

An intervention account of the distribution of main clause phenomena: Evidence from ellipsis¹

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Abstract: Based on an examination of some asymmetries between VP ellipsis and VP fronting, this paper argues for an intervention approach and against a truncation approach to the distribution of main clause phenomena in adverbial clauses and, by extension, in non-root contexts in general. Adopting Authier's (2011) treatment of VP ellipsis whereby the to-be-elided VP undergoes fronting in the computational component but fails to be spelled out at PF, these asymmetries follow from the fact that a fronted VP, being an intervener for *wh*-movement in adverbial clauses, triggers a PF crash unless ellipsis allows the derivation to converge via Bošković's (2011) 'rescue by PF deletion' mechanism. This proposal entails that adverbial clauses are derived by *wh*-movement (Haegeman (2006) among others) and that the landing site for VP fronting is available in a non-root environment, two assumptions that militate against a truncation account of non-root clauses.

Keywords: *main clause phenomena, VP ellipsis, VP fronting, repair by ellipsis, truncation, left periphery, intervention, adverbial clauses.*

Resumen: Partiendo del examen de algunas asimetrías entre la elipsis del SV y la anteposición del SV, este artículo propone una explicación basada en la intervención y contrario a un enfoque basado en el truncamiento de la distribución de los fenómenos de cláusula principal en cláusulas adverbiales y, por extensión, también en cláusulas no principales en general. Si adoptamos el tratamiento de la elipsis del SV de Authier (2011), en el cual el SV a elidir se mueve a izquierda en el componente computacional aunque termina no siendo pronunciado en la FF, estas asimetrías son consecuencia

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del hecho de que un SV antepuesto, por intervenir en el movimiento-Q de cláusulas adverbiales, provoca una incompatibilidad en FF a menos que la elipsis permita la convergencia de la derivación mediante el mecanismo de ‘rescate por borrado en FF’ de Bošković (2011). Esta propuesta implica que las cláusulas adverbiales se derivan por movimiento-Q (Haegeman (2006) entre otros) y que la posición a la que se mueve un SV antepuesto está disponible en cláusulas no principales, dos supuestos que contradicen explicaciones basadas en el truncamiento de las cláusulas no principales.

Palabras clave: fenómenos de cláusula principal, elipsis en el SV, anteposición del SV, reparación por elipsis, truncamiento, periferia izquierda, intervención, cláusulas adverbiales.

Resumo: Baseado numa análise de algumas assimetrias entre elipse de VP e fronteamto de VP, este artigo defende uma abordagem intervencional e rejeita uma abordagem de truncamento da distribuição de fenómenos de orações raiz em orações adverbiais e, por extensão, em contextos não raiz em geral. Adotando o tratamento da elipse de VP de Authier (2011), de acordo com o qual o VP a elidir sofre fronteamto na componente computacional mas não é interpretado em PF, estas assimetrias decorrem do facto de que um VP fronteado, sendo um interveniente no movimento-wh em orações adverbiais, desencadeia uma falha em PF, a não ser que a elipse permita que a derivação convirja através do mecanismo de “reconstrução por apagamento em PF” de Bošković (2011). Esta proposta implica que as orações adverbiais sejam derivadas por movimento-wh (Haegeman, 2006; entre outros) e que a posição de chegada para o fronteamto de VP esteja disponível num ambiente não raiz, duas assunções que vão contra uma abordagem de truncamento de orações não raiz.

Palavras-chave: Fenómenos de orações raíz, elipse de VP, fronteamto de VP, reconstrução por elipse, truncamento, periferia esquerda, intervenção, orações adverbiais.

1. Background: Main clause phenomena in embedded domains

It is well known that a subset of complement clauses and adverbial clauses resist left periphery phenomena, hereafter referred to as ‘main clause phenomena’ (MCP). In the present study, we restrict our attention to MCP that are derived by the fronting operations illustrated in (1): (1a) exemplifies topicalization of an argument, (1b), negative inversion, (1c), locative inversion, (1d), inversion in copular structures, and (1e), VP fronting. Our discussion initially focuses on argument fronting, but is then extended to cover English VP topicalization and French infinitival TP topicalization.

In English, argument fronting is available in root clauses and in a restricted set of complement clauses, but it is excluded from central adverbial clauses (in the sense of Haegeman 2003a and later work) and from sentential



complements to factive verbs (see Authier 1992 among others).² For example, as shown in (2), argument fronting is found in clauses complement to *tell* (2a), but is excluded from complement clauses to factive verbs like *regret* and *realize* (2b-e).³

- (1)
- a. This book, Mary hasn't read.
 - b. Not a single proposal did we agree with.
 - c. In each hallway is/hangs/has long stood a large poster of Lincoln. (Emonds 1976: 37, his (40)).
 - d. Present at the meeting were the company directors.⁴
 - e. Fix the car, he will.
- (2)
- a. She told me that that book, she hadn't read yet.
 - b. (%)*John regrets [that this book, Mary read]. (Maki *et al.*, 1999:3, their (2c))
 - c. *I regret [that Mary, my antics upset as much as they did]. (Alrenga 2005: 179 (16b))
 - d. *John regretted that *Gone with the Wind*, we went to see. (Watanabe 1993: 525 cited in Honda 2010:730, example (17a))
 - e. *Mary realizes [that this book, John read]. (Hegarty 1991: 52, n.19, his (iii))

In their seminal work, Hooper and Thompson (1973) account for the restricted distribution of these fronting operations in semantic/pragmatic terms. For them, such operations encode emphasis and depend on 'assertion'. They, in fact, explicitly reject the plausibility of a syntactic account, which they claim would be non-explanatory (1973: 495). Nevertheless, Hooper and Thompson's discussion does not entirely rule out the relevance of syntax in that they explicitly state that MCP are banned from 'reduced' clauses (1973: 484-5). This observation, coupled with cartographic views of syntax, including the hypothesis of the articulated structure of the left periphery, can be reinterpreted to mean that the restriction on fronting operations, which are operations that affect the left periphery of the clause, can be (partly) syntactic. In terms of a cartographic view, a syntactic approach to the restricted distribution of MCP can then be taken to imply that the domains that resist the type of fronting illustrated in (1) are in some way structurally deficient: either these domains are truncated structures and simply lack the relevant left-peripheral landing sites targeted by the fronting operations or, alternatively, while the landing sites might potentially remain available, they cannot be fully projected to

² See, however, section 3.4 for a more in-depth discussion.

³ Bianchi and Frascarelli (2010) discuss some instances of argument fronting in factive clauses. We refer the reader to Haegeman and Ürögdi (2010a: 129-132) for further discussion.

⁴ A specific subset of these are comparative constructions like (i) (Emonds 1976: 35, (35))

(i) More important has been the establishment of legal services.





accommodate the fronting operations in question for independent reasons. Following these two lines of thought, two syntactic accounts for the absence of MCP in the domains considered here have been elaborated: the truncation account and the intervention account. The truncation account takes structural reduction to be a primitive: this account directly ascribes the restrictions on argument fronting to the lack of structural space needed for these operations to take place. The intervention account, on the other hand, hypothesizes that those domains that are incompatible with the fronting operations in (1) are themselves derived by movement and that this movement interferes with fronting operations. In other words, on this view, the ‘truncation effect’ is, in fact, taken to be a by-product of locality considerations.

In sections 2 and 3 we will first briefly outline these two syntactic accounts. Empirically, they appear to be equivalent in that both approaches correctly predict that English argument fronting is banned in sentential complements to factive verbs and in adverbial clauses. It must be pointed out from the beginning, however, that conceptually, the intervention account is superior because it appeals to constraints on locality, which are independently motivated (Rizzi 1990), and thus it derives the truncation effect.

In the second part of the paper, we examine an asymmetry in the distribution of VP topicalization and VP ellipsis in English and TP ellipsis in French and show that one specific account of that asymmetry, cast in terms of Bošković’s (2011) ‘repair by ellipsis,’ is compatible with the intervention account but raises non-trivial problems for the truncation account.

Note finally that throughout this paper, we use the term MCP to refer to the fronting operations illustrated in (1), and we take argument fronting to be representative of these operations. Other MCP may have a different distribution (Miyagawa 2012) but we will not be concerned with them here.

2. The truncation approach

One type of syntactic account of the restricted distribution of MCP interprets Hooper and Thompson’s findings in terms of a ‘structural deficiency’ exhibited by certain clauses. Such clauses, adverbial and complement clauses of the relevant type, are taken to have a reduced left periphery. The idea that structural truncation determines the distribution of MCP has been put forth in a number of works, including Kuroda (1992: 350), Benincà & Poletto (2004), Grewendorf (2002: 53), Emonds (2004), McCloskey (2006), Meinunger (2004), and Haegeman (2003a, 2006). Haegeman’s specific implementation for adverbial clauses was subsequently explored by Carrilho (2005: 244-5, 2008), Munaro (2005), Hernanz (2007a, b), Bentzen *et al.* (2007), Abels & Muriungi (2008: 693-4), Cardinaletti (2009), Wiklund *et al.* (2009). Basse (2008) offers a





Minimalist implementation according to which complements to factive verbs lack an edge feature, thus disallowing fronting.

As has been clear from the beginning of this line of research, however, domains that lack MCP cannot be assumed to lack a left periphery altogether. This is because such clause types manifest phenomena that are typically associated with the C-field such as clitic left dislocation in French (3) and Italian (4). For Spanish see Jiménez-Fernández (2010).

- (3) a. Quand cette chanson, je l'ai entendue,
when that song I it-have-1SG hear-PART,
j'ai pensé à mon premier amour.
I-have-1SG think-PART to my first love
'When I heard that song, I thought of my first love.'
- b. Jean regrette que son texte, tu ne l'aies pas lu.
Jean regret-3SG that his text you ne it have-SUBJ-2SG not read-PART.
'Jean regrets that you haven't read his text.'
- (4) a. Se la stessa proposta la fa anche l'altro candidato...
if the same proposal it make3SG also the other candidate...
'If the other candidate also makes the same proposal...'
(Cardinaletti 2009: 6, (22a)) (Italian)
- b. Mi dispiace che questo problema gli studenti
me displease-3SG that this problem the student-PL
non l'abbiano potuto risolvere
non it have-SUBJ-3PL can-PART solve
'I am sorry that the students have not been able to solve this problem.'

So, rather than claiming that there is no left periphery at all, 'positional' accounts of the incompatibility of the clausal domains in question with argument fronting postulate that such domains are characterized by a reduced or 'truncated' left peripheral space. Thus, while (5a) corresponds to Rizzi's original articulated CP, (5b) represents the reduced left periphery available in adverbial clauses and in complements to factive verbs proposed by Haegeman (2003a, 2006). Haegeman (2003a, 2006) further argues that the projection ForceP exclusively encodes illocutionary force, and that the subordinating conjunction is hosted by a distinct head 'Sub'. Presupposed domains such as central adverbial clauses and complements to factive verbs are then assumed to lack illocutionary force, hence ForceP is absent.

Haegeman assumes that the higher TopP and FocP, but not the lower TopP, are dependent on ForceP. As a result, in reduced domains, FocP and the higher TopP are absent, *de facto* ruling out argument fronting in English, although the lower TopP remains available. The lower TopP is, however, only 'active' in Romance, where it hosts CLLD constituents. The same lower TopP in English cannot host argument fronting, as (5c) shows. We refer the reader to Haegeman (2006) for details. Finally, to accommodate adjuncts that appear in





the left periphery in English central adverbial clauses (cf. (5d)), Haegeman (2003b, 2006) postulates a specialized projection ModP (cf. also Rizzi 2004).

- (5) a. (SubP)> ForceP > (TopP) > (FocP) > ModP > TopP > FinP
 b. SubP ~~ForceP > (TopP) > (FocP)~~ > ModP > TopP > FinP
 c. *When [that song] we heard...
 d. When [last year] she started to work for the UN, she suddenly became much more relaxed.

Recall now that Hopper and Thompson relate the availability of MCP to assertion. On the truncation account this follows from the fact that reduced domains lack ForceP, the projection that, by hypothesis, encodes illocutionary force, i.e. assertion.

There are a number of problems of implementation inherent to the truncation account (cf. Haegeman 2012, to appear) that, for reasons of space, we will not discuss here. There is, additionally, a further, more serious objection of the conceptual type that one may raise with respect to the truncation account; that is, it ignores the fact that the patterns observed in the left periphery of reduced clauses are, in fact, replicated in other domains in which they have standardly been accounted for in terms of intervention and for which structural truncation has, so far, not been advocated as an explanatory principle. In particular, we observe that the domains with restricted argument fronting operations display a double asymmetry: (i) while argument fronting is unavailable in English, adjuncts can appear in the left periphery (5d), (ii) while argument fronting is unavailable in English, CLLD involving argument phrases is available in Romance. Similar asymmetries have also been reported for domains such as embedded *wh*-questions (6), relative clauses, (7), and embedded clauses in the context of long extraction (8).

- (6) a. *Robin knows where, the birdseed, you are going to put. (Culicover 1991: 5, (6c))
 b. Lee forgot which dishes, under normal circumstances, you would put on the table (Culicover 1991: 9, (17d))
 c. It. Non so proprio chi, questo libro, potrebbe recensirlo.
non know-1SG honestly who, this book, can-COND-3SG review-it
 'I honestly don't know who could review this book.'
 (based on Cinque 1990: 58, (1b))
- (7) a. *These are the students to whom, your book, we will recommend next spring.
 b. These are the students to whom, next spring, we will recommend your book.
 c. It. ?Eccolo studente a cui, il tuo libro, lo darò domani.
 This.is.the student to whom the your book it give-FUT-1SG tomorrow
- (8) a. *Who did you say that to Sue, Bill introduced? (Boeckx & Jeong 2004, (3))
 b. Which book did Leslie say that for all intents and purposes, John co-authored with Mary? (Bošković 2011:34, n. 34, (i), from Culicover 1991)



- c. It. ?Non so a chi pensi che, tuo fratello,
non know-1SG to whom think-2SG that your brother
lo potremmo affidare.
him can-COND-1PL entrust (Rizzi 2004, (64a))
'I don't know to whom you think that, your brother, we could entrust.'

The patterns in (6)-(8) are not usually dealt with in terms of truncation. Rather, it is standardly assumed that fronted arguments are interveners for *wh*-movement, while adjuncts and CLLD constituents in the left periphery are not. The precise formalization of the locality constraints on movement depends on the theory of intervention adopted, and implementations vary. In section 3.1 we outline a version of the feature-based Relativized Minimality developed by Rizzi (1990, 2004) and Starke (2001) and recently adopted in Abels (2012), one that gives fronted arguments the status of strong interveners. We specifically refer the reader to Haegeman and Ürögdi (2010a, b), on which this section is based.

Finally, we note that in English, a fronted argument is (perhaps marginally, see Rizzi 1997: 331-2 for discussion) compatible with an adjunct to its right (9a); multiple argument fronting is excluded (9b) (see Breul 2004: 199-205 for a recent survey); and multiple adjuncts (9c) and multiple CLLD (9d) are possible in the left periphery. For Spanish see Jiménez-Fernández (2010, 2011).

- (9) a. This book, around Christmas, you should buy. (Rizzi 1997:331, n 26, (i))
b. *This book, to Robin, we gave. (Culicover 1991:36, (117a)).⁵
*Bill, that house, she took to for the weekend. (Emonds 2004:95 (27b))
c. Last week, in Paris, after a hard day's work, he met his agent again.
Deep down, as we grew up, we rued the fact we hadn't taken that path.
(*Guardian* 05.05.2009, page 2, col. 5)
d. It. Il libro, a Gianni, glielo darò senz'altro.
the book, to Gianni him-it give-FUT-1SG without doubt
'I will give Gianni the book without doubt.' (Rizzi 1997: 290, (21))

As will be discussed in section 3.1, this type of paradigm also seems to call for an intervention account in which one fronted argument blocks the movement of another but a left-peripheral adjunct does not block the fronting of another (but see Haegeman (2003b) for provisos concerning adjunct fronting).

⁵ See Breul (2004: 199-205) for discussion of multiple fronting in English. The English examples are much improved if the first constituent is a topicalized constituent and the second is focalized. This follows from a feature based account on intervention as in Starke (2001) and Rizzi (2004).





3. Movement and intervention

3.1. A feature based theory of intervention.

In this section we sketch a feature based theory of intervention.⁶ This particular version of it was developed by Haegeman and Ürögdi (2010a, 2010b) and Haegeman (to appear: chapter 3). It must be stressed from the onset, however, that the arguments put forth in this paper go through regardless of the specific implementation of locality one adopts.

It is generally agreed in the literature that in English, the manner *wh*-adjunct *how* cannot be extracted out of a weak island created by *whether* (10a), whereas a D-linked *wh*-phrase like *which problem* in (10b) may be so extracted and so can a relative operator as (10c) illustrates.

- (10) 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 we wonder whether John will solve.

Based on paradigms such as that in (10), the consensus in the literature is that extraction out of a weak island is facilitated by the presence of an ‘extra’ discourse-related feature on the extractee. Following Haegeman (2012), and Haegeman and Ürögdi (2010a), we represent the facilitating discourse-feature that plays a role in the availability of extraction in (10b-c) with the symbol δ . As discussed by the authors cited, δ may be treated as a unitary factor, although it more likely consists of a set of features that determine different types of extraction (cf. Starke 2001). Following Boeckx and Jeong (2004), Rizzi (1990, 2001, 2004), Starke (2001), Haegeman (to appear), Abels (2012), and others, we assume that locality should be understood as a ban against ‘likes crossing likes’ (Abels 2012: 247). Accordingly, a constituent bearing a feature α will block the extraction of another constituent endowed with the same feature. Following Starke (2001) and Rizzi (2004), we assume that the blocking effect induced by an intervening α can be overcome if the moved constituent that also bears α is enriched with an additional feature. We propose that D-linking, which relates an operator to the discourse, endows the moved constituent with such a feature, here represented as δ .

To account for the pattern in (10), schematized as in (11), Haegeman and Ürögdi (2010b) assume that *wh*-phrases, including *whether*, are associated with an operator feature, Q. In (11a), Q on *whether* blocks the movement of the lower *wh*-constituent endowed with the matching feature Q. In (11b-c), however, the blocking effect of Q is obviated by virtue of the presence of δ . The assumption is

⁶ This section was written in response to the reviewers’ suggestion that we discuss this issue in more detail. We thank them for their helpful input.



therefore that D-linked *wh*-phrases are featurally enriched and as such have the ability to void the island created by a (bare) Q feature. Similarly, following Haegeman (2012), *wh*-operators in restrictive relatives are taken to be featurally enriched, by virtue of being linked to a nominal head. (In a promotion analysis, the head itself would be the ‘enriched’ operator.)⁷

- | | | | | |
|------|----|-------------|----------------|---------------------|
| (11) | a. | | <i>whether</i> | wh_{int} |
| | | Q | Q | Q |
| | b. | | <i>whether</i> | $wh_{int,D-linked}$ |
| | | Q+ δ | Q | Q+ δ |
| | c. | | <i>whether</i> | Rel |
| | | Q+ δ | Q | Q+ δ |

Consider next the fact that English fronted arguments also create islands for *wh*-extraction (12a), while they themselves are extractable out of weak islands (12b).

- (12) a. *Who did you say that to Sue, Bill introduced? (Boeckx and Jeong 2004, (3))
b. ?This problem, we wonder whether John will be able to solve.

Since fronted arguments prevent *wh*-extraction, they must share a relevant feature with *wh*-constituents. We assume this feature to be Q. Moreover, the fact that fronted arguments can overcome the weak island created by *whether* in (12b) suggests that they are (or can be) enriched with δ as well. Hence, English fronted arguments may have the combination $\delta + Q$ (Boeckx and Jeong 2004: 18), and by virtue of this specification they are interveners for both constituents bearing a Q feature (i.e., ‘pure’ *wh*-operators) and constituents endowed with the combination $\delta + Q$ (i.e., D-linked *wh*-operators and topicalized DPs).

Consider next the case of examples like (13).⁸

- (13) He is a man to whom liberty, we should never grant. (cf. Baltin 1982)

Such examples are, for many speakers, fully grammatical and their existence suggests that fronted arguments in English are not absolute blockers for extraction. This is not unexpected. If we assume that in relative clauses, the operator can be featurally enriched, we predict that it will be able to cross over

⁷ Shigeru Miyagawa (p.c.) points out that such an account presupposes that relativization is sufficiently similar to topicalization. The issue is discussed in Haegeman (to appear, chapter 3). The idea that there indeed is a connection between topicalization and relativization goes back to at least Kuno (1976). For more recent proposals to the effect that topicalization and relativization are similar, see Bianchi (1999: 200, 2004: 93-4), Miyagawa (2010: 155, note 2), Abels (2012: 250) and the references cited there.

⁸ We are grateful to an anonymous reviewer for reminding us of these data.





those fronted arguments that lack the feature δ . All we need to assume with respect to (13) then is that the fronted argument *liberty* only bears a Q feature (i.e., lacks the D-linking feature δ). This seems to us a reasonable assumption given that *liberty* is not related to any obvious contextually available set. Further, (13) is, for some speakers, not fully grammatical. This may be attributable to the fact that the enrichment of the relative operator is made more difficult because it is in itself rather 'poor' as a contextualizer ('a man').

Following the same line of reasoning, we also predict that two arguments may be fronted simultaneously as long as their feature composition is such that the one that will move higher is featurally richer than the lower one. Concretely, this derives the obligatory order topic > focus. This is so because it is topics (i.e., entities that are in some sense 'given' or linked to discourse sets) that carry the D-linking feature δ . If we assume that in root questions, *wh*-constituents move to Spec FocP, then the system outlined above derives the grammaticality of examples like (14) in a straightforward manner.

- (14) a. And a book like this, to whom would you give?
(Koizumi 1995: 146, (47a), Delahunty 1983)
- b. That house that you were looking at, how much did you say would cost per month?
(Culicover 1996: 461, (49b))
- c. Tom, why would anyone want to meet? (Bianchi 1999: 179, (53e))

The examples in (15), on the other hand, show that sentence-initial circumstantial adjuncts do not give rise to the same type of intervention: they do not block *wh*-movement (15a-b), and neither do they block argument fronting (15c-e).

- (15) a. Lee forgot which dishes, under normal circumstances, you would put on the table
(Culicover 1991: 9, (17d))
- b. These are the patients to whom Marty suggested that in the present circumstances, we should give the cooked vegetables.
- c. This book, around Christmas, you should buy. (Rizzi 1997: 331, n 26, (i))
- d. Words like that, in front of my mother, I would never say. (Rizzi 2012: 4, (20))
- e. To these patients, Marty suggested that in the present circumstances, we should give the cooked vegetables.

Following Browning (1996) and Haegeman (2003a), we postulate that sentence-initial adjuncts can be merged directly in their spell-out position, and lack the potentially intervening feature Q (for further complications, see, however, Haegeman 2003a).

The fronted argument in the Romance CLLD construction must also be featurally distinct from fronted arguments in English since it systematically fails to yield intervention effects (see Cinque 1990 and Rizzi 2004 for discussion). We adopt here the suggestion made by Rizzi (2004) that CLLD is featurally distinct from argument fronting in English:



If topics form a separate class from other A' dependencies, we predict that we will not find locality interactions with other types of A' dependencies. (Rizzi 2004: 245)

Let us tentatively assume that CLLD 'escapes' intervention effects because the relevant constituents are merged in the left periphery. This means that argument fronting in English is syntactically different from CLLD, an assumption made, for instance, by Cardinaletti (2009). We refer the reader to her paper for arguments, and also to Haegeman (to appear) for discussion of this issue.

One point that deserves mention here, however, is that we need to assume that in English, fronting of arguments is invariably associated with the presence of a quantificational feature Q, an idea also found in Cardinaletti's (2009), though implemented differently. This sets English argument fronting apart from CLLD more strongly than is assumed by Rizzi (1997). In particular, Rizzi argues that since fronted topics in English do not trigger WCO effects, they are not quantificational (see (16a) vs. (16b)).

- (16) a. ?* Who_i does his_i mother love?
b. John_i, his_i mother really loves.
c. (?) Which boy_i does his_i mother love?

Of course, given the idea that English argument fronting is like *wh*-movement (cf. e.g., Boeckx and Jeong 2004), the question now arises as to why WCO does not rule out (16b) as it does (16a). We speculate, with Haegeman (to appear), that the absence of WCO effects in such cases is due to the availability of δ . Iatridou (1995: 28), who credits David Pesetsky for the observation, shows that D-linking alleviates WCO in the case of *wh*-movement as well.

3.2. Intervention and Main Clause Phenomena

Given the theory of intervention sketched in section 3.1, the double asymmetry in (8) and the patterns in (9) now follow from locality conditions on movement. The same double asymmetry arises in adverbial clauses: the paradigm in (17) shows that in temporal *when* clauses, argument fronting is unavailable in English (17a) while CLLD remains possible in Romance (17b).

- (17) a. *When this song we heard, ...
b. Quand cette chanson, je l'ai entendue...
when this song I it.have-1SG hear-PART-FEMSG

The asymmetry between English argument fronting and Romance CLLD in (17) is parallel to that displayed in interrogative *when* clauses as the paradigm in (18) shows.

- (18) a. *I wonder when [this song] we heard.





- b. Je me demande quand [cette chanson], je l'ai entendue
 I myself ask-1SG when this song I it-have-1SG hear-PART-FSG

Given that the asymmetry displayed in (18) is, by hypothesis, determined by the locality effects discussed so far, we must also assess the plausibility of such an approach in the context of the double asymmetry in domains resisting MCP discussed in the preceding section.

Haegeman (2007, 2012, to appear) and Haegeman and Ürögdi (2010a, 2010b) explore Geis's (1970, 1975) intuition, also taken up by others in later work, that adverbial clauses are derived by *wh*-movement of an operator. Argument fronting in the interrogative *when* clause in (18a) is ruled out by locality conditions on movement. If temporal *when* clauses are derived by operator movement, then the same conditions on locality will account for the unavailability of argument fronting in English (17a). Since, as previously mentioned CLLD does not block *wh*-movement (cf. the (c) examples in (6)-(8)), (18b) is predicted to be grammatical and CLLD is expected to remain available in adverbial clauses (i.e., the availability of CLLD in (17b) is parallel to that in (18b)).

Our proposal is based on a long standing tradition. For earlier proposals that adverbial clauses are derived by operator movement and for supportive evidence, we refer the reader to the literature (see Haegeman to appear, for a survey).

Cross-linguistic support for the movement analysis of adverbial clauses comes from the fact that they display, in many languages, a striking similarity to relative clauses. To give but one example, Zentz (2011) shows that in Akɔɔse, a Bantu language, the finite verb in temporal clauses displays *wh*-agreement, just like it does in relative clauses.

The movement derivation of adverbial clauses has independently been proposed in the literature (starting with Geis 1970, 1975 and adopted by many others after him) and this analysis derives the truncation effect as a by-product: MCP, such as argument fronting in (17a), *must* be absent from the temporal clause in order for the *wh*-movement that derives the clause to be possible. Thus, while it may appear that in such adverbial clauses, TopP and FocP are not projected, what, in fact, happens is that any fronted constituent FocP or TopP might host will act as an intervener with respect to the movement of *when* and the derivation of the adverbial clause will fail to converge. In other words, FocP and TopP can be projected as long as they do not host any interveners for movement. For instance, TopP can be projected and host CLLD in Italian and in French because, as is well known, CLLD constituents are not interveners (Rizzi 2004).



Additionally, if the fact that adjuncts are not interveners can be given an independent explanation (perhaps because they can be merged in the left periphery cf. Browning 1996), the intervention account will also be able dispense with the need for a designated ModP to distinguish left-peripheral adjuncts from left-peripheral arguments. Moreover, given that CLLD is not available in English but is available in Romance, no specific assumptions need to be made with respect to the availability of the lower TopP.

3.3. Intervention and Assertion

The account outlined here handles the distribution of so called Main Clause Phenomena primarily in terms of syntactic constraints. Up to this point, no semantic/discourse constraints have been invoked, contra Hooper and Thompson (1973) and Bianchi and Frascarelli (2010). Our account does not, however, preclude the possibility that the syntactic constraints on MCP interact with the encoding of the discourse status of the clauses involved. The intervention account can, in fact, be used to account for the absence of assertion or semantic sentence moods (e.g., assertion, question, imperative) in a broader sense in the relevant domains. The precise implementation depends on how sentence moods are taken to be encoded syntactically. This type of syntactic encoding, often referred to as clause typing, is a signal for the construction of the semantic objects representing sentential forces. With respect to temporal clauses, the intervention account and the absence of assertion can be made to receive a unified syntactic explanation in at least two ways. First, if an assertion operator is assumed to occupy a designated position in the left periphery of the clause and if such an operator is syntactically active, then one way of accounting for the fact that temporal clauses are not 'asserted' is to argue that the operator itself blocks the movement of the temporal operator (see Haegeman 2011). Alternatively, one could assume that the landing site of the moved *wh*-operator of a temporal clause targets a designated clause typing position and that the assertion operator, if available, would be associated with the same position. Thus, the assertion operator and the *wh*-operator that types a temporal clause would, in effect, compete for the same syntactic slot. The latter account can also be restated in terms of features: if clause typing is characterized by a specific feature set on a designated head in the left periphery (see Authier to appear) then it would suffice to say that features encoding assertion are incompatible with the features associated with temporal clauses.

3.4. Sentential complements to factive verbs

Haegeman and Ürögdi (2010a) extend the movement derivation of adverbial clauses to sentential complements to factive verbs. Their proposal unites a number of earlier proposals in the literature to the effect that complement clauses to factive verbs contain a factive operator in their left





periphery, thus accounting for their weak island status illustrated by the paradigm in (19).

- (19) a. * How did you notice [that Maria fixed the car *t*]? (Hegarty 1992: 1, (2b))
 b. * Why did you notice that Mary had fixed the car *t*?
 c. ?? What did you notice that Mary had fixed *t*?
 d. Which car did you notice that Mary had fixed *t*?
 e. That is the car that I had noticed that Mary had fixed *t*.

As shown by the examples in (19), extraction from a factive island is facilitated by D-linking.

Bianchi and Frascarelli (2010), claim, however, that not all ‘factive clauses’ – MCPs in our terms – are incompatible with argument fronting, casting doubt on the validity of the canonical judgments reported in the literature⁹. Haegeman and Ürögdi (2010a: 129-132) discuss Bianchi and Frascarelli’s data as well as additional data to complete the picture. In support of their claim that topicalization is allowed in non-root environments and is conditioned by discourse-semantic considerations, Bianchi and Frascarelli point to examples like (20).

- (20) a. I am glad that this unrewarding job, she has finally decided to give _ up. (12/15)
 b. He tried to conceal from his parents that the math exam, he had not passed _ and the biology exam, he had not even taken _ . (13/15)
 c. Mary didn’t tell us that Bill, she had fired _ and John, she had decided to promote _ . (8/15)

With respect to (20a), we take Haegeman and Ürögdi’s position that it is not clear that this is a genuine case of argument fronting within a ‘factive complement’. As is the case with other verbs (notably *regret*), ‘be glad’ might be construed here as ‘be glad to say’, as pointed out for instance in Urmson (1963). We refer the reader to Haegeman (2006) for discussion and references to the literature on this point.

With respect to (20b-c), we follow Haegeman and Ürögdi in assuming that the standard judgments for factive complements hold for neutral, non-contrastive contexts. Thus, potential counterexamples such as those in (20b-c) require a specific context that is crucial in creating the necessary licensing conditions. Haegeman and Ürögdi point out that in (20b), the intensional predicate *try*, being a modal, might have an impact on the clausal complement, and that in (20c) *tell* is also not an optimal verb choice, as it is often ambiguous between a factive and a non-factive use, with negation adding further complexity to the mix. Nevertheless, other examples discussed by Bianchi and Frascarelli, as in their (30), repeated here as (21), are devoid of such

⁹ We address this issue in response to one reviewer’s comment.



complexities and seem to pose a real problem for the ‘standard’ judgments reported in the literature.

- (21) a. His parents resented that the math exam, he had not passed _ and the biology exam, he had not even taken _.
- b. The entire office resented that Bill, she had fired _ and John, she had decided to promote _.

Bianchi and Frascarelli claim that English topicalization is contrastive. Haegeman and Ürögdi agree in part with this claim: (21a) does seem to involve a contrast between *the math exam* and *the biology exam*. But, as illustrated in (22), if English contrastive topics have the feature combination $\delta+Q$, where Q reflects their operator status and δ , their ability to generate alternatives, they should be interveners with respect to the movement of the factive operator, contrary to fact.

- (22) a. *[CP Op_Q XP_{Q+\delta} ... [FP t_Q [TP V ...]]]
- b. [CP Op_{Q+\delta} XP_Q ... [FP t_{Q+\delta} [TP V ...]]]

Haegeman and Ürögdi, however, provide an alternative analysis that explores an additional dimension in the examples in (20-21) not considered by Bianchi and Frascarelli. In each of the acceptable examples, the fronted argument is indeed contrastive but there is, in such examples, an additional contrast that bears on the two events denoted by the conjuncts. In (21a) the event of ‘not passing the math exam’ is contrasted with another event, that of ‘not even taking the biology exam.’ Similarly, in (21b), the event of ‘firing Tom’ is contrasted with the event of ‘promoting John’. A crucial point made by Haegeman and Ürögdi is that this contrast between events is a necessary condition for the examples to be felicitous. Haegeman and Ürögdi view this as the key to understanding why these examples are grammatical. For them, by virtue of being contrasted with another event, the event expressed by the factive clause is part of a reference set and is thus D-linked in a way that events are not in the unmarked case. Exploring this interpretation of these data, and in particular the requirement that the fronting of the argument is contingent upon there being a contrastive set of events, Haegeman and Ürögdi hypothesize that the factive operator itself is endowed with the D-linking feature δ , resulting in the D-linking of the clause. They also propose that the contrastive nature of these examples is *not* encoded on the fronted argument itself but rather, on the entire event and – by virtue of the movement of the factive operator to CP – on the entire clause. Thus, assuming (as they do) that the fronted argument only has a Q feature, and that the factive operator is D-linked, by the system outlined above, (21a) and (21b) are now predicted to be grammatical (cf. (22b) above). Haegeman and Ürögdi discuss a number of additional examples to illustrate the role of contrastive events in determining acceptability. We refer the reader to their paper for discussion. Their conclusion is that the correct generalization





appears to be that in a neutral context, factive complements do not allow argument fronting, in line with the standard judgments, and that...

Argument fronting becomes available if the context is enriched to allow the construction of a reference set for the event, at which point it is the embedded event (rather than what appears like a contrastive topic) that bears the contrast. The enriched event operator can overcome the intervention by a fronted argument. The very fact that enrichment is required means to us that a feature-based account of both the canonized judgments and specific contexts involving focused embedded clauses is essentially correct. (H&U 2010:132)

4. VP topicalization, VP ellipsis and French TP ellipsis

In this section, we turn to an asymmetry between the distribution of VP topicalization (VPT), another instantiation of MCP (1e), and that of VP Ellipsis (VPE) in English. We will explore Johnson's (2001) account of VPE, an account that exploits the striking syntactic parallelisms between contexts allowing VPE and those allowing VPT to propose that VPE is derived by VPT followed by ellipsis of the fronted VP (Johnson 2001). Such an analysis is by all means compatible with and even receives indirect support from the fact that VPE is only possible if the to-be-deleted VP has a discourse antecedent, hence is in some way discourse given, or 'topical'. We will show that there are, however, some interesting distributional differences between VPT and VPE (see also Authier 2011, and Aelbrecht and Haegeman to appear). The ultimate goal of our discussion will be to argue that Authier's (2011) implementation of Johnson's thesis not only accounts for the observed distributional differences between VPT and VPE, but also presupposes the intervention account and is less obviously compatible with the truncation account.

4.1 English VP ellipsis as VP topicalization

As is well known from the literature on VPE, this particular ellipsis can be licensed by a finite auxiliary¹⁰ or by infinitival *to*. This is illustrated in (23a-c)

¹⁰ It has also been proposed that there is a difference between root modals and epistemic modals with respect to the licensing of VPE and VPT. Authier gives the data in (i) in support of the claim that with both VPE (ia) and VPT (ib), a modal like *must* can only have a deontic reading.

- (i) a. John must wash his car every day, and Peter must too. (Authier 2011: 193, (27)).
 b. Peter said that Max must work for the KGB and work for the KGB, Max must.
 (Authier 2011: 195, cf. Drubig 2001; (34))

We will not discuss these facts in the present paper, due to the fact that the status of epistemic modals as licensers of VPE is not entirely clear. For instance,



and (23d-e) respectively. The examples in (23f) and (23g) show that in the absence of such a licenser, VPE is ungrammatical.

- (23) a. Jane doesn't eat grapefruit and Holly doesn't \emptyset either.
b. Jane wouldn't eat grapefruit and Holly wouldn't \emptyset either.
c. Jane hasn't eaten any grapefruit and Holly hasn't \emptyset either.
d. Mag Wildwood wants to read Fred's story, and I also want to \emptyset .
(Johnson 2001: 440, (5d))
e. John wants to go on vacation, but he doesn't know when to \emptyset .
(Johnson 2001: 441 ((9a), from Zagona 1988a: 101, (21))
f. I can't believe Holly won't eat grapefruit. We can't believe Fred *(won't) \emptyset , either.
(Johnson 2001: 439, (4))
g. Sally Tomato started running down the street, but only after José started *(to) \emptyset .
(Johnson 2001: 440, (7))

VPT is also licensed by a finite auxiliary (24a–c) and by infinitival *to* (24d), and again, in the absence of such a licenser, VPT is ungrammatical (24e).

- (24) She claimed that...
a. eat grapefruit, Holly didn't.
b. eat grapefruit, Holly wouldn't.
c. eaten grapefruit, Holly hasn't.
d. eat grapefruit, Holly wants *(to). (cf. Johnson 2001: 444, (17))
e. ?* eating grapefruit, Holly started. (cf. Johnson 2001: 444, (18))¹¹

Huddleston and Pullum (2002: 1520, [4i]) give (ii) in which VPE is licensed by an epistemic modal:

- (ii) A: They must have made a mistake. B: Yes, they must.

The examples in (iii) also show that epistemic modals can be licensers, at least in some contexts; arguably, *may* in (iiia–c) and *must* in (iiid) are epistemic.

- (iii) a. What is empathy? You may feel it when Oliver Twist asks for more gruel, though you may not when a banker demands a bonus. (*Observer* 1.4.12 page 37 col 1)
b. All declined to give their thoughts to the Observer, though they said they may in the near future. (*Observer* 31.1.10 page 32 col 2)
c. If others want to stick with Everest [the name, LH] let them do so. We have no problem with diversity, though the Chinese may. (*Guardian*, 26.11.2, page 9, col 1)
d. 'There must be something wrong with you, 'Ronald said.' So there must.' (Muriel Spark, *The Bachelors*, Macmillan 1960 Penguin edn 1963: 170)

¹¹ Observe, however, that while VP topicalization is impossible in examples like (ia), its VPE counterpart in (ib) is well-formed.

- (i) a. ?*Eat rutabagas, Holly made me *t*. (Johnson 2001: 444, his (18))
b. Why did you eat those rutabagas? Holly made me.





Assuming that VPE is VPT minus the PF spell-out of the head of the chain created by VP fronting, the parallelism in judgments illustrated in (25)–(27) is immediately accounted for. While VPT out of an infinitival clause complement to a tensed verb is licit (25b), as is its ‘silent’ VPE counterpart (25a), both VPE and VPT are illicit in (26)–(27) because extraction out of infinitival adjuncts, infinitivals embedded within an NP, and *wh*-islands is impossible.

- (25) a. Mag Wildwood wants to read Fred’s story, and we also want to Ø.
 b. Mag Wildwood wants to read Fred’s story, and [read Fred’s story] we also want to.
- (26) a. *Mag Wildwood came [to read Fred’s story], and we also came [to Ø].
 b. ?*Madame Spanella questioned [Mag’s desire to [eat rutabagas]], but only after we had questioned [Sally’s desire to Ø].
 c. ??Ron wanted to wear a tuxedo to the party, but Caspar couldn’t decide [whether to Ø]. (Johnson 2001: 445, (22c))
- (27) a. *Madame Spanella questioned [Mag’s desire to [eat rutabagas]] and [eat plums] we questioned [Sally’s desire to t].
 b. ??Ron wanted to wear a tuxedo to the party, but [wear a tuxedo to the party] Caspar couldn’t decide [whether to t]. (Johnson 2001: 447, (29c))

This leads Johnson (2001: 447) to conclude that...

... the island effects we’ve seen for VPs elided in infinitival clauses can now be traced back to the fact that VPs in infinitival clauses are forced to move out of that infinitival clause, and this movement is subject to island constraints. Moreover, the somewhat variable effects that we have seen in indirect questions – [...] – might be traced back to the fact that the *wh*-island constraint is itself quite variable. (Johnson 2001: 447)

Johnson does point out that, as it stands, some problems remain for the movement analysis. We refer the reader to his paper and to Authier (2011: 195) for discussion about whether such problems can be ironed out.

4.2 French TP ellipsis as TP topicalization

The parallelism between VPE and VPT in English is mirrored in French, as discussed in detail in Authier (2011), who interprets the ellipsis of an infinitival complement to a modal verb in French as TP ellipsis (TPE). The phenomenon will be illustrated below. Authier (2011: 202) concludes that ...

Given that the restriction on modal [TP] ellipsis ... is in every respect similar to that governing the topicalization of infinitival clauses..., I would like to suggest that [French] modal [TP] ellipsis is licensed by topicalization.

Interestingly, VPE in (ib) is licensed here by a lexical verb. We thank Philip Miller (p.c.) for bringing these data to our attention. We have nothing further to say about these cases.



The French examples in (28) illustrate the fact that both TP fronting and TPE are licensed in the context of a class of modals that includes *pouvoir* 'be able', *devoir* 'must/should', *vouloir* 'want', *falloir* 'be necessary' and *avoir le droit* 'be allowed.' Note that (28a), the fronted infinitival is directly linked to a gap in argument position and is therefore an instance of English-style topicalization rather than CLLD.

- (28) a. Je veux pas laver tes chaussettes, mais [nettoyer l'évier] je veux bien.
I want not wash your socks but clean the sink I want well
'I don't want to wash your socks, but clean the sink, I'm willing to.'
(Authier 2011: 198 (44c))
- b. Peux-tu nettoyer l'évier? Je veux bien Ø.
can-you clean the sink I want well

Authier shows that, in contrast, infinitivals embedded by epistemic modals are incompatible with both TPE and TP fronting.¹² In (29a) and (29c), *devoir* 'must' and *pouvoir* 'may/be able' can only have a deontic reading. In (29b), the context forces an epistemic reading of *pouvoir* and TP fronting is barred.

- (29) a. La police doit arriver dans cinq minutes et l'ambulance doit aussi Ø.
the police must arrive in five minutes and the-ambulance must too
(Authier 2011 : 193, (26))
- b. *Arriver d'un moment à l'autre la police peut, alors accélère!
arrive of-a moment to another the police may, so hurry-up!
'The police may arrive at any moment, so hurry up.'
- c. Partir en vacances, tu peux pas.
leave for holidays, you can not.

Further, as (30) shows, both TPE and TP fronting are not found in infinitival adjuncts.

- (30) a. *Paul a téléphoné [pour [obtenir son visa plus rapidement], pouvoir].
Paul has phoned for obtain his visa more quickly can
(Authier 2011: 198, (46a))
- b. *Astrid voulait obtenir son visa plus rapidement
Astrid wanted obtain her visa more quickly
et elle a envoyé des fonds supplémentaires [pour pouvoir Ø].
and she has sent funds extra to can
(Authier 2011:201, (48f))

This is because French fronted infinitival TPs, just like English fronted VPs, must be able to find a finite clause to land in and that the topicalized clauses in (30), being contained in an island to extraction, cannot do so.

¹² Aelbrecht (2010) also shows that ellipsis of modal complements in Dutch is restricted to root modals. See also note 10 on English.





4.3 VP Ellipsis vs. VP topicalization

Attractive though the analysis of VPE (and TPE) as VPT (and TP fronting) may be, a number of problems arise. One important issue discussed in Authier (2011) and in Aelbrecht and Haegeman (to appear), is that VPT has a more restricted distribution than VPE. We will only discuss some examples of this distributional asymmetry and refer to reader to the papers cited for a full discussion.

4.3.1 (*Lack of*) sensitivity to islands

Like other types of extraction, VPT is sensitive to islands: VPT out of an embedded *wh*-domain or out of a relative clause is ungrammatical (31). On the other hand, VPE is fully grammatical in the same domains (32). Under a movement account of VPE, according to which the to be elided VP is first fronted by VPT, this asymmetry is so far unexplained.

- (31) a. *I knew that some students presented this article in my class but [present the article] we couldn't recall [which of the students didn't t].
 b. *I know that some students presented this article in my class but [present the article] we can't recall [the students [who didn't t]].
- (32) a. I knew that some students presented this article in my class but we couldn't recall [which of the students didn't \emptyset].
 b. I know that some students presented this article in my class but we can't recall [the students [who didn't \emptyset]].

4.3.2. Topicalization within certain types of clauses

It might be argued that to derive VPE by VPT in (32) the fronting of the relevant VP is restricted to the embedded domain, hence avoiding the island effect. However, it is standardly assumed that VPT belongs to the class of so-called MCP. Like argument fronting, discussed above, VPT is excluded from embedded interrogatives and from relative clauses (33), while VPE remains fully licit in these contexts (34). Authier (2011: 210) discusses the same asymmetry with respect to French TPE and TP fronting.

- (33) a. *I knew that one student presented this article in my class but we can't recall now [which of the students [present this article] did t].
 b. *I know that one student presented this article in my class but we can't recall the student [who [present this article] did t].
- (34) a. I knew that some students presented this article in my class but we couldn't recall [which of the students didn't \emptyset].
 b. I know that some students presented this article in my class but we can't recall the students [who didn't \emptyset].

In a similar vein, while VPT is incompatible with argument fronting (35a-b), which can be seen as the result of a violation of locality conditions on movement, VPE and argument fronting can coexist (35c).





- (35) a. *and [increase in value] the old house he was sure would.
(Emonds 2004: 95)
- b. *and the old house [increase in value] he was sure would.
(Emonds 2004: 95)
- c. She doubted whether the new house might increase in value, but [the old house] she was sure would \emptyset .

Further, as illustrated in (36) and (37), while VPT is excluded from central adverbial clauses, VPE is licit in the same context. Authier (2011: 209) discusses similar data involving French TP fronting and TP ellipsis. (We borrow (36a-e) from Aelbrecht and Haegeman (to appear: their (26)), and (36f) from Authier 2011: 209, his (57c))

- (36) Mary wanted to move to London
- a. and [move to London] she did t.
- b. *and after [move to London] she did t, her life changed entirely.
- c. *before [move to London] she did t, she was totally demotivated.
- d. *and when [move to London] she did t, her life changed entirely.
- e. *and as soon as [move to London] she did t, her life changed entirely.
- f. *when [fix his last faucet], you do t, I will send you a check.
- (37) Mary wanted to move to London
- a. and eventually she did \emptyset .
- b. and after she did \emptyset , her life changed entirely.
- c. before she did \emptyset , she had been totally demotivated.
- d. and when she did \emptyset , her life changed entirely.
- e. and as soon as she did \emptyset , her life changed entirely.

The incompatibility of VPT with argument fronting and with *wh*-clauses can be made to follow from locality conditions on movement. Assuming a movement derivation of adverbial clauses as outlined above, the same locality account extends to central adverbial clauses. In all three cases, the fronted VP acts as an intervener that blocks the additional movement of the fronted argument or *wh*-operator.

Aelbrecht and Haegeman (to appear) discuss some additional environments that display the same type of asymmetry between VPE and VPT and conclude, contra Johnson (2001), that VPE cannot be derived via VPT.

4.4. An alternative view and its consequences

In their paper, Aelbrecht and Haegeman (to appear) argue against the VPT derivation of VPE and go over a number of alternative derivations for VPE





that correctly predict that the domains where VPT is excluded are compatible with VPE.¹³

While acknowledging the distributional differences between VPE and VPT in his discussion of TP ellipsis in French, Authier (2011) shows that, given certain assumptions about the place given to intervention in the architecture of the grammar and the interplay between ellipsis and intervention, Johnson's original movement analysis can actually be maintained. In this section, we will first go over Authier's account, then we will show that this account is relevant for the derivation of central adverbial clauses and has interesting consequences with respect to the choice between the truncation account and the intervention account outlined at the beginning of the paper. Specifically, we will show that the account developed by Authier (2011) (i) crucially depends on a derivation of central adverbial clauses in terms of movement, and (ii) is less easily compatible with a truncation account. Thus, in terms of Authier's approach, the movement account of adverbial clauses is superior to the truncation account.

4.4.1. Repair by ellipsis

It has been pointed out, in the literature on ellipsis, that PF deletion can sometimes 'repair' violations that arise through extraction from an island. The original observation goes back to Ross (1967), who gives paradigms like (38). In examples such as (38a), extraction from a relative clause within a complex NP appears to be salvaged through an ellipsis operation which includes the island from which *wh*-extraction has taken place. We refer the reader to the literature for discussion, especially to Bošković (2011) and Authier (2011).

Assuming that the sluicing operation in (38a) is *wh*-extraction of *which one* out of a sentential constituent (TP), followed by PF deletion of that node, the relevant extraction of *which one* must have taken place from within the relative clause. Such extraction out of a strong island, however, is normally illicit (see (38b)). It thus appears that, as a result of ellipsis (sluicing in this particular case) the island violation incurred in (38b) is 'repaired', which means that somehow, the island is eliminated in (38a).

- (38) a. She kissed a man who bit one of my friends, but Tom does not realize which one.
(Ross 1967: 276)

¹³ The three scenarios Aelbrecht and Haegeman envisage have in common the assumption that the crucial locus for the derivation of VPE is not the left periphery but, rather, the middle field. We do not elaborate on their proposals here and refer the reader to their paper for discussion. Funakoshi (to appear) implements one of their suggestions in his own account according to which VPE may be derived by VPT to a Belletti style *vP* peripheral TopP (Belletti 2001, 2004). We will not discuss this alternative here either but will instead reconsider the VPE as VPT account.



- b. *She kissed a man who bit one of my friends, but Tom does not realize which one of my friends she kissed [a man who bit t]. (Ross 1967: 276)

Bošković (2011), elaborating on earlier work by Chomsky (1972), proposes that locality violations incurred in a derivation result in the marking (in the syntax) of the element that is responsible for blocking movement. He does this concretely by using the diacritic *. With respect to illicit extraction from an island, he proposes that when a *wh*-moved element crosses an island boundary, the island is *-marked. In other words, the diacritic * is assigned to the element that has caused a locality-of-movement violation. The presence of a diacritic * in the final PF representation of a derivation leads to a crash. However, such a violation is ‘repaired’ (i.e., does not occur) if the *-marked element is deleted at PF since in that case, no * is present in the final PF representation. For example, in (38a), the extraction of *which one* from a relativized constituent will lead to the *-marking of the nominal island. The diacritic does not cause the derivation to crash up to PF (see Bošković (2011) for discussion of the theoretical implications of this view in relation to the general architecture of the grammar). At this point, if the offending *-marked nominal island is spelled out, the derivation crashes (39a). If, on the other hand, the island fails to be spelled out through sluicing, the offending diacritic * is removed and the potential crash is avoided (39b). Thus, island violations can be repaired by ellipsis.

- (39) a. *She kissed a man who bit one of my friends, but Tom does not realize which one she kissed [_{DP*} a man who bit t.]
b. She kissed a man who bit one of my friends, but Tom does not realize which one ~~she~~ kissed [~~DP* a man who bit t.~~] (Ross 1967: 276)

4.4.2. VP ellipsis

Based on work by Saito (2001, 2007) among others, Bošković (2011) extends the repair by ellipsis account to violations caused by an intervener, that is, cases in which one constituent illicitly crosses over another one. When a moved *wh*-element crosses over an intervener, leading to a potential intervention effect, the intervener is *-marked, i.e. * is assigned to the constituent that has caused a locality violation, in Bošković’s terms the ‘troublemaker’. As before, the presence of a * on the troublemaker in the final PF representation leads to a crash. However, such a violation does not occur if the *-marked troublemaker is deleted at PF.

We illustrate this in (40a) in relation to VPT. In (40a), movement of the VP [*present this article*] to the left periphery leads to intervention with respect to the *wh*-movement of *who*, and the offending VP is *-marked. As the * diacritic remains present on the VP at PF (40a) is ungrammatical. The derivation of (40b) is like that of (40a), in that the fronted VP is *-marked, but in (40b), ellipsis of the VP removes the offending *. We refer the reader to Bošković (2011) for more





details on the assignment of * to interveners and to Authier (2011) for discussion of its application to TPE in French.

- (40) a. *I know that one student presented this article in my class but we can't recall the student [who [_{VP*} present this article] did t].
 b. I know that one student presented this article in my class but we can't recall the student [who [_{VP=} present this article] did t].

Thus, as argued in detail in Authier (2011), repair by ellipsis combined with the assumption that intervention is a PF phenomenon, will allow the VPT account of VPE. Of course, to the extent that other problems arise for the VPE as VPT account, these will not be salvaged by repair by ellipsis. We leave this issue aside here.

5. Consequences for the derivation of adverbial clauses

A Johnson-style VPE-as-VPT account, coupled with the Authier/Bošković approach to intervention and repair by ellipsis, has consequences for the architecture of the grammar, in particular, intervention is now seen as a PF phenomenon. We do not dwell on this here, though, of course, this is a point that merits further discussion.

We do, however, wish to explore the consequences such assumptions hold for the derivation of adverbial clauses and for the syntactic account of MCP. Our main point will be that the assumptions laid out by Authier (2011) and Bošković (2011) dovetail nicely with the intervention account of MCP. Given the same assumptions, however, it is far from clear that the truncation treatment of MCP is even viable. To see why, let us first briefly return to the core data. In both English (41a-b) and French (42a-b), VP/TP fronting is illicit in adverbial clauses, while VPE/TPE remains available.

- (41) Mary wanted to move to London
 a. *and after [move to London]* she did t, her life changed entirely.
 b. and after she did Ø, her life changed entirely.
 c. and after [~~move to London~~]* she did t, her life changed entirely.
- (42) a. *Quand [PRO jouer au hockey] * je peux, ...
 when play at-the hockey I can
 b. Quand je peux Ø, je joue au hockey.
 when I can I play at-the hockey (Authier 2011:209-210, (59b), (60b))
 c. Quand [~~PRO jouer au hockey~~]* je peux, ...

On the Authier/Bošković repair by ellipsis account, VPT in (41a) and TP fronting in (42a) lead to the assignment of a * to the fronted constituent, and this leads to ungrammaticality if this diacritic *survives at PF. If ellipsis applies, the diacritic * is removed and there is no violation: (41c) and (42c) are the PF representations for the elliptical versions of (41a) and (42a).



However, it turns out that there is an important proviso to this account. If (41a) and (42a) can be ‘rescued by ellipsis’, then following Authier (2011) and Bošković (2011), it must be the case that the offending constituent to be deleted can be identified as a starred intervener (Bošković’s ‘troublemaker’). For this to be possible, the following conditions have to be fulfilled: (i) the constituent is an intervener with respect to another element that moves across it, and (ii) the constituent must be able to occupy a position in the left periphery of the clause that contains it (i.e., there must be a landing site available to host it). We explore the ramifications of these conditions in this section.

Condition (i) leads to the conclusion that the temporal clauses discussed here must be derived by movement, since movement creates the precise context in which an intervention effect can arise. The Authier/Bošković movement account of VP/TP ellipsis is therefore compatible with the movement account of adverbial clauses.

Turning to the implications condition (ii) holds for the movement account of VPE/TPE, notice that while the fulfillment of that condition also remains fully compatible with the movement derivation of adverbial clauses, it is not at all clear how it can be reconciled with a truncation analysis. According to the truncation analysis, VPT is illicit in adverbial clauses because such clauses are structurally deficient (‘truncated’) and they lack the appropriate landing site for VPT, say, the higher TopP. If VPE is itself derived through VPT, it will follow that VPE should be excluded in those domains in which VPT is not possible. This, of course, makes the wrong prediction: VPE is compatible with what would be truncated domains.

For the truncation analysis of adverbial clauses to be maintained, one could of course hypothesize that the left-peripheral fronting involved in VPE does not have the same landing site as that in VPT. The landing site for the former could then be assumed to be available in truncated clauses, unlike that targeted by VPT. Obviously this has further ramifications, as the status of the moved constituent as an intervener may then well have to be reconsidered entirely.¹⁴

At a more general level, we wish to point out that the theory of ellipsis advocated by Bošković/Authier presupposes that intervention effects are a PF phenomenon. Obviously the question arises as to whether accounts relying on intervention as a phenomenon of the narrow syntax or as an LF phenomenon can be devised to capture the VPE/VPT asymmetry while maintaining the VPE as VPT analysis, and how the feature based account on intervention that we

¹⁴ See for instance Kayne (2006) for a proposal that to-be-elided constituents have specialized landing sites.





presented in section 3.1 can be integrated into the repair by ellipsis of VPE/TPE. We leave these important questions for future work.

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