not the only type of finite clause which is incompatible with Main Clause Phenomena (MCP). Non-assertive complement clauses (cf. Hooper & Thompson 1973), and in particular, complements of factive predicates also resist MCP:

¹² Judgements Luigi Rizzi, p.c.

(38) (%) *John regrets that this book Mary read.¹³ (Maki et al 1999: p. 3, their (2c))

The question arises whether the incompatibility of such clauses with argument fronting can also be related to an intervention effect. Though further research is needed here, note that Aboh (2005) shows that in Gungbe the complements of factive verbs are in fact derived like relative clauses and involve leftward movement of an argument or of the verb itself. He proposed that such clauses are derived by leftward movement of the event operator (see also Melvold 1991). We might propose (*pace* Aboh) that the English examples in (38) instantiate abstract movement¹⁴.

Complements of N are also incompatible with argument fronting:

- (39) a *I resent the fact that each part he had to examine carefully. (Hooper & Thompson, 1973: 479, their (109))
 b *A warning that flights to Chicago travellers should avoid will soon be posted. (Emonds 2004: 77 (2c))

Pursuing remarks by Kayne (2008: section 10), one might propose that what is labelled the ‘complement’ of such nouns in fact involves relativization. See Kayne (2008) for discussion.

English present subjunctives are also incompatible with argument fronting:

- (40) It’s important that the book he study carefully
 (Hooper & Thompson 1973: 485, (166))

It has been proposed that subjunctive clauses contain an operator in SpecCP (Kempchinsky 1987). If it we postulate that this operator has been moved from a lower position, then the ungrammaticality of (40) is again due to an intervention effect. For a similar idea with respect to Polish see Tomaszewicz (2008).

5. Summary

This paper explores the movement analysis of adverbial clauses which has repeatedly been put forward in the literature. It is shown that this analysis, coupled with a theory of locality, offers a good account for the absence of argument fronting in adverbial clauses. A movement analysis of adverbial clauses allows us also to account for a number of other such phenomena both in English and in other languages.

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¹³ On factive verbs and semifactives see Hooper and Thompson (1973: 480 ff.).S

¹⁴ The unacceptability of emphatic *bien* in the complement of factive clauses in Spanish (i) then equally is due to an intervention effect:

- (i) Lamento que *bien sean ricos (Hernanz 2007b: 129: (49b))
 Regret-1SG that well are rich

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