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Index

Acknowledgments	4
Chapter 1: Introduction	19
Chapter 2: Theoretical Background	24
1. The Cartography Project: A brief introduction	24
2. The philosophy of the Cartography Project	26
3. The Cinque Hierarchy	28
4. Which categories are projected?	31
5. The <i>left-right</i> asymmetry (Cinque 1996, 2005, 2006, 2007, 2010a,b, 2011)	32
6. Cinque's <i>left-right</i> asymmetry and the derivation of a BP sentence	39
7. Case assignment/checking/matching and the Cinque Hierarchy	49
7.1 VSO order and monosyllabic adverbs in European Portuguese	51
7.2 The residual VS(XP) order in BP	53
7.3 The VXS order in Italian	55
8. What are the “triggers” for movements?	57
9. Cartography and Minimalism	58
10. Previous accounts on Verb Raising in BP	60
11. Conclusion	65
Chapter 3: On Generalizing Kayne's (1998) Theory of Scope Assignment to Adverbs	67
1. Introduction	67

2. Kayne’s theory of scope-assignment: only <i>overt</i> movements	68
3. Wide Scope and Narrow Scope: from the matrix/embedded pair to root clauses	69
4. Being or not being a probe (in Kayne’s 1998 proposal)	75
5. The “size” of the scope	89
6. Extending Kayne’s theory to adverbs: Criterial Freezing and the Cinque Hierarchy	91
7. Which adverbs are focus-sensitive?	99
8. Conclusion	104
Chapter 4: ‘Lower’ Adverbs as Diagnostics for Verb Movement	105
1. Introduction	105
2. On VP movement in the ‘Lower zone’ of the clause	108
2.1. On the ‘obligatory’ raising of V	109
2.2. On ‘optional’ movement	132
3. Medial adverbs and V-to-I raising	140
4. V raising, the impoverishment of the verbal paradigm and the weakening of Tense: some conjectures	142
5. VP-ellipsis: A Way to Diagnose V-to-I in Portuguese	150
6. Conclusions	155
Appendix: On the uses of <i>sempre</i> in Portuguese	157
1. <i>Sempre</i> in European Portuguese (EP)	157
2. <i>Sempre</i> in BP	158
3. Structural factors and the interpretation of <i>sempre</i>	159
4. The nature of the object	160
5. Temporal/aspectual <i>sempre</i> in BP/EP	161
5.1. Temporal/aspectual reading of ‘sempre’ (correlation of events and pattern of behavior)	162

5.1.1 Pre-verbal <i>sempre</i>	162
5.1.2 Post-verbal (aspectual/temporal) <i>sempre</i>	163
5.2. Additional evidence for the two aspectual/temporal readings	165
6. The confirmatory <i>sempre</i> in EP	166
7. Speech Act ('pragmatic') <i>sempre</i> (only in EP)	166
8. <i>Sempre</i> in the literature	168
8.1 <i>Sempre</i> : a head or a phrase?	172
9. Towards a Cartographic analysis of <i>sempre</i>	181
9.1 On deriving the different readings in EP and the aspectual/temporal readings in BP	181
10. <i>Sempre</i> in European Portuguese	185
10.1 The aspectual/temporal interpretation	185
10.2 The confirmative reading of <i>sempre</i> in EP	191
10.3. The <i>Speech Act</i> reading in EP	195
11. <i>Sempre</i> in BP (only temporal/aspectual)	195
11.1 Pre-verbal <i>sempre</i> : the correlation of events reading	195
11.2. Post-verbal <i>sempre</i> : the 'pattern of behavior' reading	196
12. Concluding remarks	197
Chapter 5: Adverbs and the Syntax of Scope-assignment: The Puzzling Distribution of Higher Adverbs (and other (lower/medial) AdvPs)	199
1. Introduction: The puzzling distribution of 'higher' adverbs	200
1.1. The organization of this chapter	209
2. Do we really need the label "sentence adverbs"?	210
3. Higher adverbs at play: back to some puzzling distributional facts	213
4. Aspectual/time-related adverbs and the two 'generable' zones within the IP	244

5. Back to VP-ellipsis in Portuguese: in defense of Kayne’s theory of scope assignment and its generalization to all adverbs	259
6. More on the Correspondence Hypothesis	261
7. Back to higher adverbs: how do they interact with V-movement and auxiliaries in Brazilian Portuguese	270
8. Conclusion	279
Appendix – On the merger of the auxiliaries	281
Chapter 6: Floating Quantifiers as Scope-inducing Elements:	284
Where do they Merge? Are they Real Diagnostics for Verb Raising?	
1. Introduction	285
2. Two main approaches to the Syntax of ‘Floating Quantification’	287
2.1 The Stranding Theory	287
2.1.1 Some advantages of the Stranding Approach	289
2.1.2 Some drawbacks of the Stranding Approach	290
2.1.3. No Advantage for the Stranding Approach	294
2.2. The Adverbial Theory of floating quantification	298
2.2.1. The Internal Structure of (universal) FQs	302
2.2.2 What do I mean by using the label “The Adverbial Theory”?	305
3. On the Distribution of universal FQ <i>all</i> and AdvPs	306
3.1 The surface position of AdvPs and universal FQs relative to V	310
3.2. The surface position of universal FQs relative to Adverbs	313
4. Why is Universal FQ <i>all</i> a scope-inducing element?	322
5. The interaction of FQ <i>all</i> and ambiguous adverbs	323
6. Universal FQ <i>todos</i> in Brazilian Portuguese	330
6.1. Why is BP floating quantifier <i>todos</i> not of help (from a Cartographic	330

point of view)?	
6.2 Why is universal FQ <i>todos</i> forbidden sentence-finally?	332
6.3. On the Placement of Universal Floating Quantifier <i>todos</i> in the ‘middle’ of the Sentence	340
6.4. An additional puzzle for the Stranding Analysis	346
6.5 Conclusion	351
Appendix 1: Agreement on Adverbial FQs	353
Appendix 2: Back to the derivation of (75)	356
Chapter 7: Conclusion	367
References	372
Estratto	391
Abstract	391
Resumo em Português	392

Figures

Chapter 2:

Fig. 2.1: A unique configuration for the base order	36
Fig. 2.2: The derivation of (22): the Merge of V and its arguments	40
Fig. 2.3: The derivation of (22): Movement of the theme DP for Case reasons	41
Fig. 2.4: Remnant movement to the left of the object (I)	42
Fig. 2.5: Movement of the Agent-DP to [Spec,NominativeCase ^o]	43
Fig. 2.6: Remnant-movement to the left of Nominative _{CaseP} (I)	43
Fig. 2.7: Remnant-movement to the left of Nominative _{CaseP} (II)	43
Fig. 2.8: V-movement pied-piping the object	44
Fig. 2.9: Mod _{EpistemicP} in English: Spec and head filled	45
Fig. 2.10: Mod _{EpistemicP} in English (II)	46
Fig. 2.11: V(P)-movement pied-piping the object	46
Fig. 2.12: On deriving (25)	47
Fig. 2.13: Merging the auxiliary	49
Fig. 2.14: On deriving (35a)	55
Fig. 2.15: On deriving (36c)	57

Chapter 3:

Fig. 3.1: Wide Scope in English	74
Fig. 3.2: The Derivation of (20a): part I	79
Fig. 3.3 The derivation of (20): part II	79

Chapter 4:

Fig. 4.1: The lower portion of the extended projection of V	109
Fig. 4.2: The derivation of (3): The Merge of the arguments and VP-movement around them	111
Fig. 4.3: The derivation of (3): movement of <i>banana</i> to check case and remnant-movement	111
Fig. 4.4: The derivation of (3): movement of <i>O Mané</i> to check case and remnant movement	112
Fig. 4.5: The derivation of (3): movement of V plus object	112
Fig. 4.6: The derivation of (16a)	121
Fig. 4.7: The derivation of (16a) after the raising of the remnant	121
Fig. 4.8: The derivation of (18a): part I	123
Fig. 4.9: The derivation of (18a): part II	124
Fig. 4.10: The derivation of (18a): part III	124
Fig. 4.11: The derivation of (19)	126
Fig. 4.12: The derivation of (23a) and the ‘first part’ of the derivation of (23b)	128
Fig. 4.13: The second part of the derivation of (23b)	129
Fig. 4.14: The derivation of (27a): part I	131
Fig. 4.15: The derivation of (27a): part II	131
Fig. 4.16: The derivation of (42)	141
<i>Appendix</i>	
Fig. 1: The structure of the Clause in Portuguese in Ambar et al. (2004)	169
Fig. 2: Cinque’s IP space and the Spec positions where ‘sempre’ can be merged in Portuguese	184
Fig. 3: The Confirmatory Reading	194

Chapter 5:

Fig. 5.1: On deriving the narrow scope reading of (4)	216
Fig. 5.2: The derivation of the Wide Scope reading for the AdvP in (4): English gloss	221
Fig. 5.3: The derivation of B's turn in (7): part I	227
Fig. 5.4: The derivation of B's turn in (7): part II	228
Fig. 5.5: The derivation of B's turn in (9): part I	229
Fig. 5.6: The derivation of B's turn in (9): part II	229
Fig. 5.7: The derivation of (23a): part I	233
Fig. 5.8: The derivation of (23a): part II	234
Fig. 5.9: The derivation of (23b)	235
Fig. 5.10: The derivation (25a): part I	237
Fig. 5.11: The derivation of (25a): part II	238
Fig. 5.12: The derivation of (25b)	239
Fig. 5.13: The derivation (39b): part I	256
Fig. 5.14: The derivation of (39b): part II	257
Fig. 5.15: The derivation of (45a, 46a)	262
Fig. 5.16: The narrow scope reading of (45b, 46b)	263
Fig. 5.17: the derivation of the wide scope reading in (45b, 46b)	264
Fig. 5.18: Building (55) – I	272
Fig. 5.19: Building (55) – II	272
Fig. 5.20: Building (55) – III	273
Fig. 5.21: Building (55) – IV	273
Fig. 5.22: Building (55) – V	274
Fig. 5.23: Building (55) – VI	275
Fig. 5.24: Building (55) – VII	275
Fig. 5.25: Building (55) – VIII	276

Fig. 5.26: Building (55) – IX	276
Fig. 5.27: The derivation of (55a), part I	277
Fig. 5.28: The derivation of (55a), part II	277
Fig. 5.29: The derivation of (55b-d)	278
Chapter 6	
Fig. 6.1: The derivation of (37a): part I	318
Fig. 6.2: The derivation of (37a): part II	319
Fig. 6.3: The derivation of (37b)	320
Fig. 6.4: The derivation of (58a): the manner reading	326
Fig. 6.5: The derivation of (58a): the modal reading of <i>easily</i> , part I	327
Fig. 6.6: The derivation of (58a): the modal reading of <i>easily</i> , part II	328
Fig. 6.7: The derivation of the modal reading of <i>easily</i> in (58b)	329
Fig. 6.8: The derivation of (65): first part	337
Fig. 6.9: Why the derivation of (65) crashes	337
Fig. 6.10: On deriving (70b)	343
Fig. 6.11: The derivation of (70c,d) in the order <i>todos</i> + participle	344
Fig. 6.12: The derivation of (75)	350
<i>Appendix:</i>	
Fig. 6.13: Merge of the arguments and the adjunct of (75)	358
Fig. 6.14: Movement of the DP _{Theme} for Case reasons	359
Fig. 6.15: Remnant movement	359
Fig. 6.16: Raising of the Agent-DP to the Specifier of the Nominative Case-assigning head	360
Fig. 6.17: Remnant movement	361
Fig. 6.18: Merge of <i>com</i> , P ³ and remnant movement	362

Fig. 6.19: Configuration after remnant-movement	363
Fig. 6.20: Extraction of <i>comeram lagosta</i> (I)	363
Fig. 6.21: Extraction of <i>comeram lagosta</i> (II)	364
Fig. 6.22: Movement of the subject to [Spec,SubjP]	364
Fig. 6.12: The derivation of (75)	365

Tables

Chapter 4:

Table 4.1: On the obligatory raising of V in the ‘lower zone’ of the IP	132
Table 4.2: From ‘optional’ to ‘forbidden’ raising of V	133
Table 4.3: Pronominal and Inflectional Paradigms in the History of BP	143

Appendix:

Table: Temporal <i>sempre</i> (‘always’) in BP and EP	162
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Chapter 6:

Table 6.1: The position of adverbs/FQ <i>all</i> relative to V and auxiliaries (from Fitzpatrick 2006: 43)	300
Table 6.1: The distribution of AdvPs and FQ <i>all</i> in English (Fitzpatrick 2006: 43)	312
Table 6.2: The distribution of the epistemic adverb <i>provemente</i> and FQ <i>todos</i> in BP	345
Table 6.3: The distribution of the epistemic AdvP <i>probablement</i> and the FQ <i>tous</i>	346

Symbols

ACC – Accusative Case	INF – infinitival form of V
DAT – Dative Case	DO – direct object
1/2/3.S (first, second or third person singular)	IO – indirect object
1/2/3.PLU (first, second or third person plural)	CL – clitic
PRES – Present	IND – indicative
PAST – Past Tense	GER – gerund
FUT – Future Tense	

Chapter 1:

Introduction

This dissertation is an attempt to investigate the issue of verb (phrase) raising in Brazilian Portuguese (BP), paying special attention to those constituents of the IP (the “Inflectional Domain”) which have been traditionally taken as diagnostics for this movement, namely adverbs and floating quantifiers.

Three important ‘moments’ characterize the Generative enterprise devoted to the description of the “IP” in the last thirty years. The first is Chomsky’s (1986: 3ff.)¹ attempt to extend the X-bar theory to functional elements. Chomsky explicitly recognized the IP as part of the clause. After that, Pollock (1989), with his ‘Split IP hypothesis’, started a prolific line of research which has been the starting point for a number of works on the architecture of the clause and verb movement.² In the wake of Pollock (1989), Cinque (1999)—here identified as the third moment—split the IP even more, in almost 40 Functional Projections (FP).

Cinque’s (1999) work is part of a research program, entitled the “Cartography Project” (Cinque 1994, 1999, 2004, 2005, 2006, 2007, 2008, 2009, 2010a, f.c.; Belletti 2004; Rizzi 1997; 2001, 2004a,b, Benincà & Poletto 2005; Benincà 2006; Cinque & Rizzi 2008; Laenzlinger 2011; Benincà & Munaro 2011; Brugè et al. 2012; a.o.), which aims at drawing detailed and precise maps of syntactic configurations (Cinque & Rizzi 2010). In this dissertation, I draw on the Cartography Approach to investigate the issue of Verb Movement in BP.

The assumption of Cinque’s (1999) fine-grained representation of the IP space would prompt us to reevaluate the validity of the tests traditionally used to diagnose V raising. Starting with

¹ Also relevant in this context are Stowell’s (1981) dissertation, Safir (1982), a.o.

² See, among others, the following works on V raising: Belletti 1990 on Italian; Chomsky 1991 on English; Galves 1993, 1994[2001] and Figueiredo Silva 1996 on Brazilian Portuguese; Ambar 1989, Gonzaga 1997 and Costa 1998 on European Portuguese; Costa & Galves 2002 on (Brazilian and European) Portuguese; Jacas-Santol 1991, on Catalan; Laenzlinger 1996 on French; Rohrbacher 1999 on Romance and German. More recently, many works have also readdressed the question of V movement, e.g. Laenzlinger 2002, who brought data from English, French, Italian, and German; Laenzlinger & Soare 2005a,b on Romance in general; Ledgeway & Lombardi 2005 on Southern Italian dialects; Laenzlinger 2011 (from a comparative perspective); Cyrino (2011) in Brazilian Portuguese; a.o.

Emonds (1978) and Pollock (1989), AdvPs have been taken as indicators of verb movement. Nevertheless, the observation that higher AdvPs (2), as opposed to lower adverbs (1), cannot appear in the post-verbal space unless ‘deaccented’ (compare (2) with (3)) (Belletti 1990: 57, 133,fn.43; Cinque 1999: 15, 31; Laenzlinger 2002: 94, 2011, a.o.) or followed by a constituent (cfr. (4)), brings about an interesting question: *how can AdvPs be taken as reliable diagnostics for V-movement?*

- (1) a. O Zé mente ainda/bem/sempr/etc. (Brazilian Portuguese)
 The Zé tells-lies still/well/always/etc.
 ‘Zé still/well/always/etc. tells lies’
- b. Gianni mente ancora/bene/sempr/ecc. (Italian)
 G. tells-lies still/well/etc. (= a)
- (2) a. *O João mente provavelmente/normalmente. (Brazilian Portuguese)
 The J. tells-lies probably/usually
 ‘J. tells lies probably/usually’
- b. *Gianni mente probabilmente/di solito. (Italian)
 G. tells-lies probably/usually (= a)
- (3) a. O João mente, provavelmente/normalmente. (Brazilian Portuguese)
 the J. tells lies, probably/usually
 ‘J. tells lies, probably/usually’
- b. Gianni mente, probabilmente/di solito. (Italian)
 G. tells lies, probably/usually (= a)

Although higher adverbs cannot appear post-verbally in sentence-final position (cfr. (2)), they can paradoxically appear post-verbally if followed by a constituent (see (4), below). Now, the problem is: if one turns to V movement to explain the appearance of the V to the left of the higher adverb in (4), the ungrammaticality of (2) would remain unaccounted for. On the other hand, if the impossibility of V movement past higher adverbs is the reason for the ungrammaticality of (2), the appearance of the adverb to the right of V in (4) should not be attributed to V-raising.

- (4) a. O José comia provavelmente arroz. (Brazilian Portuguese)
 J. used-to-eat probably rice
 ‘It was probably rice that José used to eat’.
- b. Gianni mangiava probabilmente la pasta. (Italian)
 G. used-to-eat probably the pasta
 ‘It was probably pasta that José used to eat’.

Everything considered, (1-4) would be problematic for any theory of verb raising which takes

AdvPs as diagnostics for this movement. An in-depth investigation of the “adverbial test” is thus called for in this case. To achieve this goal, chapters 4 and 5 attempt an investigation of the placement of adverbs relative to V.

Thus, one of the main goals of this dissertation is to readdress the question of V movement and its interaction with AdvPs (traditionally taken as diagnostics for this movement). I will show how adverbs merged in a lower position in the structure, say in the ‘left-edge’ of the *v*P-phase, can be taken as reliable diagnostics for verb (phrase) movement, since the V(P)—as we will see—must cross-over (some) of them on its movement upwards (chapter 4).

In chapter 5, I will return to the data in (1-4) to explain the problematic distribution of higher adverbs. I will bring in more data on the placement of medial/higher adverbs, discussed in the literature (Nilsen 2004, Ernst 2007, Shu 2011, Zyman 2012), which, besides denying a Cinquean-like treatment of (higher) AdvPs, would make the distribution of higher adverbs even more puzzling. I will demonstrate that the Cinque Hierarchy is on the right track and that the apparent puzzling distribution of medial/higher adverbs is due to their scope-inducing/scope-taking/focus-sensitive nature. I will therefore assume Kayne’s (1998) theory of scope-assignment and generalize it to all AdvPs. Treating adverbs *à la* Kayne makes it possible to explain their paradoxical distribution. The V surfacing to the left of the higher AdvP in (4) does not get to that position by V-raising past the adverb. Instead, it raises as part of a remnant constituent which happens to be the sole lexical V (for instance, in the absence of auxiliaries). It give us the illusion that the V moves on its own past a higher AdvP.

In the next two chapters (chapters 2 and 3), I will spell-out some theoretical assumptions. In chapter 2, I present the Cartography Framework—which I base my analysis on—, especially the components I consider to be the main tenets of Cinque’s version of it. One important issue in Cinque’s recent work is the conjecture that UG would only allow phrasal movements (Cinque 2005). Cinque convincingly shows that this would be the case for the extended projection of the Noun (Cinque 2005, 2010a). I will take this suggestion to be on the right track and will assume that this conjecture should also be true of the extended projection of V.

The Generative tradition has also considered *floating quantifiers* as diagnostics for V raising. This is undoubtedly due to the fact that, independently of the “theory” of floating quantification assumed—either Sportiche’s 1988 “Stranding theory” or the so-called “Adverbial Theory” (Bobaljik 1995, Brisson 1998, 2000; Doetjes 1997, a.o)—, Floating Quantifiers are argued to enter the derivation in a position on the left-edge of the *v*P-phase.

Thus, be they VP-adverbs or modifiers of the DP (in which case they would merge together with their associated DP in [Spec,*v*P]), they would necessarily occupy a position from where they could indicate the presence or absence of V-to-I movement. Once again, the assumption of Cinque's fine-grained structure of the clause would have us ask how floating quantifiers should be integrated into the structure, and, more crucially, if they would still be considered as diagnostics for V-to-I raising. In order to do this, in chapter 6, I will evaluate the two main approaches to the phenomenon of floating quantification, namely, the 'Stranding' and the 'Adverbial' approach. I will show some drawbacks of the former and some advantages of the latter, thus opting for merging floating quantifiers within the extended projection of the V.³ Though assuming that FQs are modifiers within the extended projection of V, I will depart, on some points, from the Adverbial Approach (see section § 4 of Chapter 6). Once more, I will turn to (a revisited version of) Kayne's (1998) theory of scope assignment to suggest, against Bobaljik 1995, Brisson 2000, and Fitzpatrick 2006, that there is no free order of FQs relative to other higher adverbs. I will suggest that this apparent freedom is only epiphenomenal, namely, that it is the result of transformations. Based on English data, I will suggest that FQs, contrary to what has been assumed in the adverbial approach, do not merge in a lower position (i.e. as adjuncts to VP). They are rather merged very high in the IP, namely, to the left of evaluative adverbs but to the right of Speech-Act adverbs. As such, they cannot be taken as diagnostics for V-to-I raising.

In Chapter 3, I introduce Kayne's (1998) theory of scope assignment, which is crucial to understanding the way that adverbs are assigned scope. I generalize Kayne's treatment of *only*, *even*, *too* to all adverbs and to universal floating quantifiers as well. Thus, whenever an adverb is taken from the numeration and merged in the corresponding Spec of Cinque (1999), its Merge involves a series of transformations for the purpose of scope assignment. Since adverbs are XPs and not heads, Kayne's derivations will be slightly modified to be compatible with these empirical and theoretical facts. To achieve this, Kayne's (1998) derivations will be implemented in such a way that they will become closer to his treatment of prepositions as probes (cfr. Kayne 2005 (in particular p. 97-98; 137)).

As we will see, one of the advantages of Cinque's representation of the IP structure is that it

³ Assuming that FQs are merged in the extended projection of the V does not exclude the possibility that Qs may be found within the extended projection of the N. As shown in § 2.2 of Chapter 6, FQ *all/tous/tutti/todos(tudo)* (English, French, Italian, Standard BP, Colloquial BP) may also be merged within the extended projection of the N, possibly as one of its highest category (Cinque 2011 [class lectures]).

helps us make the *loci* of crosslinguistic variation more precise. We will see in chapter 4 that, while in BP V cannot raise past *já* ‘already’ or whatever adverb is found to its left, it can in European Portuguese. Assuming Cyrino (2011), I will suggest that T is weak in BP, which explains the absence of V-movement any higher than T_{Anterior}.

In Chapter 7, I present a brief overview of the ideas put forth in each chapter and state some remaining issues for future research.

Last but not least, a final remark is in order. I am assuming Cinque’s (1996, 2005, 2006, 2009a,b, 2010, 2011) conclusion concerning the *left-right* asymmetry of natural language, according to which nothing enters the derivation to the right of V (or below it). That is, all arguments, circumstantials and modifiers of V are merged above it, in dedicated Specifier positions. In chapter 2, I will provide some motivations for this assumption. Cinque’s *left-right* asymmetry is a natural consequence of the antisymmetric view of Syntax (Kayne 1994) (see Cinque 1996 and subsequent work). Besides this, I also assume Cinque’s (2005, 2010, 2011) contention that only phrasal movements would play a role in a theory of UG. (See also Koopman & Szabolcsi (2000) and the observation made in Kayne (2005: 102)). A natural consequence of these assumptions, coupled with the fine-grained representations of Cartography, *is a system making extensive use of movements*, especially remnant movements, which might be considered “unusual” for someone or “complex” for others. It is worth noting that Koopman & Szabolcsi (2000: 37) justify their (equally) “complex” system by saying that such a complexity “in a well defined sense (...) is in fact extremely simple.” I hope the reader will realize that, although apparently complex at first sight, the derivations proposed in this dissertation are always designed in the same way, by being built up from a “unique, everrepeating design,” in Koopman & Szabolcsi’s (2000) sense. For us, this means ‘computational simplicity’. All things considered, the assumption of the fine-grained cartographic structures and the massive use of phrasal movements would at least have an obvious theoretical-conceptual advantage, it seems: they would make it easier to see that the basic building blocks of syntax can be simplified to a unique structural design (that is, Kayne’s (1994) unidirectional [Spec [Head [Complement configuration (cfr. Koopman & Szabolcsi 2000: 37)) and that syntactic representations are always built up in the same way.

Chapter 2:

Theoretical Background

“[The Cartography Project is] the attempt to draw a map, as detailed as possible, of the functional (or grammatical) structure of the clause and of its major phrases. The underlying assumption is that all languages share the same functional categories and the same principles of phrase and clause composition, although they may differ in the movements they admit and in the projections they overtly realize.” (Cinque 2006: 3-4)

One of the ultimate goals of the Cartography project is to establish a systematic matching between morphosyntactic and semantic features, on the one hand, and functional projections on the other (Benincà & Munaro 2011: 3). Scholars working on the Cartography project share the assumption that the very rich and detailed functional structures proposed are actually a permanent part of UG, and thus available to all languages. Cinque (1999), for instance, proposes a fine-grained representation for the “IP space” which is made of almost forty functional projections, each one coming with a distinct semantic feature. Since the present work assumes the Cartography framework, this chapter reviews some important theoretical issues of the framework, and attempts to show how Cinque’s (1996, 2005, 2006, and subsequent work) conclusions on what he calls ‘the left-right asymmetry of natural languages’ can make sense of the derivation of BP sentences. A brief review of the literature on V raising in BP is also provided.

1. The Cartography Project: A brief introduction

As stated in chapter 1, this work assumes the Cartography framework. Cinque & Rizzi (2008: 42) define this framework as an “attempt to draw maps as precise and detailed as possible of syntactic configurations.” The Cartography Project started with Cinque’s (1995a, 1999) work on the fine structure of the IP and Rizzi’s (1995, 1997) work on the fine-grained structure of the CP. Precursors of Cartography would be, for the clausal domain, Chomsky (1986), who suggested a representation of the clausal structure which is still assumed in current minimalist works ([CP[IP[VP]]]), and Pollock (1989), with his split-IP hypothesis. In the nominal

domain, precursors are, among others, Abney (1987), Szabolcsi (1987), Cinque (1990, 1994), Giusti (1993) and Longobardi (1994).

As stated in Laenzlinger (2011: 8) and Poletto (2012), the Cartography framework essentially relies on the following ingredients:

- (i) Kayne's Antisymmetry theory;
- (ii) The layered peripheries in the clausal domain (cfr. Rizzi 1997, 2004; Benincà & Poletto 2005; Belletti 2002; a.o.) and in the nominal expression (Giusti 2006; Laenzlinger 2011; a.o);
- (iii) Cinque's (1999) layered IP and Cinque's (1994, 2010), Scott's (2002) and Laenzlinger's (2011) layered structure of the nominal expression.
- (iv) Cinque's (2010) layered structure of prepositional phrases.

Kayne's (1994) Antisymmetric Theory is one of the most recent and illuminating achievements in the theory of grammar. His Linear Correspondence Axiom (LCA), which states that the linear orderings are directly read off from hierarchical relations, has become one of the canons of the Cartography framework. Antisymmetry provides Cartography with an appropriate framework on phrasal-structure, given that, based on the LCA, it is possible to convert precedence into hierarchical relations, one of the basic ingredients of the cartographic endeavor. It is worth remembering that the LCA disallows multiple specifiers by limiting their number to one per functional projection. This also has important consequences for a framework like Cartography. The very fact that a constituent root-merged in the specifier position (whenever present in the numeration) would semantically match its correspondent functional head goes very well with the idea that only one specifier/adjunct is allowed per head. As Cecilia Poletto [class lectures 2011] pointed out, one of the great differences between Cartography and Minimalism relies exactly on the fact that the former does not allow adjunctions of phrases to phrases (as predicted by the LCA), whereas Minimalism does. Being *a priori* a freely and unconstrained process, the multiple Specifiers analysis should in principle allow both $A > B$ and $B > A$ orders. Cinque's (1999) hierarchy of adverbs and Cinque (1994, 2010), Scott (2005) and Laenzlinger's (2011) hierarchy of adjectives seem to provide empirical reasons favouring an LCA-based analysis: the existence of a rigid, fixed hierarchy of adjectives and adverbs would not be naturally accounted for by an adjunction-based system, adjunction being a freely and unconstrained mechanism.

Scholars assuming the adjunction approach (e.g. Ernst 2000, 2007, a.o.) generally turn to semantic rules/principles to account for the order of adverbs, but this may fall short of accounting for all cases (see Cinque 1999, §6.3).

In this chapter, I introduce the theoretical framework I base my analysis on. In section 2, I present the fundamental tenets of the Cartography approach. In section 3 and 4, I briefly comment on the Cinque Hierarchy. In section 5, I present Cinque's conclusions on the left-right asymmetry of natural languages (here referred to as "Cinque's left-right asymmetry" for brevity). Cinque's left-right asymmetry will also be discussed in section 6, where I show how a simple sentence (from BP) can be derived under the assumption that nothing enters the derivation to the right of the lexical head of the extended projection of V. In section 7, I spell out my assumptions on Case checking/assignment/matching following Kayne (2000, 2002, 2005), Schweikert (2005) and Cinque's (2006) works. I show how the VS order in European Portuguese and Italian, and the restricted VS order in BP can help us understand where and when Case checking/matching/assignment would take place in the derivation. In section 8, I discuss what could be the triggers for syntactic movements. Subsequently, in section 9, I show that the Cartography framework assumed here is not incompatible with Minimalism, despite the apparent tension between the two. Previous works on verb raising in BP will be reviewed in section 10. In section 11, I conclude this chapter with a brief summary of the results.

2. The philosophy of the Cartography Project

Two fundamental tenets advanced in Cinque (1999) form the basis of the Cartography framework. One such tenet refers to the universal nature of the functional categories. All languages would present the entire set of functional categories of the clause and its main phrases, because the functional structure is part of our biological endowment (Benincà and Munaro 2011; Brugè et al. 2012; also, see Cinque *forthcoming*). The other tenet concerns the status of functional categories as "primitives of the grammar" (see Cinque 1999, § 6.3; 2004 and Cinque & Rizzi 2008; see also the discussions in Fortuny 2008 and van Craenenbroeck 2009).

The universality of functional categories seems to be an uncontroversial assumption among

varying scholars working on the Cartography Project (see Cinque and Rizzi 2008), even if some of them take a more “light Cartographic” line.⁴ As for the other tenet, namely, the belief that functional categories are primitives of the grammar, it is proposed that they are a computational construction of the language faculty (see Cinque 1999, chapter 6, §6.3, and Cinque *forthcoming*). To borrow Fortuny’s (2008: 107) words, functional hierarchies, in Cinque’s work—and in Cartography, more generally—, are conceived as “hardwired in a clumsy fashion.” However, one could wonder, as Fortuny did, if the existence of (cartographic) hierarchies (which he calls “cartographic effects”) would not be “[...] derive[d] from the C-I requirement of bringing semantic distinctions into the syntactic representation[.]” (Fortuny 2008: 118). Since functional categories as conceived in Cartographic representations ‘feed’ the C-I requirements, there would be no reason (according to Fortuny) to conceive of them as primitives. The problem with such an assumption, one which shifts the issue to the interface with the semantic component, is that it does not explain why only those quite restricted sets of cognitive notions come to be grammaticalized in the form of functional categories in the languages of the world. As Cinque (2009, 2004, *forthcoming*) points out, one does not find many semantic notions grammaticalized in morphosyntax, in spite of their importance across different cultures:

“As hinted at in Cinque (1999: 224, fn. 10 and related text), a purely semantic scope principle of the conceptual–intentional interface provides by itself no understanding of why we find in the languages of the world the specific classes of adverbs (and corresponding functional heads) that we find, rather than some different assortment. Surely there are many more semantic notions in our conceptual–intentional world than those that receive grammatical expression (are grammaticalized) in the languages of the world. [...] Clearly, it is an “accident” of evolution if UG has come to look the way it looks, with certain functional distinctions (and related adverb classes) rather than others. This must be encoded in the functional portion of the UG lexicon, and it seems reasonable to require that there be a formal means to relate the

⁴ See, for instance, Giorgi and Pianesi (1996), Rizzi (1997), Giusti (2009), who accept the existence of (underlying) universal hierarchies of FPs, but assume—much in the spirit of Thráinsson (1996)—that only those projections having overt material in the lexical array/numeration would project. Giorgi and Pianesi (1996), for instance, propose, in line with the Minimalist Program, that Universal Grammar (UG) makes available the entire collection of Functional Projections (FPs), but they are not necessarily projected every time in every sentence: only the projections presenting lexical or morphological material in the numeration would project (their “Feature Scattering Principle”). The other functional features (relevant to the interpretation in the C-I system) would not be realized analytically, but syncretically (see Fortuny (2008, chapter 3)) with other features morphologically or lexically presented in the numeration. On this “light Cartographic” branch, see van Craenenbroeck 2009.

functional head distinctions to the corresponding AdvP distinctions, irrespective of the possibility that the relative scope relations among such UG entities ultimately reflect a more general cognitive order of scope among them.” (Cinque 2004: 121)

Cinque (1999, 2004) does not deny that hierarchies would reflect semantic principles. In fact, no supporter of Cartography would deny that. As shown in Cinque (1999), epistemic modality has to be higher than Tense, for instance, since it is only possible to evaluate a proposition if it is already anchored in time. Fortuny (2008, chapter 4) tries to demonstrate how to obtain the order of functional categories in the inflectional phrase by turning to semantic principles. But he has to resort to different ‘semantic principles’ to explain the constraints that would (supposedly) restrict the order of adverbs and functional heads (see Fortuny’s 2008, § 4.2, p. 99ff.), whereas Cinque’s (1999) methodology to arrive at the entire collection of FPs in the IP structure *only* fundamentally rests on *transitivity* relations (see the next section), implemented with the (further) match of adverbs with the functional heads in terms of number, relative order and semantic type.

3. The Cinque Hierarchy

In Cinque (1999), each projection would host an adverb in the Specifier and a particle/bound morpheme/free morpheme/restructuring verb (Cinque 2006)/modal verb/etc. in the correspondent head.⁵ To arrive at the Universal Hierarchy of clausal functional projections, Cinque (1999) first turns to transitivity tests, which involve adverbs of different classes (Cinque 1999, chapter 1). He takes combinations of two adverbs of different classes in the two possible relative orders (see (1-2)) to determine their position in the hierarchy.

- (1) a. AdvP_A > AdvP_B
 b. *AdvP_B > AdvP_A
 (2) a. AdvP_B > AdvP_C
 b. *AdvP_C > AdvP_B

⁵ See Cinque (2002: 8, n. 6; *f.c.*: 12) and Kayne (2012) for the possibility that the functional notions in question may be spread out in more than one projection.

By combining (1) and (2), it follows that AdvP_A precedes AdvP_B which in turns precedes AdvP_C. Below, I illustrate this on the basis of English data involving four higher adverbs: *speech act, evaluative, evidential* and *epistemic* adverbs. The examples are taken from Cinque (1999: 33).

- (3) Speech act adverbs (*honestly*) > Evaluative adverbs (*unfortunately*).
 a. Honestly I am unfortunately unable to help you.
 b. *Unfortunately I am honestly unable to help you.
- (4) Evaluative adverbs (*fortunately*) > Evidential adverbs (*evidently*).
 a. Fortunately, he had evidently had his own opinion of the matter.
 b. *Evidently he had fortunately had his own opinion of the matter.
- (5) Evidential adverbs (*clearly*) > Epistemic adverbs (*probably*).
 a. Clearly John probably will quickly learn French perfectly.
 b. *Probably John clearly will quickly learn French perfectly.

On the basis of the data in (3-5), Cinque arrives at the following (partial) hierarchy:

- (6) Speech Act > Evaluative > Epistemic

Then, he tested the position of the other adverbs among each other and arrives at the Universal Hierarchy given in (7) below.⁶ Cinque did the same for the corresponding functional heads (mostly based on data coming from typological work on languages of different families) (see chapter 3 of his 1999 monograph). Consequently, he shows that adverbs and functional heads actually match in number, relative order and semantic type (chapter 4 of the 1999 work).

⁶ Cinque (1999, chapter 1) brings evidence for the adverbial counter-part of his hierarchy, starting with a detailed survey on the distribution of AdvPs in French and Italian. He also tests his hierarchy of adverbs with English, Chinese, Hebrew, Albanian and Serbo-Croatian data. On the validity of Cinque's adverbial hierarchy for BP, see Santana (2005), which shows that Cinque's predictions are also valid for this language. The adverbial hierarchy has also been tested again for English (see Tosqui & Longo 2003; Zyman 2012). Tosqui & Longo also tested the predictions of the Cinque hierarchy for modal AdvPs in BP.

(7) The Universal Hierarchy of Functional Projections of the IP (Cinque 1999:106, modified in Cinque 2006)⁷

[*frankly* Mood_{SpeechAct} > [*luckily* Mood_{Evaluative} > [*allegedly* Mood_{Evidential} > [*probably* Mod_{Epistemic} > [*once* T_{Past} > [*then* T_{Future} > [*perhaps* Mood_{Irrealis} > [*necessarily* Mod_{Necessity} > [*possibly* Mod_{possibility} > [*usually* Asp_{Habitual} > [*finally* Asp_{Delayed} > [*tendentially* Asp_{Predispositional} > [*again* Asp_{Repetitive(I)} > [*often* Asp_{Frequentative(I)} > [*willingly* Mod_{Volition} > [*quickly* Asp_{Celerative(I)} > [*already* T_{Anterior} > [*no longer* Asp_{Terminative} > [*still* Asp_{Continuative} > [*always* Asp_{Continuous} > [*just* Asp_{Retrospective} > [*soon* Asp_{Proximate} > [*briefly* Asp_{Durative} > [(?) Asp_{Generic/Progressive} > [*almost* Asp_{Prospective} > [*suddenly* Asp_{Inceptive} > [*obligatorily* Mod_{Obligation} > [*in vain* Asp_{Frustrative} > [(?) Asp_{Conative} > [*completely* Asp_{SgCompletive(I)} > [*tutto* Asp_{PlCompletive} > [*well* Voice > [*early* Asp_{Celerative(II)} > [(?) Asp_{Inceptive(II)} > [*again* Asp_{Repetitive(II)} > [*often* Asp_{Frequentative(II)} > ...

The Cinque hierarchy given in (7) is thus arrived at on the basis of the order of adverbs which match the order of functional heads, an important piece of evidence for the functional nature of AdvPs.

Cinque’s representation of the IP structure, although not incompatible with what is traditionally assumed in mainstream Minimalism (Chomsky 1995 and subsequent work)—which projects only TP—, is clearly much more articulated than the latter. Each functional category of his hierarchy necessarily comes with two values, one default and one marked (see below).

The assumption of such a fine-grained structure as the one proposed in (7) raises the question on the universality of these functional categories. Cinque assumes that all languages (would) share the same inventory of functional categories and the same principles of phrase and clause composition. He ties crosslinguistic variation⁸ to internal Merge (Which language allows which type of movement? What is the height of movements in each language?) and Spell-out (which category is overt or covert) (Cinque

⁷ This modified version is quoted in a handout by David Pesetsky 2003: http://ocw.mit.edu/courses/linguistics-and-philosophy/24-902-language-and-its-structure-ii-syntax-fall-2003/lecture-notes/class_1_handout.pdf.

⁸ Cinque takes the “strongest position” (see the discussion in Thráinsson 1996), when he states that UG does not allow variation in number, semantic type and the relative order of functional projections which make up the IP. In his view, the syntactic computation of each singular sentence would (*always*) project the entire collection of functional categories. This should be true of all languages, according to him. In this sense, Cinque’s theory crucially differs from approaches like the WYSIWYG (“What you see is what you get”)—term used in Roberts and Roussou (2003) to refer to those approaches which assume that only the projections whose features are morpho-phonologically present in the lexical array/numeration are projected in the derivation. WYSIWYG is openly denied in Cinque (1999). The author develops a theory of *markedness* where both overt and silent heads have their realization: the former coming with a marked value; the latter with a default one (see Cinque 1999: §6.1; see also the next section here).

2006: 3-4).

Given this representation of the IP domain, important questions arise concerning the Syntax of V(P) raising: Do languages differ regarding the height of V(P) movement? Which adverbs should be taken as diagnostics for V(P) raising? The first question will be partially answered in the present work. In chapter 4, for instance, it will be shown that Brazilian Portuguese and European Portuguese differ in their movement options within the Cinque hierarchy (see in particular § 4). As for the second question, the validity of the adverbial test will be investigated in chapters 4 and 5. It will be shown that only lower (left-edge) adverbs are reliable diagnostics for V(P) raising (as already suggested in the literature on Portuguese, in Galves 1994[2001], Costa 1998, 2004a,b and in Costa & Galves 2002).

4. Which categories are projected?

Cinque (1999, chapter 6) proposes that all functional projections should always project, independently of the presence of overt material (for each one of his 40 FPs of the IP) in the numeration. To show that this is possible, he develops an approach to feature assignment based on the structuralist tradition and early generative work, the ‘markedness theory’. The basis of this theory extended to the Cartography relies on the basic idea that members of an opposition can be differentiated by the presence/absence of a given feature (see Cinque 1999: 128ff.). Cinque gives the following properties of the ‘marked’ member: (i) restrictiveness in application (in his example, *bitch* is the marked member, since *dog* is more general), (ii) low frequency, (iii) basic complexity, and (iv) tendency to not be expressed with zero morphology. Two other observations are made in his chapter 6 with regard to the value which has to be considered the marked one: the first is his characterization of ‘unmarked’ as vague (or wider) in application. The second is his observation that zero morphology typically occurs with the unmarked members of categories. (Cinque 1999: 128).

In Cinque’s system, the *default* value is generally correlated with the absence of a morphophonological realization (in the Spec or head position) of a given FP. The notion of markedness, however, is not absolute, but “relative”. He gives an illustrative example worth quoting:

[...] while in the presence of -Past the unmarked value is - [+ terminated], in the presence of +Past the unmarked value appears to be [+ terminated]. Also, while -[+ completive] is apparently the unmarked value with activities and states, it seems that [+ completive] is the unmarked value for telic predicates (so that, as noted in chapter 4, a completive interpretation is invited in such cases as *John has eaten the sandwich*, unless explicitly denied: *John has partially eaten the sandwich*). (Cinque 1999: 129).

The fact that all functional categories have to project can be easily illustrated on the basis of the expression of the epistemic modality. If the speaker is committed to what (s)he is saying in the propositional content, (s)he does not need to use an adverb or an epistemic functional head to convey his/her commitment. Thus, the ‘absence of commitment’ is the marked choice. Nevertheless, as the author mentions, the epistemic modality is still present since the speaker is committed to what (s)he is saying. It has to be projected through the assignment of a default feature to that FP. The use of an adverb (e.g. *probably*) or an epistemic modal (e.g. *must*) signals that the speaker is not committed to what (s)he is saying. This amounts to saying that the absence of morphophonological material to express epistemic modality is also meaningful. As such, a formal theory should not ignore this fact. Cinque suggests that, in this case, the functional projection associated with epistemic modality comes with a default value, which signals the speaker’s commitment. Hence, the conclusion is that all functional projections should always project, independent of the presence/absence of morphophonological material in the numeration (Cinque 1999, § 6.1). I assume that this position is on the right track. Of course, for the simplicity of exposition, I will not represent the functional projections when no (overt) material is either externally or internally merged.

5. The *left-right* asymmetry (Cinque 1996, 2005, 2006, 2007, 2010a,b, 2013, *f.c.*)

Cinque (1996, 2005, 2006, 2007, 2008, 2009, 2010a,b, 2013), based on both the typological and generative literature, mentions a general, pervasive left-right asymmetry of natural languages manifested in the (surface) order of modifiers and functional heads associated with the N and the V in their respective extended projections.

One such instance of (left-right) asymmetry has already been observed by Greenberg (1963, cit. in Cinque 2007: 78) in his Universal 20:

“When any or all of the items (demonstrative, numeral, and descriptive adjective) precede the noun, they are always found in that order. If they follow, the order is either the same or its exact opposite.” (Greenberg 1963: 87, cit. in Cinque 2007: 78)

The asymmetry in the nominal domain is that one gets only one order for demonstrative (Dem), numeral (Num), and descriptive adjective (A) when these modifiers precede the N (cp. (8a) and (8b) below) but either this order or its mirror image whenever these modifiers follow the N (see (8c-d)).⁹

(8) *Order of demonstratives, numerals, and adjectives* (Cinque 2007: 78 and references cited there)

- a. Dem > Num > A > N (English, Malayalam,...)
- b. *A > Num > Dem > N (0)
- c. N > Dem > Num > A (Abu‘, Kikuyu,...)
- d. N > A > Num > Dem (Gungbe, Thai,...)

As Cinque shows, the same pattern holds not only for the order of modifiers of N. A left-right asymmetry is also found in the order of attributive adjectives with respect to N (see (9)), adverbs and the V (10), circumstantial PPs and V (11), directional and locative prepositions with respect to N (12), Mood, Tense and Aspect morphemes and the V (13), and the order of auxiliaries/restructuring verbs with respect to V (14).¹⁰

⁹ More orders are possible if one or more modifiers precede the N and other(s) follow it, but this does not affect the general point (cfr. Cinque 2005 for discussion).

¹⁰ Cinque also shows that this same asymmetric pattern may be found within one language. In Modern Greek only the order *dative clitic > accusative clitic* is possible when these elements precede the V. If they follow the V, both orders are possible:

(i) *Order of (dative and accusative) clitics in Modern Greek* (Cinque 2007: 81 and references cited there)

- a. mou to edoses
me.DAT. it.ACC. gave.2S.
'you gave it to me'
- b. *to mou edoses
it.ACC me.DAT. gave.2S.
- c. Dos' mou to
give me.DAT. it.ACC.
'give it to me!'
- d. Dos' to mou
give it.ACC. me.DAT.
'give it to me!'

- (9) *Order of attributive adjectives*:¹¹ (Cinque 2007: 78)
- $A_{\text{size}} > A_{\text{color}} > A_{\text{nationality}} > N$ (English, Serbo-Croatian...)
 - $*A_{\text{nationality}} > A_{\text{color}} > A_{\text{size}} > N$ (0)
 - $N > A_{\text{size}} > A_{\text{color}} > A_{\text{nationality}}$ (Welsh, Irish, Maltese...)
 - $N > A_{\text{nationality}} > A_{\text{color}} > A_{\text{size}}$ (Indonesian, Yoruba,...)
- (10) *Order of adverbs* (cfr. Cinque 2007: 79 and references cited there):
- $\text{Adv}_{\text{no longer}} > \text{Adv}_{\text{always}} > \text{Adv}_{\text{completely}} > V$ (English, Chinese,...)
 - $*\text{Adv}_{\text{completely}} > \text{Adv}_{\text{always}} > \text{Adv}_{\text{no longer}} > V$ (0)
 - $V > \text{Adv}_{\text{no longer}} > \text{Adv}_{\text{always}} > \text{Adv}_{\text{completely}}$ ((main clause) German, Italian...)
 - $V > \text{Adv}_{\text{completely}} > \text{Adv}_{\text{always}} > \text{Adv}_{\text{no longer}}$ (Malagasy, Niuean,...)
- (11) *Order of circumstantial PPs*: (Cinque 2007: 80)
- Time > Place > Manner V (Basque, Nambikuara,..)
 - $*\text{Manner} > \text{Place} > \text{Time} > V$ (0)
 - $V > \text{Time} > \text{Place} > \text{Manner}$ (V/2 clause German)
 - $V > \text{Manner} > \text{Place} > \text{Time}$ (Vietnamese, Yoruba)
- (12) *Order of directional and locative prepositions* (Cinque 2007: 80 and references cited there)
- $P_{\text{Dir}} P_{\text{Loc}} NP$ (Romanian: Ion vine de la școală ‘(lit.) Ion comes from at school (from school)’)
 - $*P_{\text{Loc}} P_{\text{Dir}} NP$ (0)
 - $NP P_{\text{Dir}} P_{\text{Loc}}$ (Iatmul (Papuan): gay-at-ba ‘(lit.) house-to-at (to the house)’)
 - $NP P_{\text{Loc}} P_{\text{Dir}}$ (Jero (Tibeto-Burman): thalu=na=k ‘where=LOC = SOURCE (from where)’)
- (13) *Order of (speech act) Mood, Tense, and Aspect morphemes* (Cinque 2007: 80)
- Mood Tense Aspect V (Nama, Yoruba,...)
 - $*\text{Aspect Tense Mood V}$ (0)
 - $V \text{ Mood Tense Aspect}$ (Comox,..)
 - $V \text{ Aspect Tense Mood}$ (Korean, Malayalam,...)
- (14) *Order of auxiliary (restructuring) verbs* (Cinque 2007: 81)
- $\text{Aux}_1 \text{ Aux}_2 \text{ Aux}_3 V$ (Italian, English,...)
 - $*\text{Aux}_3 \text{ Aux}_2 \text{ Aux}_1 V$ (0)
 - $V \text{ Aux}_1 \text{ Aux}_2 \text{ Aux}_3$ (Hungarian, West Flemish,...)
 - $V \text{ Aux}_3 \text{ Aux}_2 \text{ Aux}_1$ (Hungarian, German,...)

¹¹ That is, adjectives not derived from relative clauses, but merged as direct modifiers of N within the extended projection of N (see Cinque 2010a).

Thus, as Cinque convincingly illustrates, the same pattern always goes in both the extended projection of V, the extended projection of N and the extended projection of P. In (15), found below, X° holds for N, V or P in their respective extended projections; A, B and C holds for the other elements (verbal, nominal and prepositional heads or modifiers) of (8-14). (15) captures the everrepeating pattern of (8-14). It also captures the Modern Greek pattern described in footnote 10.

- (15) a. AB(C) X°
 b. *(C)BA X°
 c. X° AB(C)
 d. X° (C)BA (Cinque 2007)

A theory of Syntax should provide an explanation for this everrepeating pattern, independent of its domain of application (be it the clause, the nominal expression or the extended projection of P) and the categories involved. Cinque questions the traditional symmetric view that tries to derive this on the basis of a principle taking the relative distance of the elements in (8-14) with respect to the head. Proponents of these theories generally take two of the three attested orders in (15), namely, those where the category C is the closest to the head X° (15a, 15d), to say that the principle underlying the distribution of these elements with respect to the lexical nucleus (N or V) takes into account the relative distance among them. However, as Cinque (2007: 82) points out, the problem with such an account is that it only treats the principle as a tendency since the order ‘ X° ABC’ (15c), in spite of its rarity, violates it.

Cinque’s suggestion is that these left-right asymmetries in the order of the modifiers relative to the lexical head could all be accounted for by assuming Kayne’s (1994) Antisymmetry Theory coupled with a unique abstract structure for the clause and its main phrases (see fig. 2.1 below), and different types of phrasal-movements necessarily involving the projection containing the lexical nucleus.

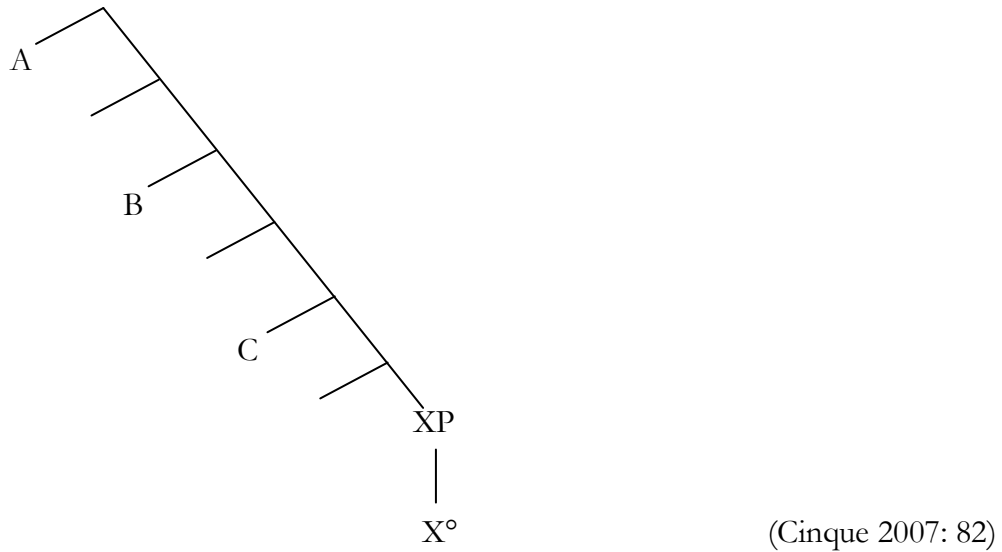


Fig. 2.1: A unique configuration for the base order

As for the type of movements to obtain the attested orders, Cinque suggests that it can be the movement of the phrase bearing the relevant feature (NP in the extended projection of N; VP in the extended projection of V; PP in the extended projection of P) or of a larger phrase containing it (i.e. movement with pied-piping). This is motivated by the independent existence of *wh*-movement. In (16), the *wh*-phrase moves without carrying any other constituent. In (17), it stays *in situ*. In (18-19), we have pied-piping. (16-19) are taken from Cinque (2007: 83, 90).

(16) [*Who*] did you see *t*?

(17) Siti mau *apa*? (*Indonesian*)
 Siti want what
 'What does Siti want?'

(18) [[*Whose*] pictures] did you see *t*?

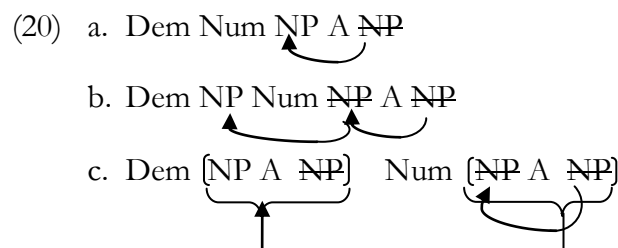
(19) [pictures [of *whom*]] did you see *t*?

To formulate the parameters of movement(s), Cinque takes into account these four derivational options involved in the Syntax of *wh*-expressions: no movement at all (17), movement without pied-piping (16), movement with pied-piping of the *whose-pictures* type (18), movement with pied-piping of the *pictures of whom* type (19). Hence, the orderings given in (8), repeated below, can be accounted for. (8a) would represent the base order and should involve no movement. To get (8c), the N would move from its base position to the left of each modifier. (8d) would be derived through N movement pied-piping each modifier in the *whose-picture* type ('snowball' movement).

(8) *Order of Demonstratives, numerals, and adjectives*

- a. Dem > Num > A > N (English, Malayalam,...)
- b. *A > Num > Dem > N (0)
- c. N > Dem > Num > A (Abu', Kikuyu,...)
- d. N > A > Num > Dem (Gungbe, Thai,...)

So, one option should be moving the NP to the left of each modifier. N could stop to the left of each of the modifiers of (8). See (20).



But, as Cinque shows, there are other attested orders. Actually, of the 24 mathematically possible combinations of the elements Dem, Num, A and N (i.e., $4! = 4 \times 3 \times 2 \times 1$), only 14 are attested. No previous work in the literature developed an algorithm which derives only the attested orders, excluding (at the same time) the unattested ones. Only the attested orders are derived by Cinque's algorithm, stated in (21), whose sole ingredients are: (i) a unique (universal) base order (see (21a)) and (ii) the different types of (phrasal-)movement involved in the derivations (21b).¹²

¹² For a possibly more accurate parametrization of movement, see Cinque (2010b[to appear]).

- (21) *On deriving the attested orders of the elements Dem, Num, A, N* (Cinque 2007: 90-91)
- a. Base order: [...[_{WP}DemP ...[_{XP}NumP ...[_{YP}AP [_{NP}N]]]]]
 - b. Parameters of movement:
 - i) No movement (unmarked), or
 - ii) NP movement plus Pied-piping of the *whose pictures*-type (unmarked), or
 - iii) NP movement without Pied-piping (marked), or
 - iv) NP movement plus Pied-piping of the *pictures of whom*-type (more marked still)
 - v) *total* (unmarked) vs. *partial* (marked) movement of the NP with or without Pied-piping (in other words, the NP raises all the way up, or just partially, around its modifiers).
 - vi) Neither head movement nor movement of a phrase not containing the NP are possible (except perhaps for a single focus-related movement to a DP initial position).

For reasons of space, I will neither reproduce the 24 mathematically possible combinations of Dem, Num, A, N, nor quote what Cinque (2007) gives as attested “√” or unattested “*”—on the basis of both the typological and generative literature—, for which the reader is referred to Cinque (2005, 2007). The reader is also referred to Cinque’s works on the transformations which lead to the attested orders.

It is worth noting that the same line of reasoning applied to the modifiers of N (Dem, Num, A) is extended to Mood, Asp and T functional heads (as far as their position relative to V is concerned) (see Cinque 2007, 2010b). I will not show how those orders are obtained, once again referring to Cinque (2007, 2011). The same line of reasoning applied in the extended projection of N (for Dem, Num, A and N) (Cinque 2005) can be applied in the clausal domain for Mood, T, Asp and the V (see Cinque 2007).

As stated in Cinque (2007: 96), the analysis proposed in his paper to derive the order of modifiers in the extended projection of V and N with respect to the head of these extended projections (i.e. V and N, respectively) has the implication that nothing should start the syntactic computation below or to the right of these lexical heads. Consequently, the constituents found to the right of V and N do not Merge there, but acquire that position by the leftward movement of V past them.

Given the explanatory force of Cinque’s theory on the left-right asymmetry, I assume that it is on the right track. As such, to analyze the issue of V(P)-raising in BP, I assume that all constituents present in the numeration (i.e. modifiers of V, auxiliaries, V arguments) merge to the left of V. In the next section, I show how Cinque’s *left-right* asymmetry can be assumed in

the syntactic computation of a very simple sentence from BP.

6. Cinque's *left-right* asymmetry and the derivation of a BP sentence

A radical interpretation of the *left-right asymmetry* should force us to merge not only adverbs and circumstantial DPs to the left of V. V arguments should also merge in Specifier positions of rigidly ordered, dedicated, functional projections above the “lexical core” of the clause, i.e., above V. In the spirit of Cinque (1999, 2006, 2007, 2010b, 2011), cross-linguistic differences in the order of these elements should be explained as a consequence of different types of leftward movements of the VP past them (Cinque 2006: 3).

Now, I would like to show how a simple sentence (from BP) can be derived under the assumption that nothing enters the derivation to the right of the lexical head of the extended projection of V. Larson's (1988) traditional VP-shell structure is thus abandoned in favor of a unique abstract structure of Merge (Cinque 2006, 2010, 2011), which is invariantly the same for all languages, in consonance with Cinque's (1996, 2000, 2005, 2007, 2010a,b, 2011) ‘left-right asymmetry’. In Cinque's framework, as seen in the previous section, all arguments of V would merge in dedicated positions to its left. Let us start with (22), a sentence having only the V and two arguments.

- (22) O José comeu o bolo.
The J. ate the cake
'J. has eaten the cake'

I assume Chomsky's 1995 ‘Lexicalist Approach’ here, according to which the V enters the derivation already inflected and moves to check the (morphosyntactic) features of each INFL head. Once merged, the V projects the VP. In line with the ‘left-right asymmetry’ (see section 5, above), the complements of V are merged in Specifier positions to its left.¹³ Thus, V is the first to be merged in the clause.¹⁴ Arguments of V and circumstantial DPs will all be merged

¹³ This idea is also explored in Kayne (2008). See also Barbiers (2000) who proposes that English is an SOV at a more abstract level, i.e., arguments would necessarily merge to the left of V, in the S-O order. This ‘left-right asymmetry’, which is at the heart of Cinque's recent work (see Cinque 1996, 2005, 2007, 2008, 2009, 2010a,b, 2011), is, in my opinion, one of the most interesting and original contributions of Cinque's version of the Cartography Framework.

¹⁴ See also Kayne (1998: 149,fn.47) according to whom the assumption of a generalized version of Larson (1988), in which all arguments of the V start out in a Spec position is also compatible with Kayne's (1994)

to the *left* of V, following the universal hierarchy given below (cfr. Cinque 2006, 2010b, Schweikert 2005):

- (23) $DP_{\text{time}} > DP_{\text{location}} > \dots > DP_{\text{instrument}} > \dots > DP_{\text{manner}} > \dots > DP_{\text{agent}} > DP_{\text{goal}} > DP_{\text{theme}} > V^\circ$ (Cinque 2010: 10)

Following Cinque (2006), one assumption must be made for head-initial languages like English and Romance. That is, each time an argument is merged, it is preceded and followed by the Merge of a head (Cinque 2006, chapter 6). The first head projects an XP whose Spec hosts an argument. The next head creates the structural environment for the movement of the VP to its Spec. Along the lines of Cinque (2006, chapter 6), the Theme DP is the first argument (in (22)) to enter the derivation (in [Spec,Th[°]], see fig. 2.2 below). In the sequence, another head (here W[°]) is merged and the VP moves to its Spec (see that in the representation provided in fig. 2.2, the V moves to [Spec,WP]). Following the same line of reasoning, a Head (Ag[°]) enters the derivation and the Agent DP merges in its Spec. Another head, X[°], merges to the left with subsequent movement of the VP to its Spec.

Until now, our tree (see fig. 2.2) has the VP in the highest Spec and each argument merged in a Spec position, whose projections are all interspersed by functional projections hosting the trace/unpronounced copy of the VP in their Spec.

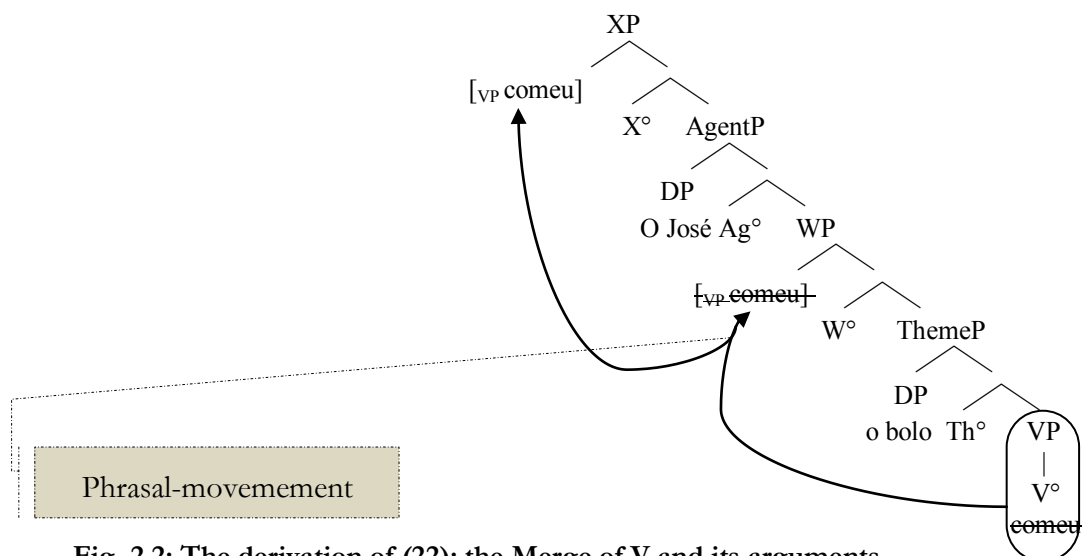


Fig. 2.2: The derivation of (22): the Merge of V and its arguments

S-H-C order. In this case, S-H-C is not to be taken as synonym of SVO.

Following Cinque (2006, chapter 6), the derivation continues by merging the two Kaynean Case-related projections associated with the accusative case. Relativized Minimality is of use here in deciding that the accusative case is the first to be assigned in (22). If the Theme-DP is the first DP merged, it has to be the first to check case and so forth. Below, in section 7, I provide some arguments suggesting that Case should be checked below the lowest functional projections of the Cinque hierarchy, i.e. before the derivation reaches the IP space. Thus, after the merge of all complements, an accusative-case licensing head attracts the Theme-DP (here, *o bolo* ‘the cake’) to its Spec. An abstract P head merges above the accusative case projection, and further movement places the remnant in its Spec. (cf. figs. 2.3 and 2.4).

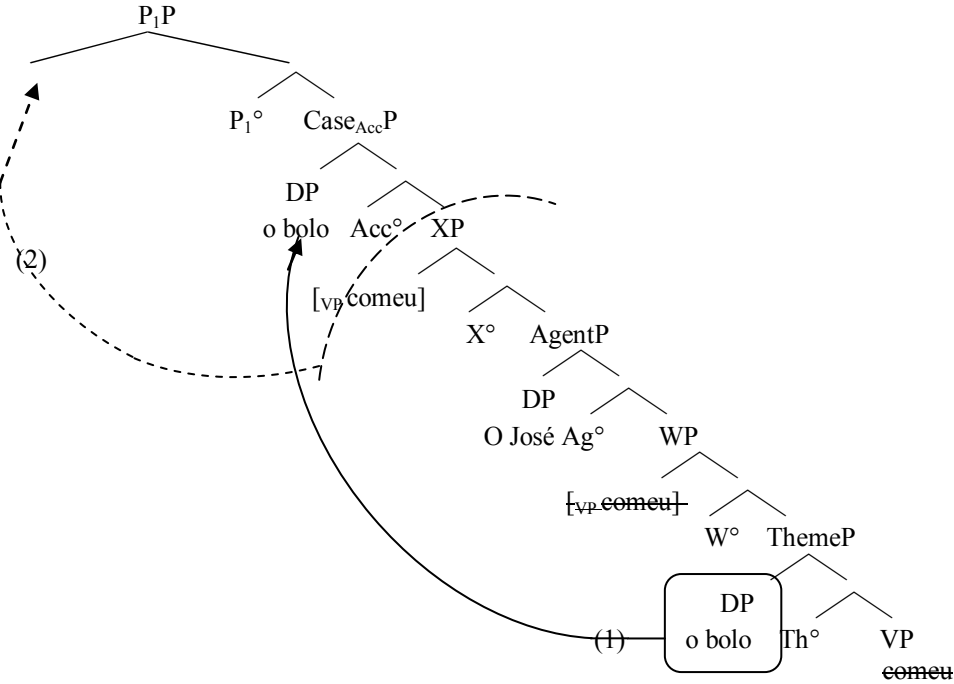


Fig. 2.3: The derivation of (22): Movement of the theme DP for Case reasons

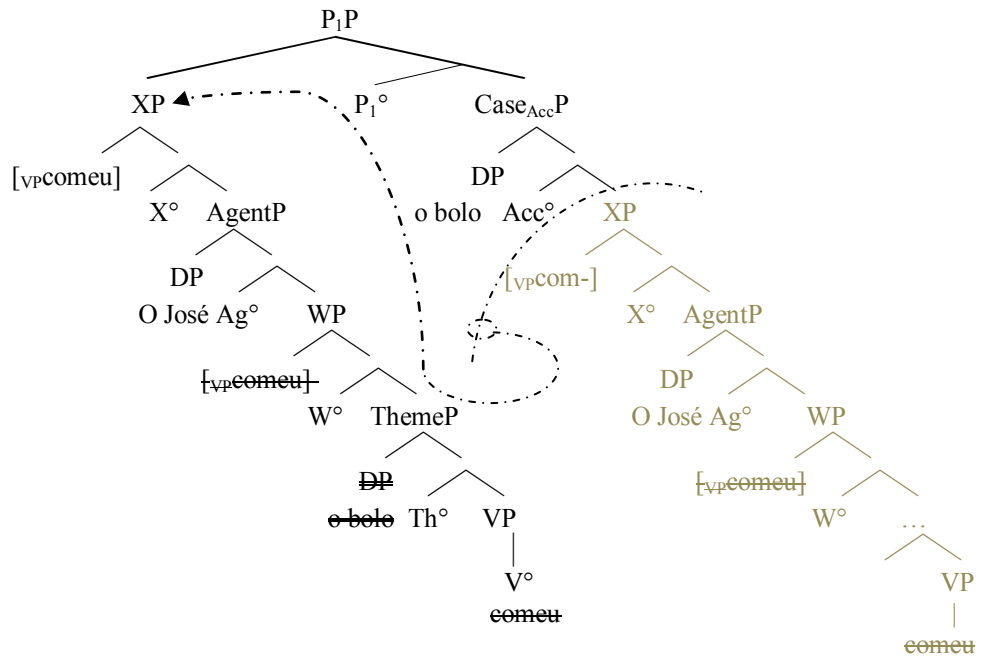


Fig. 2.4: Remnant movement to the left of the object (I)

Next, a nominative case-assigning head is merged and the agent-DP “O José” moves to its Spec to check case (fig. 2.5).

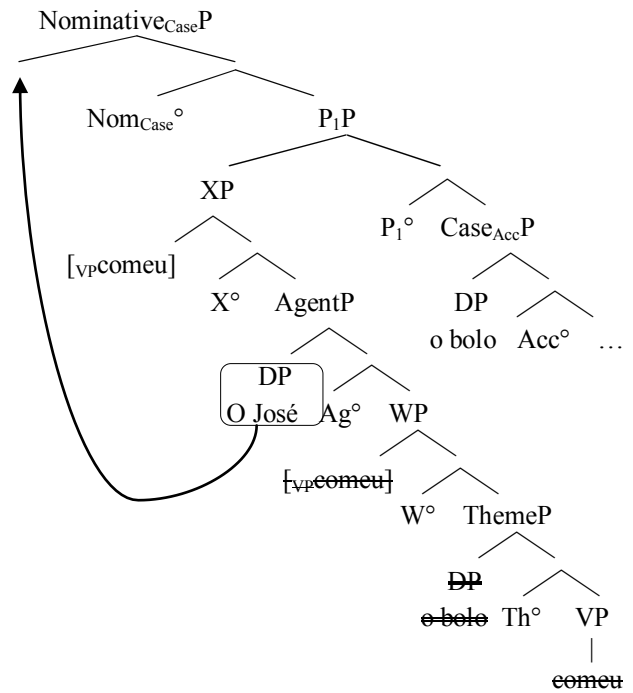


Fig. 2.5: Movement of the Agent-DP to [Spec,NominativeCase°]

In the sequence, the remnant moves past the Nominative_{CaseP}, putting the V plus object to the left of the subject (figs. 2.6 and 2.7).

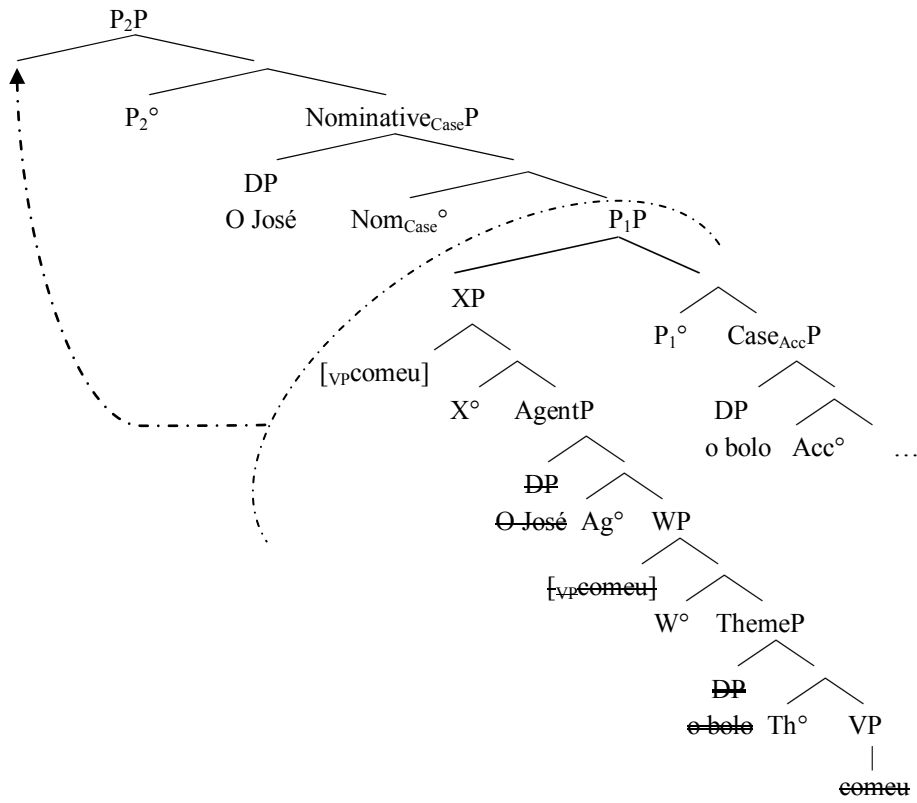


Fig. 2.6: Remnant-movement to the left of Nominative_{Case}P (I)

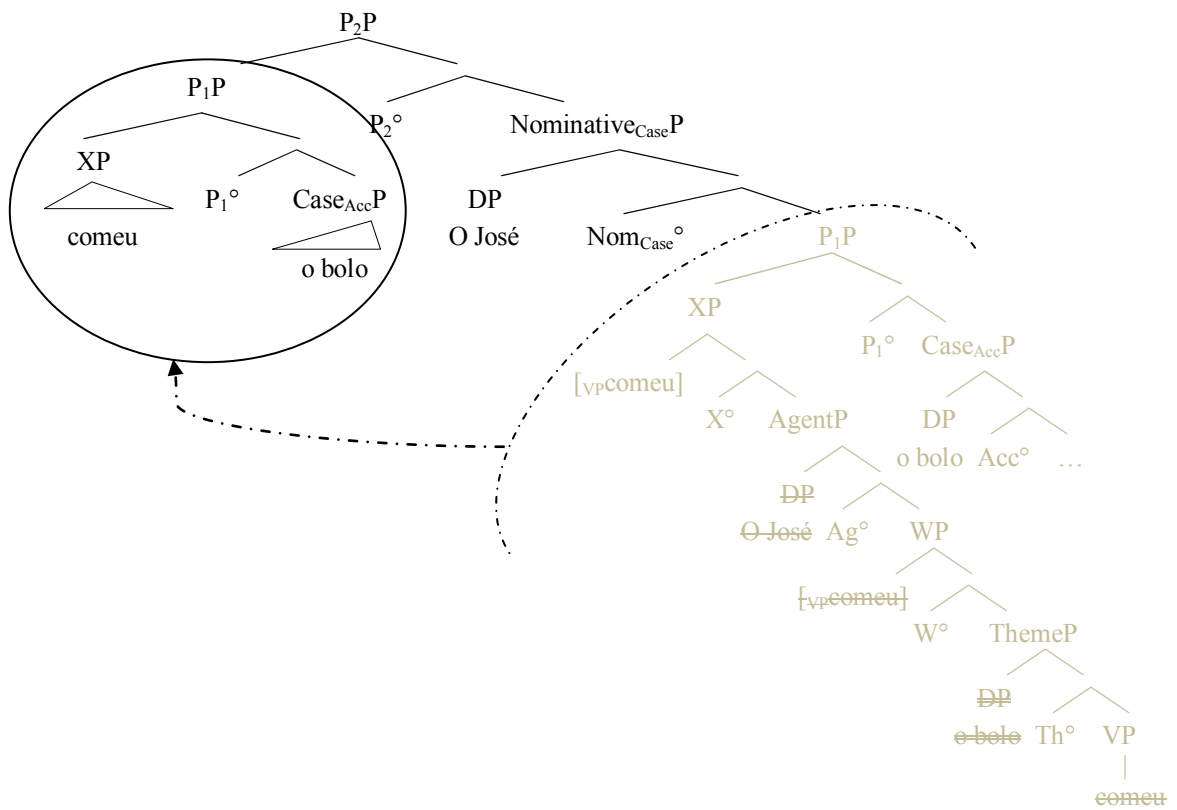


Fig. 2.7: Remnant-movement to the left of Nominative_{Case}P (II)

It is important to notice that the remnant, i.e., P_1P contains the V plus the direct object. This is the result of the V movement which has pied-piped the object. Now, I assume that it is the chunk ‘V plus direct object’ which moves (P_1P in our derivation), in the *default* case, to check the features of the lower heads of the IP. As we will see in Chapter 4, V raising is obligatory, in BP, to the left of *completamente* ‘completely’ ($ASP_{SingCompletive(I)P}$). That this movement is performed by the chunk ‘V plus direct object’ is shown by the data given in (24a). This sentence is much more natural than (24b), where the adverb seems to be focalized (Gonzaga 1997: 87).

- (24) a. O José comeu o bolo completamente.
 The J. ate the cake completely
 ‘J. ate the cake completely’
 b. O José comeu completamente o bolo.
 The J. ate completely the cake

Hence, in (22), given at the beginning of this section, the V, in its movement, pied-pipes its object. This is represented in fig. 2.8.

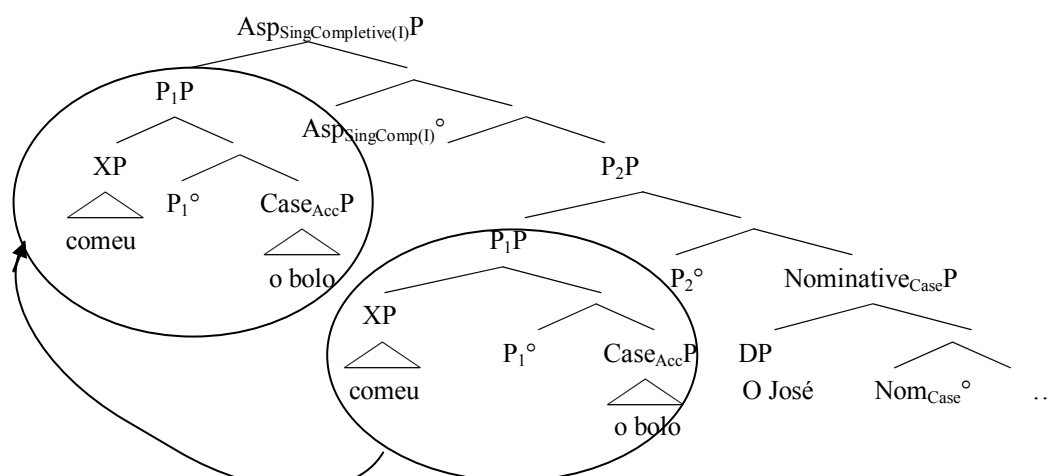


Fig. 2.8: V-movement pied-piping the object

P_1P can move to the Specifier of each lower IP-related functional projection of Cinque’s hierarchy which requires its mandatory movement (see Cinque 1999, chapter 1 and appendix 1).¹⁵ Since we are assuming only phrasal-movements (following a conjecture made in Cinque

¹⁵ In Cinque (1999), verb movement is achieved mainly by means of head-movement. However, it is explicitly suggested there that phrasal-movement is also sometimes necessary (see, e.g. Cinque 1999: §1.4). For uniformity, Cinque’s (1999) V-movement can be conceived of as VP-movement where VP contains no arguments (which are merged above it).

2005, §5; 2010; §2; see also Koopman & Szabolcsi 2000 and section 5, above), obligatory V movement is achieved by means of the movement of this ‘remnant-phrase’ (P₁P of fig. 2.8) to the Spec of lower functional projections. Cross-linguistic variation is expected here and indeed it exists (see Cinque 1999: chapter 1, 2 and appendix 1).

One observation must be noted here to avoid possible misunderstandings. Remember that in Cinque (1999, chapter 2), on the basis of the movement of the active past participle in Romance, the author proposed that AdvPs are the unique Specifiers of Functional Projections within the IP. Thus, taking for instance the Epistemic Modality in English as an example, Cinque’s (1999) idea was that an epistemic adverb like *probably* would merge in the Spec of Mod_{Epistemic}P. That projection could be headed for instance by the modal *must* on its epistemic use. Thus, in the presence of both the epistemic adverb (*probably*) and the epistemic modal (*must*) in the numeration, before possible movements of *must*, Mod_{Epistemic}P would be represented as follows:

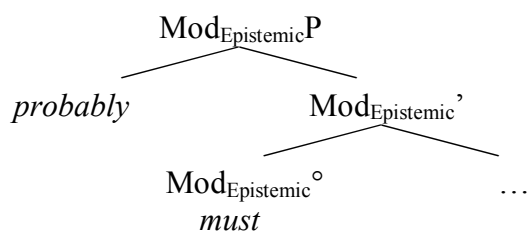


Fig. 2.9: Mod_{Epistemic}P in English: Spec and head filled

However, the position of the V relative to adjuncts in head-final languages has led Cinque (2010; see also Cinque 2002: 9, fn. 6 and Cinque *forthcoming*) to modify this picture, by splitting each Cinquean IP-related FP into two other projections where the adverb corresponding to the functional head in question would sit in the specifier of a “‘small extended projection’ of the functional head” (Cinque 2002: 9, fn. 6), in a way that reminds us of Larson’s (1988) shell-structures. Thereby, the upper shell would host the AdvP in its Spec. A modal, restructuring, auxiliary verb (or a particle, bounding morpheme, free morpheme, etc. – see Cinque 1999, chapter 3) would be merged as the head of the “lower shell”. In the case of the English Mod_{Epistemic}P, assuming Cinque’s recent proposal, *probably* would merge in the Spec of the upper EpistemicP. The modal *must* would merge as the head of the lowest EpistemicP-shell. See fig. 2.10 below.

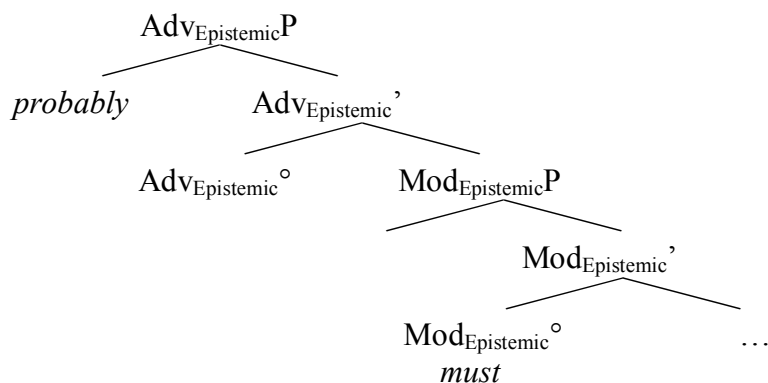


Fig. 2.10: Mod_{Epistemic}P in English (II)

I thus assume that the functional head merges in the lower shell and that the AdvP is not merged in its Spec, but in the Specifier of the upper shell, merged to the immediate left.¹⁶

Now, back to the derivation of (23), the “VP plus object” chunk moves to the Spec of each functional projection (up [Spec, T_{Anterior}], the position from where V(P) raising will no longer be possible in BP (see the reasons in chapter 4, sections 2.2 and 4). I will represent the set of these aspectual projections as AspP, to keep these representations to a minimum.

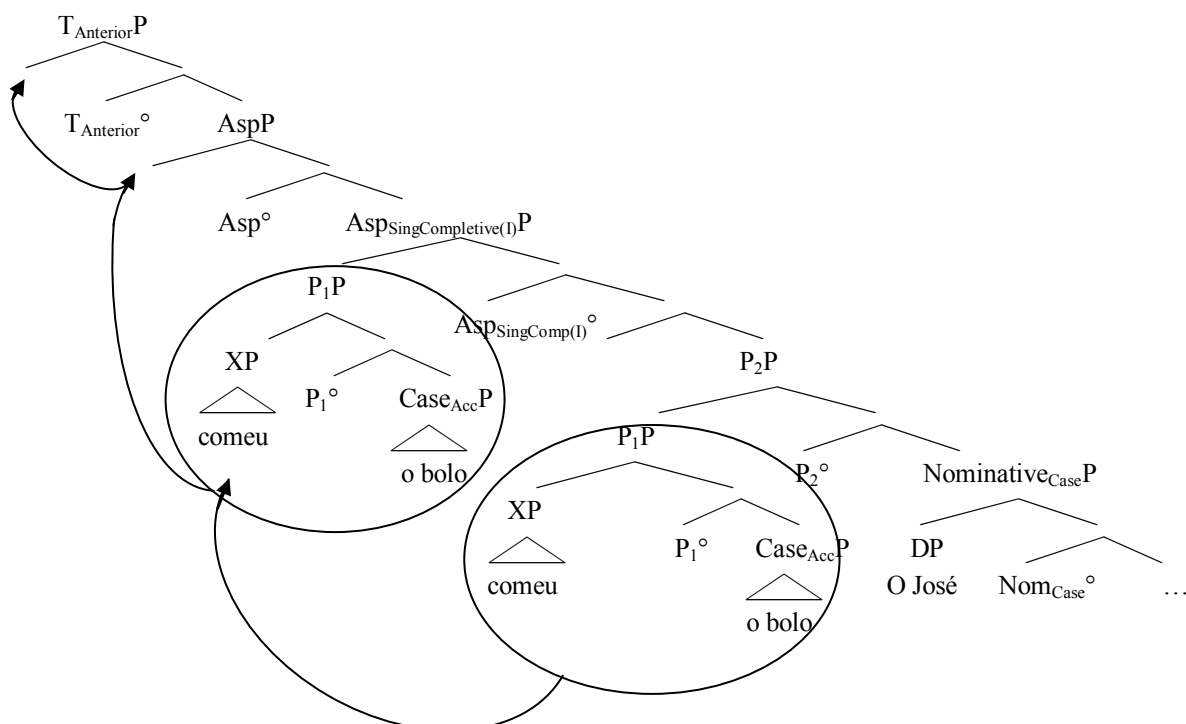


Fig. 2.11: V(P)-movement pied-piping the object

¹⁶ If an adverb does not project—this seems to be the case of *já* ‘already’ and *lá* ‘there’ in European Portuguese (see Castro & Costa 2002; see also section 2.2 of the *Appendix* in chapter 4 in this dissertation)—it would be merged as the head of the upper shell, directly.

Now, the other FPs higher than $T_{\text{Anterior}}P$ in the Cinque hierarchy will be merged (with their default features), piling up to $T_{\text{Anterior}}P$. From this position on, V raising (i.e., VP movement pied-piping the object) will no longer be possible. Only movements of larger chunks containing the V will be available.

Having shown how a sentence with a synthetic V form could be derived (keep in mind our assumptions of the Cartography framework), let us now see a possible derivation for a sentence having an analytic V form (see (25)).

- (25) O José tinha comido o bolo.
 The J. had eaten the cake
 'J. had eaten the cake'

I will skip the initial steps of the derivation concerning the merger of arguments and their movement for Case reasons since they are the same as those proposed for the previous sentence. After those Case-motivated displacements, we end up with the following tree.

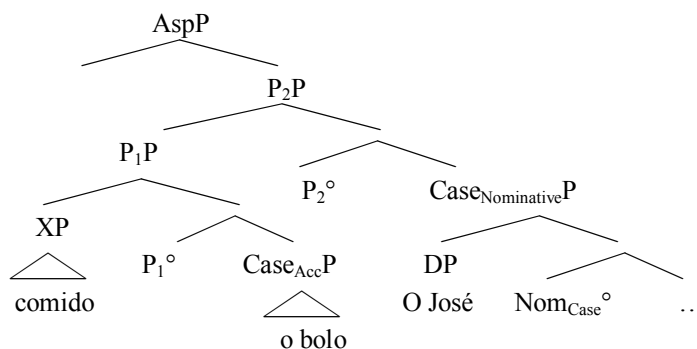


Fig. 2.12: On deriving (25)

As we will notice in chapter 4, V raises up to T_{Anterior} in finite clauses in BP. The participle follows the same rule, i.e. it raises no higher than T_{Anterior} in BP, which differs from Italian where it can move up to Asp_{Habitual} (see Cinque 1999, chapters 1,2 and Appendix 1).

The adverbs on the right of *já* 'already' in the hierarchy can be crossed over by the participle (see (26) and (27)). V cannot raise past *já* 'already' (28).

- (26) a. *O José não ainda tinha chegado no serviço.
 The José not yet had arrived at work
 ‘José hadn’t arrived yet at work’
 b. O José não tinha ainda chegado no serviço.
 c. O José não tinha chegado AINDA no serviço.
 d. O José não tinha chegado no serviço AINDA.
- (27) a. *O José não mais tinha assistido o Jornal Nacional.
 The José not any longer had watched the Jornal Nacional
 ‘J. hadn’t watched Jornal Nacional any longer.’
 b. O José não tinha mais assistido o Jornal Nacional.
 c. O José não tinha assistido MAIS o Jornal Nacional.
- (28) a. O José já tinha lido o livro.
 The J. already had read the book
 ‘José had already read the book’
 b. *O José tinha já lido o livro.
 c. ?O José tinha lido JÁ o livro.
 d. O José tinha lido o livro JÁ.

These data help us to pinpoint the position where the participle raises in (25) above. The interaction of V with adverbs (see (26-28)) suggests that the participle moves, in BP, up to the specifier of $T_{\text{Anterior}}P$ (see also § 2.2 and § 4 of chapter 4).

Let us assume that the auxiliary *tinha* ‘had’ is merged in $\text{Asp}_{\text{Habitual}}^{\circ}$ with the marked features of that projection. As in Cinque (2006, 2010), I assume Kayne’s (2000, 2005) derivations of infinitival complements (e.g. *try to leave* (see also chapter 3, section 6)) and extend it to participles as well. Hence, having merged the auxiliary *tinha* ‘had’, Kayne’s “K” head enters the derivation above (see K_1^0 in fig. 2.13). The complement of *tinha* ‘had’ is moved to $[\text{Spec}, K_1]$, followed by the Merge of an abstract head and remnant movement to its Spec.

The auxiliary can now move to $[\text{Spec}, T_{\text{Fut}}P]$ and to $[\text{Spec}, T_{\text{Past}}P]$ to check, respectively, the default and marked features of those projections. For more on the Merge of auxiliaries, see the *Appendix* in chapter 5. In the next section I discuss the issue of Case assignment in a system assuming the left-right asymmetry.

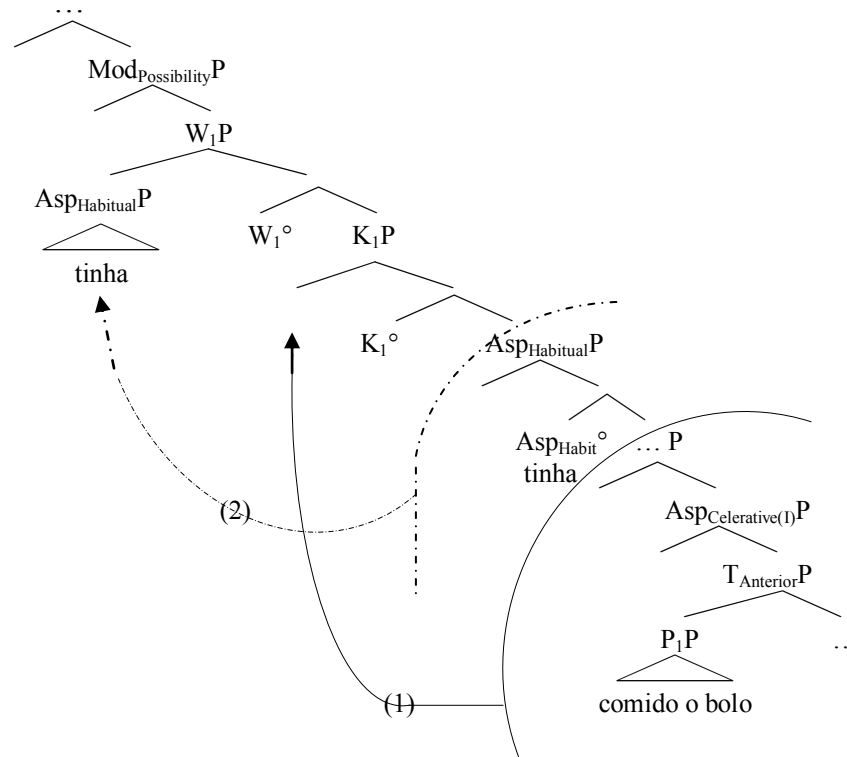


Fig. 2.13: Merging the auxiliary

7. Case assignment/checking/matching and the Cinque Hierarchy

In this section, I will detail my assumptions regarding Case checking/assignment/matching. I adhere to Koopman's (1996, 2006) view that the right configuration for Case assignment/checking/matching is Spec-head. Proponents of the spec/head configuration for Case checking/matching/assignment believe that it is achieved through the movement of the DP bearing, say, unvalued features for Case to the Spec of the head endowed with its valued counterparts. As in Kayne (2000, 2002, 2005), it is assumed that after this movement, a(n abstract) preposition merges in a head above it, followed by movement of the remnant to its Spec. Hence, the configuration [PP P [DP complement]] is *not* the result of merging P with its (ultimate) complement directly, as traditionally assumed. Rather, such a configuration is epiphenomenal and hides a series of complex syntactic processes. For a detailed discussion on the subject, see Kayne (2000, 2002, 2005). See also Schweikert (2005) and Cinque (2006, 2011), who integrate Kayne's system into the Cartography framework.

In the previous section, I suggested that Accusative Case and Nominative Case

Assignment/Checking/Matching would take place ‘before the derivation reaches the IP’. Now, I will provide evidence from the syntax of European Portuguese (section 7.1), Brazilian Portuguese (section 7.2) and Italian (section 7.3) VS declaratives which seem to be the right context to check *where* and *when* Kayne’s Case checking system would be integrated with(in) Cinque’s (1999) hierarchy.¹⁷

Before presenting the facts on the VS order, a brief examination of recent work on post-verbal subjects is necessary. Scholars working on post-verbal subjects within the Anti-symmetric theory of Kayne (1994) has suggested that the post-verbal subject position in Null Subject Languages (NSL) would correspond to [Spec,VP] (see, among others, Ordoñez 2000, Costa 2004a, Cardinaletti 2004). These works share the assumption that NSLs have post-verbal subjects their its thematic position (see also Cinque 1999: 111ff. where the author comments on these assumptions with regard to his functional hierarchy). Belletti (2001) minimally departs from them by suggesting that post-verbal subjects occupy the specifier of the FocusP of the right periphery (in the low-IP area).

These works also assume that the appearance of the subject to the right of the V (cfr. (29a,b)) is a consequence of V-movement in these languages. Cardinaletti (2004) assumes that in (29b) the object raises across the subject:¹⁸

¹⁷ The reason I believe that inverted structures provide the right context to test it is the fact that, as observed by Cinque (1999: 110ff.), pre-verbal subjects *cannot* appear, in Italian, to the right of *mica* ‘not’ and all adverbs following it in the hierarchy of functional projections (Cinque 1999: 106; 110) (see (i) below). Given this, only VSO or VOS orders would provide the right context to test it, since, as we will see, post-verbal subjects can be preceded by left-edge “*vP*” adverbs like *bem/bene/well*.

- (i) a. *Mica Maria prende il treno.
‘M. not takes the train’
- b. Maria mica prende il treno.
- (ii) *Già Maria è di ritorno, per le una.
‘Already, M. is back, at one o’ clock.’
- (iii) *Bene Maria fece tutti i compiti.
‘Well, Maria did her homework.’ (Cinque 1999: 110)

¹⁸ Inverted subjects are also possible in Italian in the VSO order if the object is “marginalized”, i.e., destressed in its base-position:

- (i) Ha letto GIANNI, il giornale. (Cardinaletti 2004: 117)
Has read Gianni the newspaper
‘GIANNI has read the newspaper’

(29) *Italian* (Cardinaletti 2004: 117)

- a. (Mi) ha chiamato un uomo.
(me) has called a man
'A man called me'
- b. Ha comprato il giornale Gianni.
Has bought the newspaper Gianni
'Gianni has bought the newspaper'

In the next three sections, I show how the VS order in European Portuguese (cfr. § 7.1) and Italian (cfr. § 7.3) and the restricted VS in BP (cfr. § 7.2) can help us understand where and when Case checking/matching/assignment would take place in the derivation if two main assumptions are admitted, namely, Cinque's articulated structure of the clause (Cinque 1999, 2006, 2010b) and Kayne's (2005) theory of Case checking/matching.

7.1 VSO order and monosyllabic adverbs in European Portuguese

Costa (2004a: 23ff.) discusses the possible derivations for the VSO order in European Portuguese (EP) and puts forward the idea that in this configuration the Subject has not raised. Rather, it stays in its base-generated position, namely, [Spec,VP] (see (30)):

(30) *Post-verbal subject in VSO context in European Portuguese* (Costa 2004a: 23)¹⁹
[_{IP} V_i [_{VP} Subject [_{V'} t_i Object]]]

Monosyllabic adverbs like *bem* 'well', which he takes as a reliable diagnosing test for the identification of the left-edge of the VP, can only appear, in VSO sentences, to the left of the

¹⁹ Costa (2004a: 23) mentions two other alternative ways to get the VSO order: (i) in one configuration, there is movement of the Subject to [Spec,IP] and movement of V to a head to the left; (ii) in the other, movement of the Subject to [Spec,XP] (a functional projection between the IP and the VP) and V^o movement to I^o. Though Costa suggests that the Subject stays in [Spec,VP] in the VS order in declarative sentences—so he does not need to turn to V-to-I-to-C movement of the V in this context—, his proposal does *not* exclude V-to-C movement in interrogatives. In this context, though the V moves to C^o, the Subject can still remain, he states, in [Spec,VP] (see (i) and its representation under Costa's analysis in (ii)):

- (i) Quem viu o João? (European Portuguese – Costa (2004a: 25))
Who saw the João
'Who did João see?'

V (see (31d)):

(31) EP (Costa 2004a: 28)

- a. **Bem* comeu o Paulo maçãs.
Well ate the Paulo apples
'Paulo has eaten well the apples.'
- b. ?*Comeu o Paulo *bem* maçãs.
- c. *Comeu o Paulo maçãs *bem*.
- d. Comeu *bem* o Paulo maçãs.

Costa (2004: 28) takes these sentences to suggest that the subject stays *in situ*, i.e., in [Spec,VP] in VSO contexts (see the structure given in (30)). If *bem* 'well' marks the left-edge of the VP, as Costa proposes (probably motivated by the ungrammaticality of (31a) and some other facts from English that he discusses in his text), (31) would suggest that the subject does not leave the VP in the VSO order in EP, given the ungrammaticality of (31b,c).

Though I am not assuming, as Costa does, that the subject stays *in situ* in VSO sentences in EP—rather, I propose that the only way to achieve Case checking is through the Spec/head configuration (Koopman 1996, 2006), thus, through movement (Kayne 2000, 2002, 2005; Schweikert 2005; Cinque 2006, 2011)—,²⁰ I think that the data given in (31) provide interesting evidence for the claim that Case checking/assignment, in a Kaynean system, takes place before the merger of any of Cinque's (1999) IP-related FPs. The reason is simple. The only grammatical sentence in (31) is (31d) where the Subject and the Object stays to the left of the AdvP. Given (i) that the VSO context in EP is too restrictive with respect to the order

(ii) [CP Quem [C' viu [IP t_v [VP [O] João ...

²⁰ The assumption of Kayne's (2005) theory of Case checking/assignment clearly illustrates and thus gives support to Laenzlinger & Soare (2005) and Laenzlinger's (2011) "Full Evacuation Principle", according to which all arguments must evacuate the 'vP' to have either their Case and phi-features and/or Informational features (topic, focus, etc.) checked in overt syntax (see below).

Full Evacuation Principle (Laenzlinger & Soare 2005: 19)

All arguments must leave the vP domain in order to have their A-features (i.e. Case and phi-features) and I-features (i.e., informational features such as top, foc) checked/matched/assigned in the overt syntax.

I am not taking the *Full Evacuation Principle* to be a derivational principle. The way I am assuming that Case is assigned clearly illustrates the need that all the arguments of V have to leave their position of Merge.

of the arguments relative to left-edge adverbs, (ii) that manner AdvPs are among the lowest ones in Cinque’s (1999: 106) system, and that (iii) adverbs generally do not move (Pollock 1989, Belletti 1990, Cinque 1999), I conclude that both Accusative and Nominative Case should be checked before the derivation reaches the IP.²¹ This amounts to saying that if one wants to integrate Kayne’s Case checking/matching/assignment system into a Cinquean representation of the IP, one possible way to do so is by merging Kayne’s “Case checking/assignment/matching ‘set of projections’” before the lowest head of the IP is merged, i.e. to the immediate left of Cinque’s (2010b) ‘argumental area’ (or, in “minimalist” terms, between the IP/TP and the *v*P).²²

7.2 The residual VS(XP) order in BP

BP has lost subject-verb inversion not only in *wh*-interrogatives (Kato 1987, Lopes Rossi 1993, Silva 2001, a.o.) but also in declaratives (Kato 1999; Berlink 2002; Silva 2001; a.o.). Apart from locative inversion (Silva 2001; Avelar 2009a) and existential constructions (‘there’-clauses), the VS order in declaratives in BP is favored if the subject is interpreted as informational focus (Quarezemin 2005: 108; Nagase 2007: 75). The examples below were taken from Nagase (*op. cit.*):

- (32) A: - Quem chegou?
 Who arrived
 ‘Who has arrived?’
 B: - Chegou [F o Pedro].
 Arrived the Pedro
 ‘Pedro has arrived’
- (33) A. – Quem telefonou?
 Who has telephoned?
 ‘Who has telephoned?’
 B: - Telefonou [F o Pedro]
 Telephoned Pedro
 ‘Pedro has telephoned’

²¹ As G. Cinque pointed out (p.c.), this is not entirely clear, since it depends on whether *o Paulo* and *maçãs* are destressed (hence marginalized or right dislocated) at the very end by remnant movement.

²² However, it should be however noted that, as Cecilia Poletto (p.c.) points out, there is no perfect match between the ‘Cartography zones’ and the functional projections assumed in Chomsky’s minimalism. But see Chomsky (2000: 143, fn. 31).

Following Belletti (2001), Quarezemin (2005: 108) argues that in these sentences the subject does not move to [Spec,IP] but stops in [Spec,FocP] in the right periphery. *pro* would merge in [Spec,IP] for EPP-reasons. Once again, following Belletti, Quarezemin proposes that nominative Case would be checked at distance in this configuration.

As for the nature of *pro* in these constructions, Quarezemin argues that this element is non-referential in Brazilian Portuguese. Hence, in inverted structures in BP, agreement of the V and the logical subject is not necessary:

- (34) Chegou os materiais.
arrived.3S. the material.1PLU
'There arrived the materials.'

The absence of agreement on the verb would suggest that *pro* in BP is an expletive and thus, non-referential.

In pursuing the idea that Case checking/matching/assignment is to be achieved in a Spec/head configuration, thus through movement, the data given below would suggest that movement of the subject to the Spec of the case assigning head would take place before movement of V to I, given the fact that lower AdvPs like *bem* 'well' must precede the subject and follow the verb (see (35a)).

- (35) a. Chegaram bem os meninos.
arrived well the boys
'The boys arrived well/safe and sound'
b. (??)Chegaram os meninos bem.²³
c. *Bem chegaram os meninos.

The very fact that the subject *os meninos* 'the boys', in (35), does not need to raise to the left of *bem* 'well' (see (35a)) would suggest, again, that Nominative Case assignment/checking/matching would take place somewhere in the pre-IP zone, namely, to

²³ (35b) is grammatical if *bem* 'well' is stressed.

the left of the position where the arguments are externally merged but to the right of the lowest FP of Cinque's hierarchy:

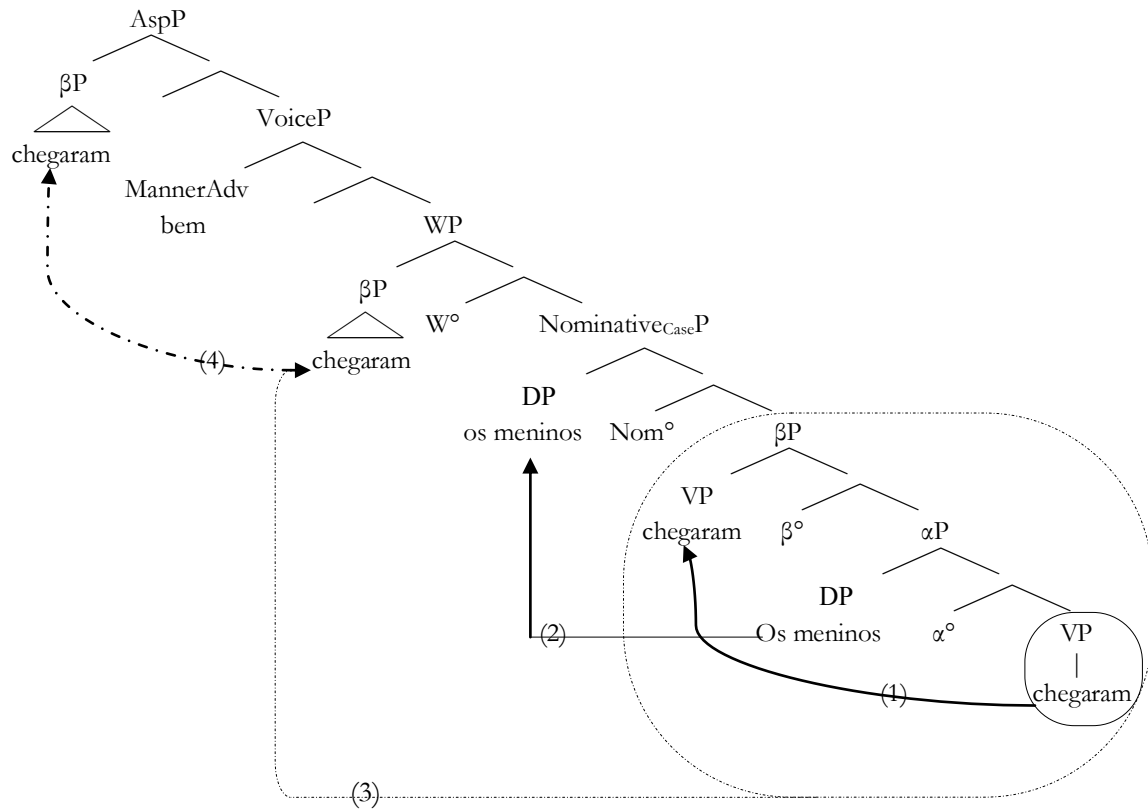


Fig. 2.14: On deriving (35a)

- Where:
- (1) VP-movement
 - (2) movement of the structural object/Subject to [Spec,Nominative_{Case}P];
 - (3) remnant movement to [Spec, WP];
 - (4) movement of *chegaram* to [Spec,AspP].

7.3 The VXS order in Italian

The VXS order in Italian, where X stands for a lower ‘left-*v*P’ adverb, would also give some support to the contention that nominative case checking should take place within the ‘*v*P-phase’. Belletti (2004) provides distributional evidence for a lower position of the subject relative to left-edge adverbs (*bene* ‘well’, *tutto* ‘all’, *completamente* ‘completely’) (see also Cardinaletti (2004: 155, n. 2) and Cinque 1995b), pointing to the conclusion that post-verbal subjects in Italian occupy a very low position in the clause, following low adverbs (cfr. (36)). Assuming Kayne’s (2005) Case checking/assignment/matching mechanism introduced above, the Italian data on inverted subjects given below would suggest that Kayne’s case

assigning/matching/checking heads should be merged below lower/left-edge adverbs. See (36)-(37) below and fig. 2.15.

- (36) a ?Capirà completamente Maria
 will understand completely Maria
 ‘Maria will completely understand’.
- b ?Spiegherà completamente Maria al direttore
 will explain completely Maria to the director
 ‘Maria will explain to the director completely’
- c ?Capirà/spiegherà bene Maria (al direttore)
 will understand/explain well Maria (to the director)
- d. Capirà/spiegherà tutto Maria (al direttore)
 will understand/explain everything Maria (to the director)
- (37) a. *Capirà/spiegherà Maria completamente (al direttore)
 will understand/explain Maria completely (to the director)
- b. *Capirà/spiegherà Maria bene (al direttore)
 will understand/explain Maria well (to the director)
- c. *Capirà/spiegherà Maria tutto (al direttore)²⁴
 will understand Maria everything (Belletti 2004)

Though some marginality is realized in the sentences given in (36)—for which the reader is referred to Rizzi (1996)—,²⁵ they contrast with the correspondents in (37) which are completely out, since they have the AdvP to the left of the post-verbal subject. This amounts to saying that Kayne’s Case-like FPs should enter the derivation (if Cinque’s conclusions on the ‘left-to-right’ asymmetry are correct (Cinque 2005, 2006, 2010b, 2013, *f.c.*)) before the Merge of the lowest adverbs (*bene* ‘well’, *tutto* ‘all’ and *completamente* ‘completely’).

²⁴ As G. Cinque pointed out (p.c.), (37c) becomes grammatical in the absence of *al direttore* ‘to the director’ with *tutto* ‘all’ necessarily accented

²⁵ Rizzi (1996) advances the hypothesis that post-verbal subjects should be linearly adjacent to an INFL head to the immediate left of V^o, given the assumptions of the Government Theory of that time, according to which nominative case would be assigned by government. So, a lower adverb would not intervene between the assigner head and the subject. That would explain the fact that *bene* cannot naturally occur between the V and the post-verbal subject (cfr. (i), his (62)):

(i) ?Ha giocato bene Gianni. (Rizzi 1996: 83)
 ‘Has played well Gianni’

If *Gianni* is accented and preceded by *solo* ‘only’, (i) becomes acceptable (G. Cinque, p.c.).

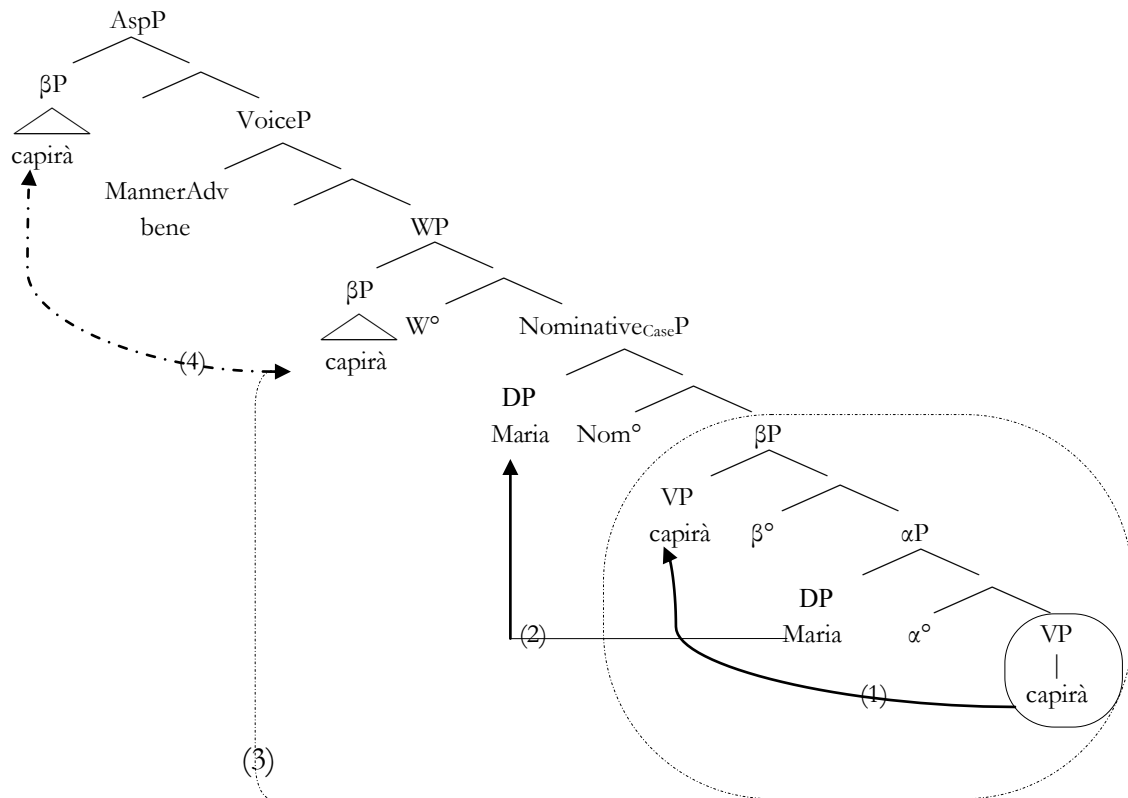


Fig. 2.15: On deriving (36c)

- (1) VP-movement
- (2) movement of the DP “Maria” to [Spec,Nominative_{Case}P];
- (2) remnant movement to [Spec, WP];
- (3) movement of *chegaram* to [Spec, AspP].

Until now, very little has been said on the driving force of internal Merge operations, in spite of the fact that the system assumed here makes great use of movement operations. The following section is an attempt to justify the displacements assumed here.

8. What are the “triggers” for movements?

One of the central assumptions of Cinque (1999) is the premise that all functional heads should (always) project, either with their default or marked choices (cfr. Cinque 1999, §6.1). Thus, each sentence would be the realization of almost 40 distinct FPs (in the IP space) each one characterized by a distinctive (semantic) feature (see Cinque 1999, §6.1, table 6.1), in line with Kayne’s (2005) *One Feature, One Head* Principle.

On *solo* ‘only’ as an attractor, see chapter 3, §4-6.

In Cinque (2010, §5), it is conjectured that all the functional categories found in the extended projection of the N and the V need to inherit the [+V(/N)] feature of the lexical head to ‘fully qualify’ as part of the extended projection. Such a feature is transmitted from the ‘engine’ of movement (i.e. the lexical nucleus (V or N)). Once an auxiliary/modal verb is found in the extended projection of V, it will become the engine of the movement until another auxiliary/modal/restructuring verb enters the derivation and becomes the engine (once it has inherited the relevant features). Thus, the driving force of movements is the need to be confirmed as part of the extended projection of V (in the clause) or of N (in the case of the nominal expression). This is one type of movement which is not triggered by information-structure reasons.

Another type of movement is information structure-driven movements, i.e. movements triggered by Chomsky’s (2000) OCC/EPP-features (e.g. Subject, Topic, Focus, etc.). In these cases, information structure (IS) features are the triggers for syntactic displacements. It is generally assumed that IS displacements target the left periphery (see e.g. Laenzlinger 2011). Especially in chapter 5 and 6, I will suggest that IS-driven movements also target—to a large extent—the *Middlefield*.²⁶

As stated in section 5, I assume along with Cinque (2005, 2010b, *f.c.*) that UG makes available only two types of phrasal movements: phrasal movement without pied-piping and phrasal movement with pied-piping (of the *whose-pictures* or *pictures-of-whom* type).

In the following section, I attempt to show that, although the theoretical framework assumed here appears, at first sight, to be in tension with the current version of the Principles and Parameters theory, namely, the Minimalist Program, this appearance is only an illusion and the Cartography Project is fully compatible with the minimalist spirit.

9. Cartography and Minimalism

Cinque (1999) has already mentioned that the idea that all functional features always project (either with their marked or unmarked values) would be in an apparent contradiction with minimalist ideas. In fact, if the last decade has seen the confirmation of Cartographic studies

²⁶ There is also movement for Case reasons, as seen in the previous section. See also Schweikert 2005, Cinque (2006) and Laenzlinger 2011.

as an important line of research in current Linguistic theory, it has also seen the emergence of alternatives to this enterprise (see, for instance, the collection of papers in van Craenenbroeck (2009), among other works).

It is worth mentioning that the spread of functional categories does not conflict with the minimalist spirit (Cinque 1999: 132), since, as Chomsky mentions (1995: 240), the “postulation of a functional category has to be justified, either by output conditions (phonetic and semantic interpretation) or by theory-internal arguments.” Cinque (1999, § 6.1) suggests that each projection of his hierarchy comes with a single semantic feature. Hence, their existence is justified on semantic grounds. Chomsky’s quote mentioned above is crucial as a starting point for every cartographic endeavor, since Cartography recognizes that each morphosyntactic-semantic feature corresponds to an independent syntactic head and, as such, has a dedicated position in the functional hierarchy (Kayne’s 2005 *One Feature, one head Principle* (see also Cinque 1999, chapter 6, § 6.2, Benincà 2006, footnote 1; Cinque and Rizzi, 2008; Shlonsky 2010; a.o.)). All this amounts to saying that the core functional categories C, T, *v* (in the clausal domain) and D (in the nominal domain) assumed in the minimalist tradition are, as Chomsky (2000: 143, fn. 31) explicitly recognizes, “surrogates for richer systems.”²⁷

Moreover, Chomsky (2000: 141, n. 13) considers that “contrast[ing] ‘minimalism and X’, where X is some theoretical conception (Optimality Theory, Lexicalism, etc.)” is a “misunderstanding.” This is so, Chomsky continues, because “X may be pursued with minimalist goals, or not.” This is true of the cartographic endeavor as well as it is possible to pursue Cartography with a “minimalist” spirit (see, for instance, Cinque 1999: 6.2; Belletti 2004, § 2.1; Cinque & Rizzi 2008; Benincà & Munaro 2011, a.o.).

The Cartography Project has been criticized on the basis of (apparent) cases of redundancy involving functional categories (see the discussion in Benincà & Munaro 2011: 4ff.). However, as these authors argue, when observed naively, languages present many examples of apparent redundancy. One such example is the morphological ending on the V in Romance languages, which also identifies the subject of the verb (also see Kato 1999). In Benincà & Munaro’s (2011: 4) view, a universalist approach to grammar should realize that “redundancy consists in the fact that the functional apparatus of the Grammar is richer than

²⁷ In Chomsky’s own words: “I will use C and T as surrogates for richer systems. On these matters see Rizzi 1997, Cinque 1999, and many other studies on the CFC [‘core functional categories’—A.T.N.]

meets the eye, and not all of its parts have to be made visible on the surface in every language. (...) Redundancy indicates that where a language shows, for example, only one functional element, while another has two, Grammar has at least two; furthermore, if for the same function one language uses one kind of element and another uses an element of a different nature (e.g., morphology vs. autonomous pronouns or particles), and a third language has neither, we have to conclude that this one function has to be split into more abstract subparts, each of which may be made visible on the surface, by filling it with phonological material, or which may be left empty and invisible” (Benincà & Munaro 2011: 5-6). All things considered, cases of redundancy in the inventory of functional categories should not be taken to suggest that Cartography is the “maximalist” version of the Principles and Parameters theory in open opposition to Minimalism. Moreover, there is a healthy division of labor between Minimalism and Cartography. As Cinque & Rizzi (2008) point out, Minimalism focuses on the generating devices while Cartography focuses on the fine details of the generated structures. As such, they “can be pursued in parallel in a fully consistent manner, and along lines which can fruitfully interact” (Cinque & Rizzi 2008: 49).

Before concluding this chapter, I would like to review some relevant works from the literature on V raising in BP. Though I will not provide an in-depth review of all of them, I will show the underlying assumption which unifies them, namely, the idea that in BP V raises to an intermediate projection in the IP.

10. Previous accounts on Verb Raising in BP

The idea that verb raising takes place in BP is consensual among different scholars working on this language. See, among many others, Ambar, Gonzaga & Negrão 2004; Ambar, Negrão, Veloso and Graça 2009; Costa e Figueiredo Silva 2006; Cyrino 1999, 2011; Cyrino & Matos 2002; Figueiredo Silva 1996; Galves 1993, 1994 [2001]; Galves and Costa 2002; Matos & Cyrino 2001; Modesto 2000; Oliveira e Oliveira 1999; Pires 2005; Silva 2001; Vicente 2006; a.o.

Thinking of a (revisited) Pollockian representation for the IP like the one suggested in Belletti

systems and others.” (Chomsky 2000: 143, fn. 31).

(1990) and Chomsky (1991), i.e. [AgrP ... [TP ... [...]]],²⁸ it has been assumed since Galves's (1993, 1994[2001]) pioneering works on verb movement in BP, that V does not target the highest INFL node in this language. Galves's general insights on V-raising in BP, i.e. the idea that V would not move to a higher position (whatever it is) but would stop in a medial/lower position within the IP, remained almost unaltered in the analyses proposed since. Hence, works produced after Galves (1993, 1994[2001])—either those assuming a more 'minimal' representation for the clause (Cyrino 1999; Modesto 2000; Costa & Galves 2002; Pires 2005; Vicente 2006) or those which, in spite of Chomsky's (1995, chapter 4) severe restrictions on the representation of functional categories, assumes a more articulated representation (e.g. Figueiredo Silva 1996; Ambar, Gonzaga & Negrão 2004; Ambar et al. 2009; Cyrino 2011; Cyrino & Matos 2002; a.o.)—kept with Galves's idea that V would not target the highest INFL node in BP.

Galves (1994[2004]) took INFL to be a 'non-split category' in BP.²⁹ BP would thus have a syncretic INFL, but still exhibit V movement. In another paper, Galves (1993),³⁰ the author assumes a split version of Pollock's INFL, but suggests that BP would only have 'short V-movement', i.e. movement to a lower/medial position.

In both works, the fact that BP has an impoverished inflectional verbal paradigm (as shown by the loss of person distinctions)³¹ plays a crucial role, either by associating it to its syncretic nature (Galves 1994 [2001]) or to short movement, i.e. movement of V-to-T but not to Agr (Galves 1993). In Galves (1993), for instance, the loss of verb movement in BP is explicitly associated to the weakening of the inflectional verbal paradigm in BP (see, e.g. Duarte 1995, 2000) which would be seen as one property of a cluster of morphosyntactic properties generally linked to the loss of the second person singular pronouns in the grammar of BP in

²⁸ In Pollock (1989), the structure assumed for the IP was: [TP ... [AgrP ... [...]]]. Belletti (1990), on the basis of the Mirror Principle (Baker 1985), suggests that the order of the Infl projections would actually be AgrP > TP, given the belief that the verb would first move to T to pick up the MTA (i.e., Mood/Mode, Tense and Aspect) morphology and then V-T would move and adjoin to Agr^o, to pick up the agreement morphology. Belletti's idea is the one adopted in Chomsky (1991), where there is also an AgrP below T (namely, Agr_{Obj}P).

²⁹ See Thráinsson (1996) who also suggests that some languages may and others may not have split categories.

³⁰ Galves (1993) was probably written after Galves (1994[2001]), though it was published before. Galves (1994) is a version of a talk the author gave at the 13th GLOW, in Cambridge (1990). See the first footnote of Galves (2001: 96).

³¹ See Costa and Figueiredo e Silva (2006) according to whom colloquial BP only distinguishes [person] but not [number] features in its agreement system. See also Galves (2001[1994]: 94, endnote 13) who mentions the existence of dialects of BP where only the first person singular has a distinct verbal ending; in these varieties of colloquial BP all the other persons have the third person singular ending).

the 19th Century (see the collection of works in Kato & Roberts 1993). Pires (2005) also follows this direction in his attempt to explain why BP has lost clitic climbing (also see Pagotto 1992 and Cyrino 1993, 2010). I will return to this issue in section 4 of chapter 4.

In Galves (1994[2001: 102]), the morphological distinction between singular and plural, which is meaningful in BP, is sufficient to trigger the movement of the lexical V to INFL.

Current analyses on V raising in BP (Costa and Galves 2002; Costa and Figueiredo Silva 2006) have assumed that Brazilian (BP) and European (EP) Portuguese have only ‘short’-V movement, i.e. by assuming a Pollockian IP, V would move in BP and EP up to T but not to AgrS (AgrS being the highest INFL node).³²

Costa & Galves (2002) interpret the relative position of V to adverbs and floating quantifiers in BP and EP as if these languages exhibit V-to-I movement, but only short movement, i.e. movement to T but not to Agr: both languages contrast with French (Pollock 1989) in allowing the adjacency between subject and verb to be broken by adverbs and floating quantifiers. The following data, from Portuguese (both BP and EP), are presented in Costa and Galves (2002):

- (38) a. O Pedro provavelmente viu a Maria.
P. probably saw Mary.
b. O Pedro viu provavelmente a Maria.
- (39) a. Os meninos todos viram a Maria.
The children all saw Maria.
b. Os meninos viram todos a Maria.

For Costa & Galves, (38) and (39) support the idea that Portuguese (BP, EP) has only short V-movement, i.e. V targets T but not Agr. But (39a) would lead one to conclude that in BP V does not leave the VP. However, as (40) shows, the order subject-*todos*(‘all’)-verb is not due to the absence of V-movement in Brazilian Portuguese, but to the possibility of having the order N-*todos* within the NP (see also chapter 6, § 6):

³² In Silva (2001) those traditional tests for diagnosing V movement, i.e., floating quantifiers and AdvPs, are also taken to show that in BP V does not target the highest IP functional head. Silva assumes a “tripartite” IP projecting AgrS (only in French), T and Asp. In BP, according to her, V targets Asp and optionally T, but never AgrS.

- (40) A professora castigou os alunos todos.
 The teacher punished the students all.
 ‘The teacher punished all the students’

Galves’s solution to the puzzle is to propose two different structures involving the quantifier *todos*: in one structure *todos* occupies a prenominal position (41), in the other (42), *todos* merges in a post-verbal one.

- (41) Os alunos fizeram [VP [todos t] [VP t a tarefa...
 the students did all the homework.
 ‘The students all did the homework.’
- (42) Os alunos fizeram [VP [t todos] [VP t a tarefa...
 the students did all the homework

In (41), the quantifier remains isolated, whereas in (42) “*todos*” is an attribute. Such an analysis, Galves continues, is corroborated by the behavior of *cada um* (‘each one’)—which requires both interpretation and position of a quantifier—, which shows that V obligatorily leaves the VP (from Galves 2001[1994]):

- (43) *Eu falei com as crianças cada (uma).
 I spoke to the children each one.
 ‘I spoke to each of the children.’
- (44) Eu falei com cada (uma das) criança(s).
 I spoke to each (one of the) child(ren).
- (45) *As crianças cada (uma) comeram dois pedaços de bolo.
 the children each (one) ate two pieces of cake.
- (46) As crianças comeram cada uma dois pedaços de bolo.
 the children ate each one two pieces of cake.

As Galves (1994 [2001: 108]) argues, these contrasts show that *cada uma* cannot be generated to the right of the NP (see (43-44)). As for (45-46), the V has to obligatorily leave the VP.

With regards to the tests for V-movement involving AdvPs, Galves (2001[1994]: 108) argues that BP, as any other Romance pro-drop language (Belletti 1990), has no “strict rule” for AdvP placement (AdvPs can appear both pre-verbally or post-verbally). The following data are from Galves (1994 [2001: 108]):

- (47) a. Essa refeição normalmente leva meia hora ou mais.
 This food usually takes half an hour or more.
 ‘It usually takes half an hour to prepare this food’.
- b. Essa refeição leva normalmente meia hora ou mais.
- (48) a. Eu sempre viro as folhas.
 I always turn the pages.
 ‘I always turn the pages.’
- b. Eu viro sempre as folhas.
 I turn always the pages.
 ‘I turn the pages always.’

However, as will be argued in chapter 4, section 2.2, this variation in the relative position of the verb with respect to the AdvP could be seen in the following way: (i) (lexical) V-movement would be obligatory up to a given head in the lower portion of the IP, that is, the lexical V has to obligatorily raise a little; (ii) V can only move past lower AdvPs (see chapters 4 and 5); (iii) the appearance of V to the left of a higher AdvP is not the result of head movement, but of remnant (phrasal) movement to the left of the (higher) AdvP (chapters 3 and 5). It creates the impression (Matushansky 2006, Roberts 2011) that head movement has been achieved. As I will show in chapter 4, the appearance of V to the left of a higher AdvP (that is, (iii)) allows an ambiguous reading that can be associated with Kayne’s (1998) wide scope and narrow scope readings.

(47) and (48) involve only AdvPs from the lower portion of the IP (generally referred to in the literature as lower AdvPs or VP-adverbs). For the reasons discussed in §2.2 and §3 of chapter 4, (47-48) do not necessarily imply absence of a ‘strict rule’ for adverb positioning. Two possibilities come to mind to explain these data. First, those adverbs are actually “mergeable” in two distinct semantic zones, one for quantification over the event, the other for quantification over the process. Second, one could think that, for the reasons provided in chapter 4, in case the adverb (*normalmente* in (47) and *sempre* (48)) is from the same quantificational zone, it attracts only the constituent which surfaces on its right, to focalize it, and the V raises as part of the remnant, to allow a configuration whereby, after remnant movement, only the constituent in the c-command domain of the adverb is under its scope.

Galves (1994[2001: 109]) provides the data given in (49), which undoubtedly confirms the existence of V-to-I movement in BP. The V must raise to the left of *completamente* ‘completely’, which she takes to adjoin to VP. Thus, this lower adverb necessarily supports

the claim that V leaves the VP—except in passives, to which I will come back to in chapter 4—.

- (49) a. *O João completamente acabou seu trabalho.
The J. completely finished his work.
'J. completely finished his work.'
b. O João acabou completamente o seu trabalho. (Galves 1994[2001: 109])
the J. finished completely the his work

Costa & Galves (2002) links the position of V relative to adverbs and floating quantifiers in BP and EP to the fact that in EP and BP there is only short verb movement, i.e. movement of V to T but not to Agr: Portuguese contrasts with French (Pollock 1989) in allowing the adjacency between subject and verb to be broken by adverbs and floating quantifiers (Galves 2001[1994], Figueiredo Silva 1996; Silva 2001; Costa and Galves 2002, Costa and Figueiredo Silva 2006). Although it is claimed that BP lacks the feature [+ person] in its verbal paradigm, the literature realizes that in BP the V does leave the *v*P. Differences concerning the extension of V movement cannot be derived from differences in number morphology: BP has a different number morphology in the verbal domain if compared with EP, but both have V movement to the same extent (Costa & Figueiredo Silva 2006).

Though Charlotte Galves, in Costa & Galves (2002), proposes that there is no difference in BP and EP regarding the height of V raising in these two varieties, scholars working on Portuguese Syntax tend to keep with Galves's initial ideas (Galves 1993, 1994[2001]) that, in BP, V would raise to a lower/medial position in the IP. In EP, they assume that V would raise to a higher position. See, for instance, Silva (2001), Ambar et al. (2004), Negrão, Ambar & Gonzaga, *f.c.*, Ambar et al. (2009), Cyrino & Matos (2002), Cyrino (2011), a.o. I will return to these works in section 4 of chapter 4 where I confirm these achievements from a cartographic perspective.

11. Conclusion

In this chapter, I introduced the theoretical framework on which I base my analysis of V raising, namely, the Cartography Approach. I also reviewed Cinque's (2005, 2007,

2010a,b, 2011) *left-right* asymmetry, a pervasive property of natural languages. I showed how Cinque's theory accounts for these asymmetries by assuming Kayne's (1994) antisymmetric theory, one unique base order and some parameters of movement. I also showed how the derivation of a sentence can make sense if one assumes Cinque's left-right asymmetry. Kayne's system of Case assigning/check/matching was also introduced. At the end of the chapter, I advanced some speculations on the driving-force of movements and explained why the cartographic model assumed here is not in conflict with the minimalist spirit. Finally, I reviewed the literature on V raising in BP, according to which there is (some) V movement in this language.

In the next chapter, I introduce Kayne's theory of scope assignment which will be used to explain the position of V relative to adverbs in chapters 4 and 5.

Chapter 3:

On Generalizing Kayne's (1998) Theory of Scope Assignment to Adverbs

“UG leaves no choice: Scope must be expressed hierarchically, there are no covert LF phrasal movements permitted by UG, and neither can the effect of covert phrasal movement be achieved by feature raising. Scope reflects the interaction of merger and overt movement.”

(Kayne 1998: 128)

*I*n the Generative tradition, the assignment of scope to quantified expressions had been treated for years in terms of covert LF-movements (e.g. May 1977, Longobardi 1992) in a way that would resemble (overt) syntactic movements (e.g. *wh*-movement). Thinking particularly of quantified expressions like NegPs and focusing **only**, Longobardi (1992) proposes that there is a movement at LF which paralleled *wh*-movements at ‘S-structure’ (his ‘Correspondence Hypothesis’). Kayne (1998) goes one step further by proposing that this strong parallelism between syntactic movements and scope interpretation is actually a consequence of the fact that there are no such covert movements. Rather, the process of scope assignment also takes place in the overt component thanks to a series of displacements.

*Since adverbs are modifiers in the extended projection of V, the most natural way to account for their distribution is by treating them on par with focusing **only**, NegPs, and the like. That is, one should generalize Kayne’s (1998) treatment of **only** to all adverbs. This is the goal of the present chapter. I will introduce Kayne’s (1998) theory of scope-assignment whose displacements should be involved every time an adverb enters the derivation.*

1. Introduction

In this chapter, I briefly review Kayne’s theory of scope-assignment. I will focalize on the

extension of his approach to the narrow/wide scope readings from complex cases—which covers the matrix and embedded clause pair—to root clauses. After reviewing the most pertinent insights of his proposal, I will suggest that adverbs can also be treated as scope-inducing/scope-taking elements. The generalization of Kayne’s theory to adverbs has positive consequences, from the point of view of the Hierarchy of functional projections in the IP space, since it helps us to explain why some counter-examples to the existence of a hierarchy are only apparent (see chapter 5). It will be shown, by assuming Kayne (1998), that the set of (Kaynean) transformations for the purpose of scope-assignment may reverse the order of two adverbs. From a Cartographic perspective, what matters is whether the hierarchical order is obeyed, i.e. if the (external) Merge of each single constituent follows the order imposed by the hierarchy. In the case of adverbs which appear in the reverse order, what is important is the position that each singular adverb enters the derivation. As I will suggest, it remains invariably the same.

2. Kayne’s theory of scope-assignment: only *overt* movements

The assignment of scope to quantified expressions has been traditionally treated in terms of covert, LF-movements (e.g. May 1985, Longobardi 1992, a.o.). Longobardi (1992), for example, suggested that given the strict parallelism between *wh*-movement and the assignment of scope to quantified phrases,³³ the latter would involve a movement rule at LF, in a way parallel to *wh*-movements at ‘S-structure’. Longobardi called this hypothesis ‘the Correspondence Hypothesis’, and gave further support for it on the basis of the sensitivity to islands which holds for both *wh*-movement and the (movement responsible for the) assignment of scope to *NegP* and *OnlyP* (see the appendix of chapter 5).

Kayne (1998) makes an additional step stating that this strong parallelism between syntactic movement and scope interpretation is actually a consequence of the fact that no such covert movement exists. Rather, the process of scope assignment takes place in Narrow Syntax, in the course of the derivation in the ‘overt’ component. The strongest view proposed in Kayne is that there are no (LF) covert movements.

³³ Both *wh*-movement and the assignment of scope to quantified phrases pattern alike as far as unboundedness and the ECP asymmetries for the object and the subject positions are concerned.

To explain those puzzling facts on the distribution of higher adverbs as presented in chapter 1, I generalize Kayne's (1998) treatment of *only* to all adverbs. Thus, the assignment of scope to adverbs should be subject to the same constraints first noted by Longobardi (1992), e.g. islands constraints (see section 6 of chapter 5). It is worth noting that I still continue with the idea that Cinque's adverbs are rigidly ordered by UG. The only claim I make is that the process which guarantees scope assignment to them takes place in Narrow Syntax, along the lines of Kayne (1998). Kayne's theory will be taken to explain the apparent paradoxes mentioned in chapter 1 (i.e. the fact that, in spite of their prohibition in sentence-final position, higher adverbs can appear to the right of the verb, i.e. in between the V and its complement. It will also explain the apparent cases of reverse orders discussed by Zyman (2012). That is, when an adverb B surfaces to the left of an adverb which precedes it in the hierarchy, say, adverb A (thus, a case of a Cinque-noncompliant order)—and the sentence is grammatical—, movement triggered by the need of assigning scope to the adverb will be the reason for this reverse order (B > A, in the present context). Once again, what matters from a Cartographic point of view, is the order that the elements, in this case, the adverbs, enter the derivation. It can be argued that, in these cases, adverb B enters the derivation *before* the Merge of the adverb surfacing to its right (adverb A). Remnant movement is responsible for the inversion since it places Adverb B to the left of the adverb merged before (Adverb A).³⁴ Kayne's theory will also be helpful here in my discussion of the English data on frequency adverbs related to the event, presented by Ernst (2007), which are apparently challenging for Cinque's "Functional Specifier"/Cartography Theory (see chapter 5, section 4).

3. Wide Scope and Narrow Scope: from the matrix/embedded pair to root clauses

Kayne (1998) proposes that the scope ambiguity in (1) below could be explained in terms of overt movements.

(1) She has requested that they read *not a single linguistics book*. (Kayne 1998: 153)

³⁴ Obviously, the issue of locality and Relativized Minimality is out of discussion, since the adverb is being moved within a larger chunk.

(1) is ambiguous to the extent that it allows either a narrow-scope reading, i.e. scope over the embedded clause, where the content of the request is that they do not read a single linguistics book, and a wide-scope reading, i.e. matrix, root scope, which is facilitated by an initial phrase like *In all these years* or *funnily enough* (Kayne 1998: 128), where the NegP takes scope over *requested that...*

To get the wide scope reading of (1), Kayne (1998: 154) proposes the following derivation:

- (1') ... requested that they read not a single linguistics book. → attraction by (matrix) Neg^o
 ... not a single linguistics book_j Neg^o requested that they read t_j → raising of Neg^o to W^o
 ... Neg^o_k+W not a single linguistics book_j t_k requested that they read t_j → remnant movement
 ... [WP [requested that they read t_j]_l Neg^o_k+W not a single linguistics book_j t_k t_l

The narrow-scope can be derived by moving the object to the [Spec,Neg] of the embedded clause (see (1'')).

- (1'') ... they read not a single linguistics book. → attraction by (the embedded) Neg^o
 ... not a single linguistics book_j Neg^o they read t_j → raising of Neg^o to W
 ... Neg^o_k+W not a single linguistics book_j t_k they read t_j → remnant movement
 ... [WP [they read t_j]_l Neg^o_k+W not a single linguistics book_j t_k t_l

According to Longobardi (1992) and Kayne (1998), there is a subject-object asymmetry as far as the wide scope reading is concerned. Matrix scope is much more difficult for the NegP in the subject position. Compare (1) with (2). In (2), only the narrow scope reading is available:

- (2) She has requested that [not a single student **Subj**^o] read our book. (Kayne 1998: 129)

In the GB era, this subject/object asymmetry was attributed to the ECP. A more recent attempt to explain this is Rizzi's " criterial Freezing" (2004b, 2010, 2011). Under the criterial freezing viewpoint, the NegP in the subject position will have already checked its criterial features. Therefore, matrix scope of subject-NegP will no longer be possible, since the subject is frozen in the embedded subject position. (1-2) would parallel (3-4) in that *wh*-

extraction out of the subject position is not possible in English (the *that*-trace effect), given Criterial Freezing.

- (3) *Who do you think [that [____ Subj^o will come]]?
 (4) Who do you think [that [Mary Subj^o will meet ____]]? (Rizzi 2010: 4)

Following Longobardi's (1992) work on *solo/soltanto* 'only', Kayne shows that the same holds in English as well:

- (5) They forced us to learn only Spanish. (Kayne 1998: 175)

In contrast to (1), *only* in (5) is a scope-inducing attractor. That is, it is not merged together with "Spanish", but attracts it to its Spec. To get the narrow-scope reading, i.e. the one where *only* has scope over Spanish, Kayne proposes the following derivation (1998: 75):

- (5ⁿ) ... to learn *Spanish* → merger of *only* and attraction of *Spanish* to its Spec;
 ... [_{OnlyP} [Spanish]_j only [to learn t_i]] → movement of *only* to W^o;
 ... [_{WP} only_k+W^o [_{OnlyP} [Spanish]_j t_k [to learn t_i]]] → remnant movement (to [Spec,W])
 ... [_{WP} [to learn t_i]_l only_k+W^o [_{OnlyP} [Spanish]_j t_k t_l]]

The wide scope reading, where *only* would have matrix scope is derived as follows.

- (5^w) ... forced us to learn Spanish → merger of *only* and attraction of Spanish to its Spec;
 ... [_{OnlyP} [Spanish]_j only [forced us to learn t_i]] → movement of *only* to W^o;
 ... [_{WP} only_k+W^o [_{NegP} [Spanish]_j t_k [forced us to learn t_i]]] → remnant movement (to [Spec,W])
 ... [_{WP} [forced us to learn t_i]_l only_k+W^o [_{NegP} [Spanish]_j t_k t_l]]

What guarantees wide scope of *only* in (5) is the fact that *only* in (5^w) is merged in the matrix.

Kayne (1998) has transposed to root sentences his account of the narrow scope/wide scope ambiguity. A sentence like (6), shown below, would exhibit the same ambiguity found in

complex sentences (i.e. in the matrix-embedded pair), as far as the scope of the adverb is concerned. The assumption is that even in root sentences a probing head (e.g. *only*, Neg) would attract either the complement of V (thus, deriving a sort of *narrower* focus, i.e., focus over the complement) or the VP/a larger portion of the IP³⁵ (deriving, in this case, the VP/IP scope—scope over the proposition), in spite of its appearance to the left of the focusing adverb.

The clearly ambiguous case is suggested by the Italian example given below, cited in Kayne. *Solo* ‘only’ can have scope over the VP/part of the IP (here called ‘wide scope’) or over the constituent surfacing on its right.

- (6) *Italian* (Kayne 1998: 157, fn. 71)
 La segretaria ha messo solo dei fiori sul tuo tavolo.
 The secretary has put only some flowers on-the your table
 ‘The secretary has put only some flowers on the table.’

Kayne (1998: 154, fn. 71) suggests that to obtain the wide scope reading in this example, some form of excorporation (in the sense of Roberts 1991) should be assumed—this time for *solo*, I presume. In my reading of Kayne’s analysis, *solo* ‘only’ would attract *dei fiori sul tuo tavolo* together with the trace/unpronounced copy of *messo* to derive the wide focus for *solo* under reconstruction of *messo* (in [Spec,*solo*]) (thus satisfying the claim that the constituent under the scope of *solo* be in a Spec-head relation with it (Kayne 1998: 156)). Next, *messo+solo* would move to W^o, followed by *excorporation* of *messo*:

- (6a) The derivation of (6):
 ... [_{only^o} solo [messo dei fiori sul tavolo]] → (head-)movement of *messo* to *only^o*
 ... [_{only^o} messo+solo [la segretaria³⁶ [_{AspP} t_{messo} dei fiori sul tuo tavolo]]] →
 → attraction of ‘AspP’³⁷ (by *solo*)

³⁵ I am aware of the fact that *only* cannot take the entire IP under its scope (Kayne 1998: 158), see the discussion which follows in the text. Given this, I am specifying that, in the wide scope case, only *part of the IP* is attracted by *only*, so as to exclude the Subject. If *only* appears at the beginning of an embedded clause, it can only have scope over the subject following it:

(i) John said that *only* he was hungry. (Kayne 1998: 158).

³⁶ Kayne sets aside the question of how and when the subject should be merged (1998: 134, fn. 11).

³⁷ I dubbed this functional projection “AspP” without any commitment on its actual semantic value. AspP

... [OnlyP [AspP t_{messo} dei fiori sul tuo tavolo]_j [only° messo+solo [la segretaria³⁸ [t_j]]]] →
 → raising of *only*°, i.e., *messo+solo* to W°:
 ... [WP [only° messo+solo+W°]_k [OnlyP [AspP t_{messo} dei fiori sul tuo tavolo]_j t_k [la segretaria [t_j]]]] →
 → ‘excorporation’ of *messo*:
 ... [YP messo+Y° [WP [only° t_{messo} +solo+W°]_k [OnlyP [AspP t_{messo} dei fiori sul tuo tavolo]_j t_k [la segretaria [t_j]]]] →
 → remnant movement:
 [la segretaria t_j]_l [YP messo+Y° [WP [only° t_{messo} +solo+W°]_k [OnlyP [AspP t_{messo} dei fiori sul tavolo]_j t_k t_l]]]

The auxiliary would merge in the sequence and movement of *la segretaria* to Rizzi’s [Spec,SubjP] would give the spell-out order.

Given Kayne’s assumption that the constituent focalized by *solo* ‘only’ should be in a Spec/head relation with it sometime in the derivation (Kayne 1998: 156), one has to assume that the ‘wide scope’ of *only* in (7) is achieved by movement of the chunk *gave Bill a book* to [Spec,*only*]—followed by movement of *only* to W°. ³⁹

would correspond to a very low projection, possibly Asp_{Perfect}P.

³⁸ I am assuming here that all the DP-arguments and circumstantials are merged to the left of V, in consonance with the left-right asymmetry (Cinque 1996, 2000, 2005, 2007, 2009a,b, 2010, 2013, *f.c.*). I am also assuming that, in the case of (6), those DPs are merged in the following order: first, DP-object (*i fiori* ‘the flowers’), then DP-subject (*la segretaria* ‘the secretary’), and further the DP-place (*il tuo tavolo* ‘your table’). That the subject is merged in a lower position in the structure would be suggested by the fact that its choice is sensitive to the choice of the lexical V, not to the choice of an auxiliary, modal, restructuring verb—merged higher in the structure (cfr. (i) and (ii)).

- (i) A Maria tinha ido embora. (BP)
 Maria had left.
 (ii) */#A pedra tinha ido embora.
 the rock had left.

³⁹ As Kayne (1998: 157) points out, *even* is also an attractor, thus behaving like *only*:

- (i) Even to John they wouldn’t tell the truth.
 (ii) *To even John they wouldn’t tell the truth. (Kayne 1998: 155)

(i) and (ii) mirror (iii) and (iv):

- (iii) Only to John have they spoken the truth.
 (iv) *To only John have they spoken the truth. (Kayne 1998: 155)

(i)/(ii) and (iii)/(iv) suggest that both *only* and *even* are attractors. Only the ‘pied-piped’ version of these sentences, namely, (i) and (iii) (where the preposition has been carried along with *John*) are possible. The scope of *even* in (v) and (vi) also mirrors what *only* may take under its scope. (v) mirrors (vii). (vi) mirrors (7) in the text.

(7) John only gave Bill a book. (Kayne 1998: 157)

Movement of the entire chunk (namely, *gave Bill a book*) to [Spec,*only*] is necessary in (7) because V-movement is absent (Pollock 1989, Chomsky 1995) or quite restricted in English (Cinque 1999: 33; Hauman 2005, a.o.). Thus, the wide scope reading would only have this derivational option in English (see fig. 3.1., below). In Italian, BP and the other Romance languages where there is independent evidence for V movement to (at least) a medial position in the IP, the wide scope reading of the focusing adverb corresponding to *only* would be achieved either by the raising of the chunk containing the predicate to the specifier of the focusing adverb (as in English), or through the attraction of a chunk containing the *trace/unpronounced copy* of V, which would guarantee the wide focus through the reconstruction of V within the chunk (in the specifier of the focusing adverb).

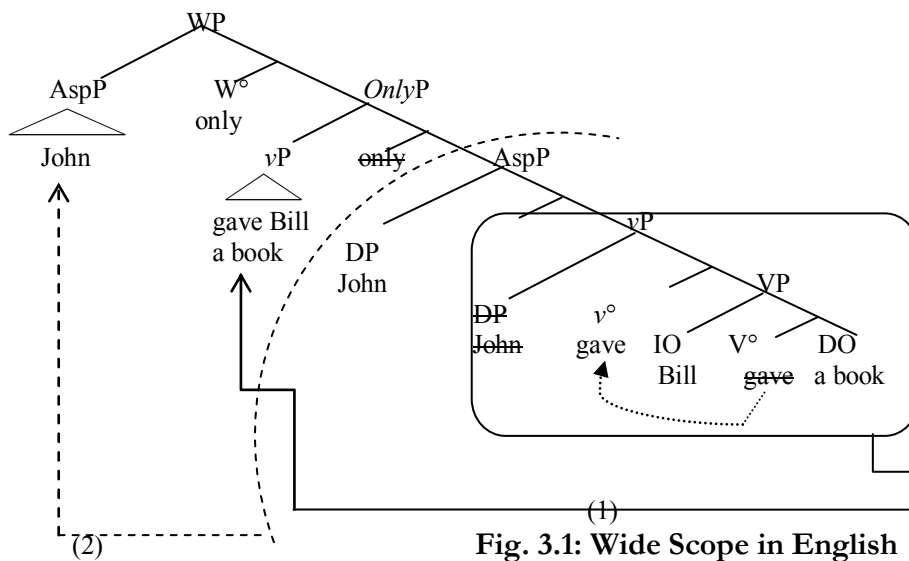


Fig. 3.1: Wide Scope in English

As Kayne pointed out, the whole VP can be under the scope of *only* in (7). Alternatively, the focus of *only* could also be the V or either object. Fig. 3.1 would represent the derivation for each one of these readings. For Kayne, what matters is the Spec/head relation with *only*,

- (v) Even John came to the party.
- (vi) John even gave Bill a book. (Kayne 1998: 158)
- (vii) Only John came to the party. (Kayne 1998: 156)

which is responsible for focus/scope assignment (1998: 156).⁴⁰

4. Being or not being a probe (in Kayne's 1998 proposal)

Kayne (1998: 158) suggests that *only* cannot attract the IP (to its Spec). He arrives at this conclusion on the basis of the data in (8-9). In (9), the focus of *only* can be (i) the whole chunk following it or (ii) subparts of it starting from the bottom (when the most embedded constituent bears the nuclear stress) or (iii) even the constituent bearing the focal stress. In (8), on the other hand, it can only focalize *John*:

(8) Only John came to the party. (Kayne 1998: 156)

(9) John only gave Bill a book. (Kayne 1998: 157)

This observation is further confirmed by the fact that pre-subject *only* in embedded contexts cannot focalize the IP, but only the subject:

(10) John said that *only* he was hungry. (Kayne 1998).

In this context it is worth distinguishing two important concepts: *focus* and *scope*. Although, the focus and the scope of a scope-inducing (or focus-sensitive (Shu 2011)) element may sometimes coincide, there are clear cases in which the focus of a sentence does not correspond to its scope. The data in (11), discussed in Shu (2011: 104), suggest that, although *only* focalizes the DP *John* (11a), its scope is not limited to it. Were this the case, the polarity item in (11a) would not be licensed. Compare (11a) with (11b).

(11) a. Only John ate any kale.

b. *John ate any kale. (Shu 2011: 104)

⁴⁰ See also Munaro (*forthcoming*) where the same analysis is assumed for Bellunese, Paduan and other Northern Italian dialects.

(8-10) and (11) suggest that, while the focus is the constituent which in Kayne’s analysis raises to the Specifier of the focusing adverb (see below),⁴¹ the scope of the adverb may not correspond to it. Thus, the following definitions are useful:

- (12) a. The *focus* of a scope-inducing element (or focus-sensitive expression (FSE) in Shu’s 2011 terms) “is the expression whose denotation’s substitution by alternatives is relevant for the interpretation of the FSE [scope-inducing element—A.T.N.]” (Shu 2011: 104)
- b. “The *scope* of an FSE [scope-inducing element—A.T.N.] is the syntactic domain within which it has the ability to affect the interpretation of other expressions.” (Shu 2011: 104)

Shu (2011: 104) also gives the data in (13a,b) and (14), found below, which suggest, once again, that the focus of a sentence may not correspond to its scope.

- (13) a. Mary only said that JOHN stole a cookie.
 ‘Mary didn’t say of anyone but John that he stole a cookie.’
- b. Mary said that only JOHN stole a cookie.
 ‘Mary said that nobody but John stole a cookie.’
- (14) We are required to study only SYNTAX. (*only* > *require*, *require* > *only*)

The focus of *only* is *John* in both (13a) and (13b). But these two sentences have different scopes: in (13a), the scope of *only* is the whole chunk following it, while in (13b) it is the embedded clause. In (14) the focus of *only* is *Syntax*, though its scope can be either *Syntax* (narrow scope) or the matrix sentence (wide scope).

Let us return to the discussion on the probing status of *only* and other scope-inducing elements in Kayne’s account. *Even* would resemble *only* in that it is also an attractor (Kayne 1998). The contrast given below in (15a,b) mirrors (16a,b):

⁴¹ I will modify this below, to keep with the contention that UG would allow only phrasal movements. Instead of moving the focus to the specifier of the focusing adverb, it will move to the specifier of a probing head. Nothing will be affected, it seems.

- (15) a. Even to John they wouldn't tell the truth.
 b. *To even John they wouldn't tell the truth. (Kayne 1998: 155)
- (16) a. Only to John have they spoken the truth.
 b. *To only John have they spoken the truth. (Kayne 1998: 155)

As mentioned in footnote 39, (15a)/(15b) and (16a)/(16b) would suggest that *only* and *even* are attractors. Only the sentences involving pied-piping of the preposition, namely, (15a) and (16a) are possible. Furthermore, the scope of *even* in (17a) and (17b) would also mirror the scope of *only* in (8) and (9) above.

- (17) a. Even John came to the party.
 b. John even gave Bill a book. (Kayne 1998: 158)

However, in colloquial English, *even* can attract the IP (or TP) to its Spec (see Kayne 1998: 159):

- (18) a. John gave Bill a book yesterday, even. (Kayne 1998: 159)
 b. [TP John saw Bill], even/too. (Shu 2011: 104)

Judging by Kayne, *even*, in (18a), “seems to allow a choice of (stressed) foci, in a way that looks a lot like what is possible in (132) [here, (17b) A.T.N.]” (Kayne 1998: 159). The fact that *even*—but not *only*—is able to attract the (whole) “IP”⁴² to its Spec would suggest that *even* is merged in a relatively high position within the extended projection of V. Kayne (1998: 162,fn. 83) gives the following sentences which suggest that *even* would necessarily merge in a position higher than *only*:

- (19) a. ?He'd even only speak English, if he had to.
 b. *He'd only even speak English, if he had to. (Kayne 1998: 162, fn. 83).

⁴² It would be the case that even *even* is merged IP-internally (thinking, for instance, in terms of a fine-grained (Cartography) representation). Thus, this affirmation (i.e., “the *whole* IP”) should be somewhat relativized. However, what is important here is to mind the differences regarding the portion of the structure that each focalizer (*even*, *only*, etc.) can attract. The very fact that *only* cannot attract the IP (but see Kayne 1998: 159, fn. 75; Barbiers 1995: 68-69) would suggest that it is merged lower than *even*.

Under a cartographic lens, (19) is particularly telling, given the fact that, in spite of all the similarities between *only* and *even*—which Kayne carefully stressed in his text—, they necessarily come in a rigid, fixed word order. Treating adverbs as adjuncts which would freely attach to the XP they take under their scope would thus be misleading, given that both the adjuncts of (19), namely, *only* and *even*, are focusing adverbials though they necessarily come in a rigid order. Even more so problematic would be the conjecture that Semantics would play the most important role in determining not only which combinations of adverbs should or should not be ruled out—on the basis of an interplay of compositional rules and the lexical entry of each adverb—but also the XP/piece of structure that the adverb would take under its scope. Such an approach, defended, for instance, by Ernst (2002, 2007), would fail to explain why, in spite of their (common) focusing nature, *only* and *even* should necessarily come in a rigid order and, more crucially, why only the latter can have scope above *only* and, in particular, can attract the IP. Were Semantics the sole responsible factor for the assignment of focus, one should expect that both *even* and *only* would be able to focalize the whole IP, given all their similarities, mainly the fact that both are focusing attractors. (19) alongside the present discussion crucially suggest that there would be at least some work developed by Syntax as far as the assignment of focus/scope is concerned.

Particularly relevant to the present discussion is the data given in (20):

- (20) a. ?John speaks only French even to Bill.
 b. *John speaks even French only to Bill. (Kayne 1998: 162, fn. 83).

Put together, (19)-(20) would lead us to a paradox. It would suggest that *even* and *only* would be freely ordered. But, as Kayne (1998: 162, fn. 83) points out, the left-to-right order given in (20) is misleading, given that (20a) would involve the merge of *only* before the merge of *even*. The appearance of *only* to the left of *even* would be the result of moving *only* within a larger constituent, namely, the remnant, past *even*, after the latter has attracted to *Bill* and moved to W° (W_2° in fig. 3.2 below), giving the impression that they would be freely ordered. This same line of reasoning will be applied to those cases of ‘Cinque-noncompliant’ orders discussed in Chapter 5, section 3, though some modifications will be implemented to

continue with the assumption that only phrasal movements would play a role in narrow syntactic operations.⁴³

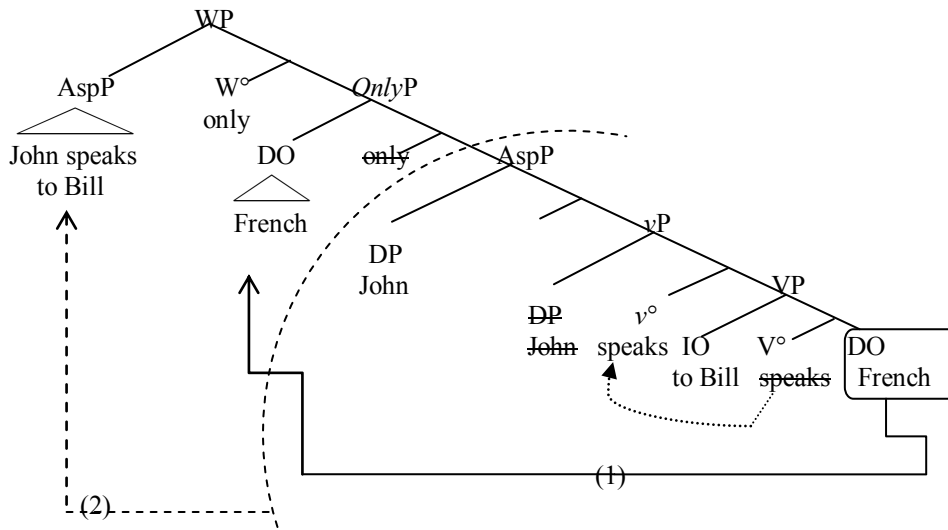


Fig. 3.2: The Derivation of (20a): part I

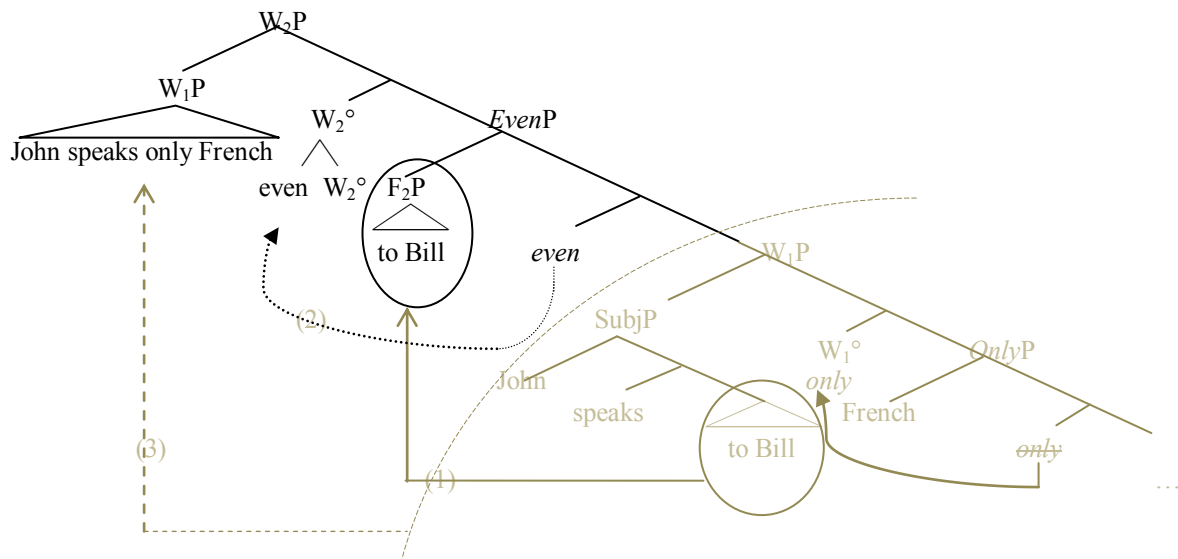


Fig. 3.3 The derivation of (20): part II

Still relevant to the present discussion is the fact that *even* but not *only* can attract the (whole) IP (cfr. (18), above). Since focus is assigned by means of a Spec-head relation (Kayne 1998: 156), the very fact that scope over the IP is possible for *even* but not for *only* would suggest

⁴³ If *only* and *even* are heads and not phrases, no problem should arise for a theory assuming only instances of phrasal-movement. *Only* and *even* should still be merged as heads (see § 6 for an implementation of these ideas).

that the former is merged in such a high position in the derivation⁴⁴ that it is able to attract the “IP” to its Spec.

In what follows, I will provide a quick description of some focusing adverbs in BP. One of them is *só* ‘only’. In addition to *só*, I will also show some distributional properties of *até/mesmo/até mesmo*, which may acquire different interpretations depending on their surface position. It has been shown (see Ambar 2008, §5) that *mesmo*, for instance, in both European and Brazilian Portuguese, may have a confirmatory interpretation, meaning ‘indeed’, ‘really’, and a contrastive interpretation, meaning ‘even’, if it appears post-verbally; see the discussion in section 4, below. I do not intend to provide an exhaustive description of the use of these focalizers in BP, for which the reader is referred to Bezerra de Lima (2006), Rosa (2007) and Ambar (2008). My only aim here is to show their parallels with their English counterparts, given the fact that I am extending Kayne’s (1998) analysis of *only* to Cinque’s AdvPs. Of course, these focalizers would still deserve a separate study, as long as the Cartography tenet that each constituent should have a fixed position in the clausal template is considered to be true.

Starting with *só* ‘only’, it seems to parallel the distribution of its English counterpart in that it cannot have scope over the (whole) IP:

- (21) O Zé disse que *só* ele (es)tava com fome.
Zé said that *only* he was hungry.
‘Zé said that only he was hungry’

In (21), *só* ‘only’ cannot have scope over the embedded clause. Its scope is restricted to the subject. The same is valid for (22), where only (part of) the subject can be under the scope of *só*:

- (22) Só a filha do Zé veio à festa.
Only the daughter of Zé came to the party.
‘Only Zé’s daughter came to the party’

⁴⁴ Such a position remains otherwise to be determined. But the discussion in Kayne (1998) and in the text would suggest that this position is necessarily high, higher than the criterial subject position.

In (22), the focus of *só* ‘only’ is limited to (what gets stressed within) the Subject (see next section), thus patterning like its English counterpart. Being unable to take the “IP” (here understood as the VP together with the Subject) under its scope, *só/only* would thus merge in a position necessarily lower than the criterial SubjP position. *Só/only* would not be able to take scope over the “IP”, since the subject would still have to reach [Spec,SubjP] for (independent) “criterial reasons”.

Thinking of a correspondent for *even* in BP, it seems that the focusing adverbs *até*, *mesmo* and *até mesmo* would be plausible candidates. First of all, *até/mesmo/até mesmo* behave as attractors (see (23-24)):

- (23) *Até/Mesmo/Até mesmo* para o Zé eles não falaria a verdade.
 Even to Zé they wouldn’t tell the truth.
 (24) **Para até/mesmo/até mesmo* o Zé eles não falaria a verdade.
 To even Zé they wouldn’t tell the truth.

(23-24) would mirror (16a,b), repeated below for convenience:

- (16) a. Only to John have they spoken the truth.
 b. *To only John have they spoken the truth. (Kayne 1998: 155)

Only (23), which involves pied-piping of the preposition, is grammatical, once again suggesting that *até/mesmo/até mesmo* are attractors. If *até/mesmo/até mesmo* are attractors, the derivation of (25) (along the lines of Kayne 1998), shown below, would thus involve attraction of the Subject to the Spec of *até/mesmo/até mesmo*, followed by movement of the focusing adverb(s) to a head, namely, W° . The derivation of (25) would involve no remnant movement past *até/mesmo/até mesmo* to [Spec, W°].^{45,46}

⁴⁵ The behavior of these adverbs, as focalizers of the subject, resembles the behavior of their English counterpart in not triggering remnant movement to [Spec, W°], i.e. movement to the left of *only/even/etc* (Kayne 1998: 156). To the extent that we are only assuming XP-movements here—see the subsequent footnote—, there will be no movement of *only/even/até/até mesmo/mesmo* to the left, since a probing-head is assumed to attract the focusing-bearing XP to its Spec, followed by the Merge of the focusing adverb in the next projection, to the left. See section 6. Ambar (2008, §5) proposes a similar derivation for *mesmo* ‘even’ in European and Brazilian Portuguese.

⁴⁶ Since we are dealing only with phrasal-movements, the derivation of these sentences will be slightly modified. Thus, instead of moving the XP-bearing the relevant focus features to the specifier of

- (25) *Até/mesmo/até mesmo o Zé veio à festa.*⁴⁷
Even Zé came to-the party.

That *até* would be the corresponding adverb, in BP, for English *even* is supported by the fact that, as opposed to *até mesmo*, *mesmo* and *só*, it can appear sentence-finally, if de-accented, to modify the propositional content, thus patterning like higher adverbs:

- (26) O Eduardo deu uma flor para a Mara, *até*/**até mesmo*/**mesmo*/??**só*.
Eduardo gave a flower to Mara, even.
'Eduardo gave a flower to Mara, even'

The fact that *somente* 'only' could appear in that position would suggest that there would be a higher position for this focalizer in BP:

- (27) O Eduardo deu uma flor para a Mara, *somente*.
Eduardo gave a flower to Mara, only.
'Eduardo gave a flower to Mara, only.'

That *até* in (26) and *somente* in (27) are focalizers of the propositional content (the IP) is shown by the "lie test" applied in (28):

só/até/mesmo (*only/even*), one would move it to the Spec of a probing, criterial head, after which *só/até/mesmo* (*only/even, etc.*) is merged in the head to the immediate left (or in the Spec of the next head (*mesmo* is an XP, not a head, since it can be, for instance, modified by *até*: *até mesmo*)). Remnant movement past the focusing adverb would subsequently apply.

⁴⁷ There is one additional possibility for *mesmo*—in its confirmatory reading, i.e. meaning "indeed", "oneself"—but not for *até/até mesmo*, as far as its use as a modifier of the Subject is concerned:

- (i) O Zé mesmo lavou a louça.
[Zé himself] did the dishes.

If *até* is placed to the right of the subject, but still having scope over it, it can only have a contrastive interpretation, thus meaning 'even'.

- (ii) [O Zé até] veio à festa.
Even Zé came to-the party

- (28) a. O Eduardo deu uma flor para a Mara, *até*, ele não esqueceu do aniversário dela.
 Eduardo gave a flower to Mara, *even*, he didn't forget her birthday.
 b. O Eduardo deu uma flor para a Mara, *somente*, ele não fez mais nada.
 Eduardo gave a flower to Mara, *only*, he didn't do anything more.

The different behavior of *só* and *somente* in (26) and (27), respectively, would suggest that two distinct positions would be available for them, the latter being merged higher than the former. The higher position is favored only for *somente*, given that *somente*, as opposed to *só*, can focalize the IP (compare (27) with (26)). The very fact that *só* can focalize the subject in (22), repeated below, is a consequence of the fact that this focusing adverb is merged (somewhere) above the *v*P to the left of the subject. As such, it can attract the subject to focalize it.

- (22) Só a filha do Zé veio à festa.
 Only the daughter of Zé came to the party.

The data in (29) can thus be explained: in (29a) the lowest *only*, i.e. *só*, attracts the locative PP, and, after the movement of *só* to W° , remnant movement places *O Eduardo casou* to its left.⁴⁸ Then, *somente* 'only' attracts the DP-Subject to its Spec and moves to W° in the sequence. (29b) is not ungrammatical, though it is not as natural as (29a) is. The grammaticality of (29b) is not surprising if one thinks that *só* first attracts the subject, moves to W° , and the remnant moves to [Spec, W°], *à la* Kayne (1998). Then, later in the derivation, the locative DP moves to [Spec,*somente*], followed by movement of *somente* to the left and remnant movement of "*só o Eduardo casou*" past *somente*.

- (29) a. Somente o Eduardo casou só no cartório.
 Only Eduardogot-married only at the registry office.
 'Only John got married only in a civil ceremony (, not in a religious one)'
 b. ?Só o Eduardo casou somente no cartório.
 Only Eduardo got-married only at the registry office

⁴⁸ Again, this analysis will be slightly modified in Section 6. I will take Kayne's (2005) work on prepositions to modify the derivations involving focusing adverbs thus making it compatible with the contention that UG would only allow phrasal-movements.

As for the appearance of *só/até/mesmo/até mesmo* “IP-internally”, there are interesting differences on the uses of each one of these focalizers. Starting with *só* ‘only’, if the focus stress falls on the most embedded constituent—which is *para o DUDU*, in (30)—, the focus of *só* is sensitive to embeddedness, i.e. it can be either the entire chunk to its right (30’a), or the constituent formed by both complements (see 30’b), or the sole indirect object (see 30’c), i.e., the constituent under the scope of *só* necessarily starts from the bottom.

- (30) O Zé só deu um livro para o Dudu.
 Zé only gave a book to Dudu.
 ‘Zé only gave a book to Dudu.’
- (30’) a. O Zé só deu um livro para o Dudu, não fez mais nada.
 (scope over the VP/part of the IP)
 The Zé only gave a book to Dudu, (he) didn’t do anything else.
- b. O Zé só deu um livro para o Dudu, não deu uma revista para a Mara.
 The Zé only gave a book to Dudu, (he) didn’t give a magazine to Mara.
 (scope over the complements (i.e., the direct object plus the indirect object))
- c. O Zé só deu um livro para o Dudu, não para a Carolzinha.
 (scope over the indirect object)
 The Zé only gave a book to Dudu, not to Carolzinha.

There is an additional possibility which is scope over the direct object *um livro* ‘a book’ (see (30’d)). But this reading is available only if *um livro* receives focus stress:⁴⁹

- (30’) d. O Zé só deu UM LIVRO para o Dudu, não deu mais nada.
 The Zé only gave a book to Dudu, he didn’t give anything else.

The pair *até/até mesmo* (see (31)), which instantiates an *inclusive* reading, seem to differ from *só* ‘only’ in that ‘embeddedness’ is not applicable, i.e. they necessarily take the whole VP under their scope. No other possibility seems to be available. They cannot focalize subparts of the VP-chunk:

- (31) O Zé até/até mesmo deu um livro para o Dudu.
 Zé even gave a book to Dudu.

As far as *mesmo* ‘even’ is concerned, if placed between the subject and the V/first auxiliary, it can only focalize the Subject:

- (32) [O Zé mesmo] deu um livro para o Dudu.
[Zé even] gave a book to Dudu

Judging from Ambar (2008), in European (EP) and Brazilian (BP) Portuguese, when surfacing between the lexical V and the complement in declaratives, *mesmo* is ambiguous (at least in the written language): it can have a confirmatory or a contrastive reading. In the confirmatory use it “reinforce[s] the truth of the proposition, highlighting the state of affairs [described in the propositional content]” (Ambar 2008: 162). In the contrastive use, it takes scope over the internal argument:

- (33) *EP and BP* (Ambar 2008: 162)
O João comprou mesmo o livro.
The J. bought MESMO the book
= (i) ‘Really/definitely/unquestionably, John bought the book’ (Confirmatory)
= (ii) ‘John bought *even* the book’ (Contrastive)

It seems that these two values of *mesmo* would correspond to two distinct positions in the clausal spine, as long as two instances of this adverbial can actually co-occur in BP.

- (34) O João comprou MESMO mesmo o livro.
The J. bought indeed even the book.
‘João really bought even the book’.

The first *mesmo* would only be associated with the confirmatory reading. The second would rather be associated with the contrastive reading, where *mesmo* is the focus-sensitive element associated with *o livro*. One would think that, in hierarchical terms, the confirmatory value

⁴⁹ I would like to thank Guglielmo Cinque (p.c.) for clarifying these possibilities.

would be checked in a position higher than the one where the contrastive value (e.g. *até/ even*) is checked, since in (34) these two FPs can host the same lexical item, namely *mesmo*, with two distinct values. I suppose that this is not the case and the relative order of these elements is masked by movements.⁵⁰ It seems that *até* ‘even’—or *mesmo* meaning ‘even’—are merged in a high position in the IP and confirmatory *mesmo* is necessarily merged in a very low position, to the left of *só* ‘only’. The fact that *até* ‘even’ can appear sentence-finally, if de-accented—thus taking under its scope the whole proposition (see (26), repeated below)—would suggest that it should be merged in the higher portion of the IP, together with Cinque’s higher adverbs (which, judging from Cinque 1999: 15; Belletti 1990; Laenzlinger 2002, 2011; a.o. cannot appear sentence-finally unless de-accented (see (35a,b) below)):

- (26) O Eduardo deu uma flor para a Mara, até/*até mesmo/*mesmo/??*só.
 Eduardo gave a flower to Mara, even/ Bill a book yesterday, even.
- (35) a. Gianni mente *(,) probabilmente. (*Italian*) (G.Cinque, p.c.)
 b. O João mente *(,) provavelmente. (*BP*)
 ‘G./J. tells lies*(,) probably’

Though Cinque (1999) did not provided a position of merger for confirmative adverbs like *really, surely, indeed, etc.* in his hierarchy, the author did realize that confirmative adverbs would differ from higher adverbs in general, in that they can appear sentence-finally (Cinque 1999: 180, fn.80):

- (36) Gianni lo merita sicuramente/ di sicuro / etc. / ??senza dubbio. (*Italian*)
 ‘G. deserves it surely/undoubtedly.’ (Cinque 1999: 180, endnote 80)

⁵⁰ (i) combines confirmatory *mesmo* or confirmatory *realmente* with contrastive *até*.

- (i) a. O João comprou mesmo/realmente até o livro.
 The J. bought indeed even the book.
 b. *O João comprou até mesmo/realmente o livro.
 The J. bought even indeed the book.

(ib) would only be grammatical if one takes *até* to be a direct modifier of *mesmo*, i.e. to be merged in the Spec of *mesmo* (Cinque 1999: 4). In this use *até mesmo* would correspond to *até* ‘even’. Yet, it remains to be worked out where *até/ até mesmo/ even* would merge in the hierarchy of functional projections. The same observation would be extended to *mesmo/ realmente/ indeed/ really, etc.*

The same observation is valid for both BP and EP.

- (37) O Manuel mente realmente.⁵¹
The Manuel tells lies indeed.
'Manuel indeed tells lies'

Mesmo, in its confirmatory reading, can also appear sentence-finally (Ambar 2008) patterning like *realmente* 'really, indeed' of (37) in that it is not de-accented in that position:

- (38) *Brazilian and European Portuguese* (Ambar 2008: 164)⁵²
- a. O João saíu mesmo.
The J. left MESMO
'J. did leave.'
 - b. O João chorou mesmo.
The J. cried MESMO
'J. did cry'
 - c. O João trabalha mesmo.
The J. works MESMO
'J. does work'

⁵¹ The judgment for EP was kindly provided by Pilar Barbosa, p.c.

⁵² Ambar (2008: 164) says that the adjacency V-confirmatory *mesmo* cannot be broken in Portuguese. However, the fact that (very) low adverbs (e.g., *cedo* 'early') (at least in Brazilian Portuguese) can intervene between the V and *mesmo* 'after all' (see (i) below) casts doubts on this observation. As we will see in the next chapter (§ 2.1), *cedo* 'early' and all adverbs which follow it in the hierarchy must be pied-piped by the VP on its movement upwards. As such, these adverbs can break the adjacency V-confirmatory *mesmo* (at least in my Brazilian Portuguese). See (i).

- (i) O Zé acordou cedo mesmo.
J. woke up early after all.

(i) should be subsumed under Shu's (2011: 121) "Adjacency Generalization", according to which if a focusing adverb "doesn't c-command its focus, they cannot be separated by a constituent that is not part of the focus, unless other grammatical principles intervene." In (i), the focus of *mesmo* includes the left-edge adverb *cedo* (e.g. "O Zé acordou cedo mesmo, ele não acordou tarde" 'Zé woke up early after all, he didn't wake up late').

The deviance of (ii), found below, might suggest that *mesmo* occupies a position which is higher than *cedo* in the hierarchy. Movement of V would necessarily pied-pipe *cedo* (see chapter 4, § 2.2) and then *mesmo* in the *whose*-pictures type of pied-piping (cfr. (i)). The acceptance of (ii) is conditioned to the fact that *cedo* 'early' be 'marginalized', i.e. distressed in its position of Merge:

- (ii) (?/*)O Zé acordou MESMO, cedo.

The position of *mesmo* and other confirmatory (focus-sensitive) adverbs still remains to be determined (in Cartographic terms). See also section 10.2 of the *Appendix* of chapter 4 which suggests that there would also be a high functional projection for the confirmatory adverb *sempre* in European Portuguese, since confirmatory *sempre* cannot occur sentence-finally (be it accented or de-accented).

The intransitive verbs of (38) placed to the left of *mesmo* would suggest that confirmatory *mesmo* behaves like other confirmatory adverbs like *realmente* ‘really, indeed’, in both BP and EP, and *sicuramente/di sicuro, certamente* in Italian (Cinque 1999: 180, fn. 80) in that the (lexical) V(P) can move past them.

Put together, (26) and (35), from one side, and (36-38), from the other, would suggest that *mesmo* ‘indeed’, ‘after all’ (*sicuramente, di sicuro*, Italian) as well as other confirmatory adverbs are merged very low in the structure, given the fact that V can move past “lower”, but not past higher adverbs (chapter 5).

We have some indirect evidence for conjecturing that *mesmo, realmente* (‘indeed, after all’) as well as other confirmatory adverbs/adverbs of certainty are merged in a low position in the structure. *Mesmo* has to necessarily appear to the right of *só*:

- (39) O José só trabalha mesmo.
 The J. only works indeed
 ‘The J. indeed only works.’

V does not need to raise past *só* (40a), but it does past *mesmo* (see (38) and (40b), if *mesmo* is used to confirm what is being said in the propositional content),⁵³ suggesting that *mesmo* enters the derivation before *só* (i.e., *só* precedes *mesmo* in the hierarchy (from the left to the right)).

- (40) a. O José (só) trabalha (*só).
 The J. only works only
 ‘The J. only works.’
 b. O José (*mesmo) trabalhou (mesmo).
 The J. MESMO worked MESMO
 ‘The J. did work.’

We have seen that if placed to the right of V, *mesmo*, in its confirmatory reading, focalizes the VP. A different interpretation is available for *mesmo* in that position: it can be used as a

⁵³ That (38b) is grammatical in the reading where *mesmo* focalizes only the subject is irrelevant to the present discussion.

contrastive focusing adverb, meaning *even*. In this use it behaves like *até mesmo, só, até*, in that it focalizes the constituent to the right:

- (41) O Zé bebeu até/até mesmo/mesmo/só a cerveja
 The Zé drank even/only the beer
 ‘Zé drank even/only the beer’

Besides the confirmatory use of *mesmo* ‘indeed, really’—which still deserves a careful study—it seems that the other BP focusing adverbs briefly discussed in this section can be treated *à la* Kayne (1998),⁵⁴ i.e., as scope-inducing elements, on par with English *only, even, too*. Further research should aim not only at providing a hierarchy for the different classes of focusing adverbs but also at placing these focusing adverbs in the Universal Hierarchy of the IP space.

5. The “size” of the scope

From the preceding section, especially from the discussion of the data given in (28), and repeated below for convenience, it should be clear that the scope of a focusing item would be either the entire chunk following it or subparts of that chunk. If the constituent bearing focus stress is the most embedded one, the scope of the focalizer may vary provided that the most embedded constituent be included in the scope. Considering that the focus stress falls on *para o Dudu* by default in (30), the scope of *só* can be the entire chunk to its right (30’a), or the constituent formed by both complements (see 30’b), or even the sole indirect object (see 30’c).

- (30) O Zé só deu um livro para o Dudu.
 Zé only gave a book to Dudu.
 (30’) a. O Zé só deu um livro para o Dudu, não fez mais nada.

⁵⁴ Confirmatory *mesmo* can also be treated as Kayne’s *only, even, too*, etc. See Ambar (2008, § 5) who proposes a derivation for *mesmo* which has some points in common with Kayne’s (1998) proposal, though the former does not assume it. If my conjecture that confirmatory *mesmo* is merged in a lower position is correct, the very fact that the V appears to its left, in spite of being under its scope, would suggest that the V(P) left-branch extracts from the probing head associated with *mesmo* and merged before it. See section 3 of chapter 5.

- The Zé only gave a book to Dudu, (he) didn't do anything else. (scope over the VP/part of the IP)
- b. O Zé só deu um livro para o Dudu, não deu uma revista para a Mara.
The Zé only gave a book to Dudu, (he) didn't give a magazine to Mara.
(scope over the complements (i.e., the direct object plus the indirect object))
- c. O Zé só deu um livro para o Dudu, não para a Carolzinha.
The Zé only gave a book to Dudu, not to Carolzinha.
(scope over the indirect object)

As mentioned above, there is an additional possibility which is (narrow) scope over the direct object *um livro* 'a book' (see (30d)). But this reading is available only if *um livro* receives the focus stress:

- (30') d. O Zé só deu UM LIVRO para o Dudu, não deu mais nada.
The Zé only gave a book to Dudu, he didn't give anything else.

Thus, if the focalizer is found to the left of the constituent it takes under its scope with flat intonation (here understood as the configuration where the focus stress falls on the most embedded constituent), the constituent under the scope of the focusing adverb may be either the entire chunk, or even subparts of it, but crucially starting from the bottom, i.e. the most embedded constituent—the one bearing focus by *default*—must be included in the focus. Hence, if only a subpart of this chunk is under the scope of the focalizer, this subpart must necessarily contain the most embedded constituent.

The Italian example below also illustrates this. The paraphrases provided in (42') make it clear that *di Gianni*, the XP-bearing the focus stress by default, must be included in the scope of *solo* 'only':

- (42) *Italian* (Longobardi 1992; 193, n. 25)
Sarei disposto solo a sposare la sorella di Gianni.
'I would be ready only to marry Gianni's sister'
- (42') a. I would not be ready to marry the sister of anyone other than Gianni.
b. I would not be ready to marry anyone other than Gianni's sister.
c. I would not be ready to do anything other than marrying Gianni's sister.

From (42'a), the scope of *solo* in (42) may be the PP *di Gianni*. (42'b) shows that the scope of *solo* may also be *la sorella di Gianni* and, finally, (42'c) suggests that *solo* may take under its scope the whole chunk following it. Once again, what is crucial here is that the scope of the adverb starts right from the bottom, i.e. from the PP *di Gianni*, by 'growing' to the left.

The next section is an attempt to generalize Kayne's analysis of *only* to Cinque's adverbs.

6. Extending Kayne's theory to adverbs: Criterial Freezing and the Cinque Hierarchy

In chapter 1, I mentioned that I would adopt Kayne's (1998) theory of Scope-assignment to explain some puzzling facts on the distribution of higher adverbs.⁵⁵

Before extending Kayne's proposal to all adverbs, I will briefly quote some relevant theoretical assumptions mentioned in the previous chapter. (a)-(c) summarize them.

- a) Cinque's (2010, §5) conjecture that the functional categories merged in the extended projection of the N and the V have to inherit the [+V(/N)] feature of the lexical head, thus 'fully qualifying' as part of the extended projection. Such a feature starts to be transmitted from the 'engine' of movement (the lexical nucleus) (Cinque 2010).
- b) the claim that UG would make available only *phrasal movements* (Cinque 2005: 321, 2009, 2010: §4) of two types, namely, XP-movement without pied-piping and XP-movement with pied-piping of the *whose-pictures* or the *pictures-of-whom* type.
- c) Kayne's (2005): *One Feature, One Head* Principle.

Given (b), i.e. the contention that only phrasal movements would exist (Cinque 2005, 2010, *f.c.*),⁵⁶ Kayne's (1998) approach to scope assignment will be implemented in such a way that it will turn out to be even closer to his treatment of prepositions as probes (cfr. Kayne 2005 (in particular p. 97-98; 137)). These modifications are necessary both on theoretical-conceptual (cfr. (b) above) and empirical grounds (adverbs are phrases, not heads (cfr. Cinque 1999: 4; 167,n.3; see also the discussion below), thus, they are merged in specifier positions). However, as we will see below, such modifications are very close to the modification Kayne

⁵⁵ See also chapter 6, where I propose to extend this theory to floating quantifiers as well.

⁵⁶ There is a large literature exploring this claim. See, among others, Mahajan 2000, Koopman & Szabolcsi 2000. See also Chomsky (2001), according to whom head-movement is a PF phenomenon. For arguments

(2002: 72ff; 2005: 97-98, 137) made in another (close-related) domain, namely, the syntax of prepositions (see below).

With regard to the nature of AdvPs, they are phrases and not heads:⁵⁷

- they can be modified:⁵⁸

- (43) a. *molto probabilmente* (Italian)
 very probably
 b. *muito provavelmente* (BP)
 very probably
 c. *almost certainly* etc.

- they can be focalized:

- (44) a. SEMPRE credo che l'abbia visto. (Italian – G. Cinque, p.c.)
 ALWAYS I-believe that him had seen(you)
 'I believe that he has always seen him'
 b. é SEMPRE que a Carolzinha quebra as coisas.
 It's ALWAYS that the Carolzinha breaks the stuff.
 'Carolzinha ALWAYS breaks the stuff.'

against this view, see Matushansky (2006) and Roberts (2010, 2011), who claim that head-movement should still be a Narrow Syntax operation.

⁵⁷ Judging from Costa & Castro (2002), some adverbs should actually be analyzed as weak forms. See section 8.1 of the *Appendix* in chapter 4. It does not change the main argumentation here, since one would think of each single FP of Cinque (1999) as rather being two projections, the highest hosting the adverb and the lowest, the Functional Head (see Cinque 2002, n. 6; 2010, § 4), see section 6 of chapter 2. In the case of *já* 'already', *lá* 'there' and other proclisis-triggering AdvPs in European Portuguese (see Barrie 2000: 44, § 2.4.3), instead of being merged in the upper specifier, these adverbs would actually merge in the upper head, the reason for which they would block, for instance, V-to-C movement—or whatever it should be (in terms of more complex phrasal movements)—in EP.

⁵⁸ Even one of the possible correspondents of *only*, in Portuguese, namely *somente*, might be analyzed as a phrase given that it can be modified (cfr. (i)). Thanks to G. Cinque (p.c.) for this observation regarding the Italian *soltanto* 'only', which is valid for Portuguese.

- (i) Ele come quase somente feijão. (BP)
 He eats almost only beans.

This observation seems to be valid unless *quasi* 'almost' behaves like *anche* 'too', which under Kayne's (1998) treatment means that it would be merged at a certain level and then picked up (cfr. the Italian example below). Thanks to G. Cinque again for this important observation.

- (ii) Mangia anche quasi solo pane. (Italian – G. Cinque, p.c.)
 Eats too almost only bread
 'She/he also eats almost only bread'

- AdvPs can be coordinated:

- (45) João comprou *sempre e regularmente* livros na FNAC. (European Portuguese)⁵⁹
 J. bought *always and regularly* books at-the FNAC
 'J. always and regularly bought books at FNAC' (Pilar Barbosa, p.c.)

Hence, there are empirical reasons to locate adverbs in Spec, given their phrasal nature⁶⁰. This amounts to saying that, since we extend Kayne's (1998) theory of scope assignment to all adverbs, some modifications in the 'design' of Kayne's original derivations should be made to comply with the phrasal nature of AdvPs. To achieve this, I will follow some modifications that Kayne himself introduced (see Kayne 2005) in his analysis of prepositional complementizers.

Kayne's (1999) approach to prepositions was very similar to his (1998) approach to the assignment of scope to adverbs, Neg, etc. These scope-inducing elements, as well as prepositional complementizers, were argued to enter the derivations as heads, which would attract the constituent under their scope to their specifier. Then, the scope-inducing element (or the preposition) would move to W°, followed by remnant movement to [Spec,W]. (46') illustrates the derivation of (46), where *only* is taken to head the *OnlyP*; (47') illustrates the derivation of (47), which has the preposition as the attractor:

- (46) John criticized only Bill. (Kayne 1998: 134)
 (46') ... only criticized Bill → (attraction by *only*)
 ... Bill_i only criticized t_i → (raising of *only*)
 ... only_j Bill_i t_j criticized t_i → (VP-preposing)
 ... [criticized t_i]_k only_j Bill_i t_j t_k
 (47) Gianni ha tentato di cantare. (Italian)
 G. has tried *di* sing-inf. (Kayne 1999: 51)
 (47') ... tentato cantare → merger of *di*
 ... *di* tentato cantare → attraction of infinitival IP by *di*
 ... cantare_i di tentato t_i → merger of W and attraction of *di* by W
 ... di_j+W cantare_i t_j tentato t_i → attraction of VP to Spec,W
 ... [tentato t_i]_k di_j+W cantare_i t_j t_k (Kayne 1999: 51-52)

⁵⁹ These sentences are also possible in BP.

⁶⁰ Cinque also gives a piece of evidence for the location-in-Spec analysis on the basis of the grammar of 'code-switching' (Cinque 1999: 167, n. 3).

Thus, Kayne’s first insights on the ‘probing’ nature of *prepositions* (Kayne 1999, 2000, for instance) would precisely parallel his insights on the assignment of scope to ‘scope-inducing’ elements.

Following a suggestion by Uri Shlonsky (cfr. Kayne 2002: 72ff.; 2005: 97-98, 137), Kayne slightly modified his 1999/2000 analysis of prepositions as attractors. Setting aside some details, instead of merging the preposition as the lowest head of that set of two (adposition-like) phrases given above, Kayne suggests that this lowest head would correspond to a case-licensing one,⁶¹ dubbed “K^o” (as mnemonics for “Case” (see 47, 47’)). The highest head (W^o in his 1999 analysis), where the preposition would (head-)move to, is now the head where the preposition directly merges. The remnant, once again, moves to the Specifier of this higher head.

Under this (revisited) view, (47) would be derived in the following way:⁶²

- (47’’) ... tentato cantare → merger of K
 ... K tentato cantare → attraction of InfinP to [Spec,K]
 ... cantare; K tentato t_i → merger of P/C⁶³

⁶¹ As Kayne suggests (2002:72), this K in German, “(...) is often realized with overt Case morphology (more on D than on N), in particular in the presence of a preposition.”, e.g. (i):

- (i) mit dem Mann (German)
 with the+K-dative man (Kayne 2002: 72 [2005: 138])

Kayne associates this suffix *-m* to the dative Case morpheme K which, in (i) co-occurs with the preposition *mit*, thus giving support to his analysis where the lowest head of these two P-related phrases is a case assigning one. As he notes, though, English and French would not have this K^o overtly realized.

⁶² Cfr. Kayne’s (2005: 232-233) derivation of “try to leave”, where the author abandons the head-movement analysis of P, in favor of its merger as the highest head of the two “P-related” FPs.

⁶³ To derive the differences between prepositions and postpositions, Kayne (2005: 330, § 12.5.5. and fn. 97) suggests that in the case of postpositions there would exist an unpronounced P (he calls it P’), merged before the “postposition”. The remnant VP would move to [Spec,P’] while the entire KP would move to the specifier of the (visible) “postposition”. It is represented in (i), from Kayne (2005: 330), with the English glosses):

- (i) looking us → merger of K
 K looking us → movement of DP to Spec,K
 us_i K looking t_i → merger of the unpronounced double of P, namely, P’
 P’ us_i K looking t_i → movement of VP to Spec,P’
 [looking t_i] P’ us_i K t_i → merger of P
 at [looking t_i] P’ us_i K t_i → movement of KP to Spec,P
 [us_i K t_i]_k at [looking t_i] P’ t_k

Thus, the difference between prepositions and postpositions would be reduced to the presence of the unpronounced P' which would (perhaps) be absent in prepositions. However, as Kayne (2005: 331) mentions, even in the case of “prepositions”, one would wonder whether there would also be this extra layer, headed by P', given some cases of visible doubles of prepositions, e.g. in Italian (Rizzi 2001a[1988]: 524), with some adverbs, see (i):

- (ii) *Passa per di* [qui/là] (Italian - Rizzi 2001a: 524)
 come to here/there

In my colloquial BP, from the northeast of the State of São Paulo, doubles are common in constructions like (iii) and (iv), found below:

- (iii) *O Zé vai na missa de a pé.*
 Zé goes in-the Mass by on foot.
 ‘Zé is going to the Mass on foot.’
 (iv) *A Carolzinha tem medo de andar de a cavalo.*
 Carolzinha is-afraid of walk.INF of on horse(back)
 ‘Carolzinha is afraid of riding.’

A radical interpretation of Kayne’s “adpositional shells” analysis would be that, even in “prepositional-like languages” (Italian, BP, English, etc.), P' would also always be present, but it would never involve movement to its Spec, be it silent (in the non-doubling constructions) (cfr. (v), below), be it pronounced (ii, iii, iv)). Movement would necessarily be triggered to the Spec of the highest preposition, namely, to [Spec,P].

- (v) *O Zé veio à cavalo.*
 Zé came on horseback
 ‘Zé came on horseback’

Thus, given the idea (Kayne 2005) that parameters are actually features of functional heads, adpositional doubles found with “prepositions” would be a question of “pronunciation” versus “nonpronunciation” of a preposition—as would be the case of clitic doubles: French would also have clitic doubling, like Spanish, the difference only resting on the “pronunciation” in Spanish, versus the “non-pronunciation” in French of the doubled clitic.

It remains to be understood—if our attempt to interpret the Brazilian examples in (iii, iv and v) under Kayne’s 2005 contention on adpositional doubles is on the right track—why in (iii) and (iv) it is the highest P which can remain unpronounced (see ((iii)a.); ((iv)a.)), whereas the non-pronunciation of the lowest one would give rise to ungrammaticality in the case of (iii) (see (iii)b)) and marginality in the case of (iv) (see (iv)b)).

Notice, however, that Kayne (2005: 331) mentions that the potential difference between the derivation involving “prepositions” and the derivation involving “postposition” would be reduced to the fact that, with prepositions, the VP moves to [Spec,P]. With postpositions, the VP moves to [Spec,P'].

- (iii) a. *O Zé vai na missa (de) a pé.*
 Zé goes in-the Mass by on foot.
 ‘Zé is going to the Mass on foot.’
 (iv) a. *A Carolzinha tem medo de andar (de) a cavalo.*
 Carolzinha is-afraid of walk.INF of on horse(back)
 ‘Carolzinha is afraid of riding.’
 (iii) b. *O Zé vai na missa de *(a) pé.*
 Zé goes in-the Mass by on foot.
 ‘Zé is going to the Mass on foot.’
 (iv) b. *A Carolzinha tem medo de andar de ?(a) cavalo.*
 Carolzinha is-afraid of walk.INF of on horse(back)
 ‘Carolzinha is afraid of riding.’

... di [cantare; K tentato t_i] → attraction of VP to [Spec,C/P]
 ... [tentato t_i]; di [cantare; K t_i]

Given the strongest parallel between (46) and (47), as far as the treatment given to Ps and (scope-inducing) focusing adverbs is concerned, one would propose that (46) also be derived along the lines of (47’)—see (46’). One way to achieve this could be as follows:

(46) John criticized only Bill. (Kayne 1998: 134)
 (46’) ... criticized Bill → attraction by a probing/assigning scope-head (associated with *only*)^{64,65,66}
 ... Bill_i K criticized t_i → Merger of *only*⁶⁷
 ... only Bill_i K criticized t_i → VP-preposing (remnant-movement)
 ... [criticized t_i]; only Bill_i K t_i

⁶⁴ Call it “K” (for its similarities with the case-assigning head associated with prepositions). See also the next two footnotes.

⁶⁵ See also Ambar (2008, § 5) who assumes a similar derivation for *mesmo* ‘indeed’ on its confirmatory reading in Portuguese. In her account, *mesmo* would merge as the head of FocP in the left periphery. After its merger, the constituent bearing-focus would move to [Spec,XP], i.e., to the specifier of a functional projection (she calls it “XP”) merged to the right of FocP. In the sequence, remnant movement would place the subject plus the V to the left of *mesmo*.

⁶⁶ There is (morphosyntactic) evidence for the assumption of this probing-head in Syntax, whenever a scope-inducing/focus-sensitive element (focusing adverbs, adverbs in general, etc.) enters the derivation. Shu (2011: 132) mentions the existence of an ‘agreement marker’ *cai*, in Chinese, which may appear with a focusing adverb in that language. The indexes F1 and F2 indicate the focus of the associated focusing adverb bearing the same index.

(i) *Chinese* (Shu 2011: 132)

A: - zhangsan changchang mai xigua
 ‘Zhangsan often buys watermelons.’
 [B: - bu. ta zhi(you)₁ [ouer₂]_{F1} cai mai xigua_{F2}.
 no he only sometimes CAI buy watermelon
 ‘No. He only₁ buys watermelons_{F2} [occasionally₂]_{F1}.’

On the status of the particle *cai* in (i), Shu (2011) says that “here [it] is an agreement/concord marker that appears with an FA [focusing adverb—A.T.N.] in Chinese. In this function, it has to follow the focus. This entails that only *ouer* can be the focus of *zhi* in (88) [(i)—A.T.N.]” Shu claims that “an isomorphic approach cannot capture this paraphrase possibility.” She explicitly mentions that Cinque’s approach to adverbs is ‘isomorphic’. By assuming Kayne’s 1998 theory, it is possible keep with Cinque’s proposal. Thus, I take *cai*, when it appears with a focusing adverb, to be the probing head associated with the focus. As such, *cai* attracts the focus, in this case *ouer* ‘sometimes’ to its Spec, followed by the Merge of its associated focusing adverb, namely, *zhi(you)*.

⁶⁷ If *only*, *even*, and *too* are heads and not phrases, they should obviously be merged as the head of the upper-Kaynean phrase. Of course, in the case of AdvPs (which are phrases, but not heads), this setting will be modified again, by merging the adverb in a Specifier position, followed by merger of another head and remnant-movement to the spec of that head.

Now, if higher adverbs can be also treated as scope-inducing elements (Belletti 1990, Cinque 1999, Shu 2011), it is natural to treat them on par with the focusing adverb *only*. Thus, the derivation of (48), see below, can follow the same line of reasoning applied to the derivation of (46), on its revisited version (46’).

(48) George will have probably read the book.⁶⁸

The probing head of Kayne (1998)—which in his paper might be overtly realized (e.g. by *only*, *even*, *too* or *not*) or not (in those cases where, e.g., *only* is actually part of the scope-bearing phrase⁶⁹)—will correspond to the head of an FP merged before the (scope-inducing) AdvP.⁷⁰ Since this head, being endowed with a [+ criterial] feature, probes for a Goal which moves to its Spec before the merger of the (scope-inducing) AdvP in the next Spec, let us call it ‘the probing (criterial) head associated with the scope-inducing AdvP’. In the case of (48), the probing head attracts the chunk “read the book”, after which another head is merged to license the AdvP *probably* (along the lines of Cinque 2010, 2013, *f.c.*),⁷¹ followed by remnant movement to the Spec of another head merged to the left of *probably* (call it W^o). The

⁶⁸ In Jackendoff (1972: 76), this sentence is considered ungrammatical. Some speakers of English consider it possible, nonetheless. The reviewer of Tesconi Neto (2012: 63, fn. 5) considers (48) reasonably possible in their English, which amounts to saying that in their variety it is possible to extract a chunk from the structure to be directly focused by the higher AdvP. See also Cinque (1999: 213-214) which reports that this sentence is possible in Richard Kayne’s English as well. Cinque also conjectures that (48) would be grammatical, in spite of the apparent violation of the ‘Head Movement Constraint’, given that *have* could be a prepositional complementizer, say, /əv/ (in Kayne’s 2000 sense). Be this written form of “have”, in (48), a prepositional complementizer or a focusing adverb, the fact that the assignment of scope to (scope-inducing) adverbs should be achieved transformationally (i.e., *à la* Kayne 1998) would leave us with no choice but to derive (48) as suggested in (48’). (48) is problematic for Shu’s (2011) analysis.

⁶⁹ By scope-bearing phrase I am referring to those cases where *only* is not an (IP-) attractor, but is merged in the extended projection of N. In those cases, Kayne assumes that the ‘scope-bearing’ phrase moves to the Specifier of an unpronounced counterpart of *only*. (i) illustrates this for English:

(i) John spoke to only one linguist (Kayne 1998: 148)

Another possibility is that *one linguist* raises to the Specifier of *only* in the clausal spine stranding *to*. This seems to be the case since the correspondent of (i) in Italian is ungrammatical as this language does not allow P-stranding. I thank Guglielmo Cinque for this observation.

⁷⁰ See the footnote 66.

⁷¹ See chapter 2, section 6, specially figures 2.14 and 2.15 and relative text.

configuration required for *probably* in (48) is that only the constituent under its focus remain in its c-command domain. This is the motivation for the remnant movement.⁷²

(48')

... George will have read the book → merger of the probing head associated with *probably*
 ... K° George will have read the book → attraction of “read the book” to [Spec,K°]
 ... [read the book]_j; K° George will have t_j → merger of a head to license *probably* in its Spec⁷³
 ... *probably* Y° [read the book]_j; K° George will have t_j → merger of W°
 ... W° [*probably* Y° [read the book]_j; K° George will have t_j] → remnant movement
 ... [George will have t_j W° [*probably* Y° [read the book]_j; K° t_k]]

I take the Spec of this probing head to be a criterial position (in Rizzi’s (2004b, 2010) sense). Thus, once moved to the Spec of this head, the (moved-) XP is frozen there, by Criterial Freezing. That this is a criterial position is suggested by the data given below, in (49a,b,c). In the present analysis, the XP modified by *probabilmente/provavelmente/probabil* ‘probably’ moves to the Spec of the probing/criterial head (K°), merged before the head which licenses the AdvP. Thus, having reached a criterial position (here, [Spec,K°]), the complement of V (*la pizza*, in (49a,b); *paste* in (49c)) cannot undergo further movement. This prediction is borne out by the data in (49’a,b,c): the object cannot be (further) displaced by means of Wh-movement:

- (49) a. Gianni ha mangiato probabilmente la pizza. (*Italian*) (G. Cinque, p.c.)
 G. has eaten probably the pizza
 ‘G. has probably eaten PIZZA’
 b. O Zé comeu provavelmente pizza.
 Zé ate probably pizza (=a)
 c. Ion mănâncă probabil paste (nu orez!) (*Romanian*) (Adina Bleotu, p.c.)
 Ion ate probably pasta (not rice)
 (49’) a. *Che cosa_i ha mangiato probabilmente t_i? (*Italian*)⁷⁴

⁷² I would like to thank Roland Hinterhölz (p.c.) for having suggesting this motivation.

⁷³ See Laenzlinger (2002, 2004).

⁷⁴ That the ungrammaticality is not due to the fact that the higher adverb gets stranded by wh-movement, staying in a position where it normally could not (see the introduction of the present chapter), is reflected in the following data, where extraction out of the probing head associated with *only*, which is merged in a lower position within the IP, is also impossible.

- (i) a. *Che cosa_i ha mangiato solo t_i? (*Italian*)
 What has eaten only t_i?
 a’. *O que_i o Zé comeu só t_i? (BP)

- What_i has (he) eaten probably *t_i*?
 ‘What has he eaten probably?’
 b. *O que_i o Zé comeu provavelmente *t_i*?⁷⁵
 What_i Zé ate probably *t_i*?
 c. *Ce_i mănâncă Ion probabil *t_i*? (Romanian)
 What ate Ion probably *t*?

Sentences (49) and (49’) would seem to suggest that ‘Criterial Freezing’ plays a role in the ‘calculation of scope’ of adverbs as well. Hence, if the assignment of scope to AdvPs follows (a slightly modified version of) Kayne’s (1998) proposal, once moved to the Spec of the criterial head associated with a modifier (AdvP), an XP gets frozen in that position. Further extractions will be banned by Criterial Freezing (see (49’)). These data provide further support to the present analysis. As we will see in chapter 5, if adverbs were adjuncts to, say, IP/VP (as traditionally assumed) or ‘directly attached’ to non-spinal constituents (Zyman 2012) in cases like (49),⁷⁶ *no immediate reason could be provided for the ungrammaticality of (49’), since the adverb would directly attach to the complement of V.*⁷⁷

7. Which adverbs are focus-sensitive?

It is time to distinguish between two different, though closely related, concepts, namely focus-sensitivity (in the sense of Shu 2011) and ‘scope-inducement’ (in the general sense used in this dissertation to refer to the fact that (all) adverbs modify a constituent (or (a portion of) the sentence) under their scope). Thus, Shu’s focus-sensitivity should be seen as a subtype of ‘scope-inducement’ in that it involves a special process of scope-assignment, i.e. focus-

what Zé ate only *t*?

⁷⁵ That (i), found below, is possible, is not a problem under the present analysis. Remember that the constituent in the Spec of the criterial head can be displaced if it is within a larger chunk:

(i) (?)*Provavelmente o quê_i* (que) o Zé comeu *t_i*? (BP)
 Probably what that Zé ate *t*?

⁷⁶ The same criticism can be made to those analyses which would assume an extra “low position” for *probabilmente/provavelmente/probabil* ‘probably’ (to keep with the Cinque hierarchy). Such an analysis will be discussed in chapter 5, section 3.

⁷⁷ Chomsky (1986: 6ff., 16) actually suggests that adjunction is possible only to XPs that are non-arguments probably aiming at getting around such problems.

assignment.

In the following examples, for instance, the epistemic adverb *probably*, besides being a scope-inducing element, is a focus-sensitive expression.

- (50) a. Probably John [likes]_F Mary.
b. Probably [John]_F likes Mary. (Shu 2011: 106)

Probably, in (50) is a focus sensitive expression, since, as Shu (2011: 137) shows, the interpretation of this semantic operator is associated with focus. (50a,b) can be paraphrased as (50'a,b, respectively).

- (50') a. Among alternatives such as LIKING, HATING, DESPISING, NOT CARING etc., the first one is the more probable attitude John has of Mary.
b. Among alternatives such as JOHN, PETER, JENNY, etc., the first one is the more probable person who likes Mary.

Another test provided by Shu (2011: 137) which shows that higher adverbs are focus-sensitive expressions consists in providing a context which forces the focus on a specific constituent. If the adverb is focus sensitive, its appearance in the sentence is only possible if it is associated with the constituent bearing focus. This is shown in (51) below. Only (a) is possible, since speaker B's turn forces the focus on *Bill*.

- (51) A: What happened?
B: [I saw Mary give somebody some cash. Hmm...]
a) Perhaps she gave [Bill]_F some cash.
b) #Perhaps [she]_F gave Bill some cash.
c) #Perhaps she gave Bill [some cash]_F.
d) #Perhaps she [gave]_F Bill some cash. (Shu 2012: 37)

Nonetheless, there are some modifiers of the Cinque hierarchy which are never associated with focus. Shu (2011: 137) provides the following examples which show that temporal and manner adverbs are not focus-sensitive.

- (52) a. John spilled [white]_F wine on the carpet yesterday.
 b. John spilled white wine [on the carpet]_F yesterday.
- (53) a. John [read]_F this novel quickly.
 b. John read [this novel]_F quickly.

The interpretation of *yesterday* and *quickly* in (52-53) is not dependent on which part of the sentence is the focus. As Shu points out, *yesterday* and *quickly* “modify the same events irrespective of focus”. She suggests further that the focus of the sentence in (52-53) “can only be associated with the covert assertion operator.” Of course, a Kaynean treatment of these sentences would not resort to covert movements for the assignment of focus to these sentences, but to overt movements of *white* (52a), *on the carpet* (52b), *read* (53a) and *this novel* (53b) to the Specifier of an unpronounced focus head, followed by movement of that head to W° and remnant movement to [Spec, W°] (see Kayne 1998, § 4.4). If head-movement is to be dissolved in remnant-movement operations (see chapter 2, § 5; chapter 3, § 6), the focus-bearing element should move to the specifier of the probing head followed by remnant movement directly past it, as no focusing adverb would be present in the numeration.

Zyman (2012: 77ff.) made a careful study on which adverbs can and cannot be adjoined to nonspinals (“directly attached” to nonspinals, in his terminology). These “non-spinal constituents” (or “nonspinals”) are nominals, PPs, AdjPs, AdvPs, PPs, or CPs, which do not lie along the “(clausal) spine” (Zyman 2012: 74). As such, they cannot be treated as focus-sensitive adverbs in Shu’s (2011) account.

(54) *Cinque adverbs that cannot attach directly to nonspinals (from Zyman 2012: 82)*

- | | |
|---------------------------------|---------------------------------|
| a. once | e. well |
| b. quickly | f. fast/early |
| c. just (retrospective reading) | g. almost (prospective reading) |
| d. soon | |

Of course, in our treatment of the facts there is no such direct attachment of adverbs. Direct-attachment is actually an illusion created by the displacements triggered by the need of scope-assignment. I take the strongest position that AdvPs are modifiers of the extended projection of V. As such, they cannot be merged as modifiers in the extended projection of N, P, etc. Those cases involving direct-attachment discussed by Zyman actually involve a series of

movements for the purpose of scope-assignment (as in our revisited version of Kayne (1998)—see section 6).

I will show how to achieve this (though more examples will be provided in chapter 5). Here I will take some examples from Zyman and suggest that they can be approached *à la* Kayne (1998), thus still retaining Cinque’s (1999) cartographic assumptions on the universal hierarchy.

Let us see some of the sentences carefully selected and discussed in Zyman’s (2012: 77ff.) work. I invite the reader to go through the entire discussion in Zyman (2012: 76ff.).

The following three sentences involve “higher” adverbs as direct attachers, according to Zyman’s terminology.

- (55) I broke up with her *honestly* [for several reasons]_F. (Zyman 2012: 77)
- (56) Seth talked to Hannah *probably/perhaps/possibly* [for nine hours straight]_F. (Zyman 2012: 77, 78)
- (57) On Sundays, Seth talks to Hannah *usually* [for nine hours], but sometimes for only eight. (Zyman 2012: 78)

Zyman suggests that in (55-57), the adverb directly attaches to the PP. Instead, I suggest, based on Kayne’s theory of scope-assignment, that the focus moves to the specifier of the probing head associated with the adverb, followed by the Merge of the adverb, after which remnant movement takes place. I will show in detail how to get sentences like (55-57) in chapter 5.

Even “lower adverbs” can “directly attach” to “nonspinals”. The following examples exhibit lower adverbs which are focus-sensitive.

- (58) For the fifth-straight year—and *already* [for the second time this season]—South Carolina will host a Thursday night ESPN game... (Zyman 2012: 79)
- (59) For some good reasons, but *still* [for many bad reasons]_F, Mia is a political independent. (Zyman 2012: 79)
- (60) On Mondays, and for some reason *always* [on Mondays]_F, Seth is in an incredibly foul mood all day. (Zyman 2012: 79).

The adverbs which cannot “directly attach” to nonspinals (nominals, AdjPs, AdvPs, PPs, or CPs) in Zyman’s sense cannot be associated with the focus of the sentence either. In the

following examples, from Zyman (2012: 79-80), the judgments are relativized to an interpretation on which the adverb takes the bracketed constituent under its scope.

- (61) a. *Zoe discussed *quickly* [DP herself].
 b. ?**Quickly* [AdjP victorious] though Zoe was, ...
 c. **Quickly* [AdvP ecstatically], Zoe began talking.
 d. **Quickly* [PP with great enthusiasm], Zoe greeted the guests.
 e. A: What did Zoe say?
 B: **Quickly* [CP that she didn't like it]. (Zyman 2012: 79)

For the following sentences, the judgments strictly refer to the retrospective meaning of *just*:

- (62) a. *Zoe discussed *just* [DP herself].
 b. **Just* [AdjP happy] though Zoe had been, ...
 c. **Just* [AdvP energetically], Zoe inexplicably became tired.
 d. **Just* [PP with a lot of energy], Zoe inexplicably became tired.
 e. A: What did Zoe say?
 B: **Just* [CP that she didn't like it]. (Zyman 2012: 79)
- (63) a. *Zoe will discuss well [DP herself].
 b. *{*Well* [AdjP intelligent] / Intelligent *well*} though Zoe is, ...
 c. *{*Well* [AdvP intelligently] / Intelligently *well*}, Zoe explained her proposal.
 d. *{*Well* [PP with skill] / With skill *well*}, Zoe repaired the hard drive.
 e. A: What will Zoe say?
 B1: **Well* [CP that she thinks our government should be reformed].
 B2: *[CP That she thinks our government should be reformed] *well*.

All in all, with the exception of the adverb classes given in (54) above, all adverbs of the Cinque hierarchy seem to be focus-sensitive, i.e., their interpretation can be associated with the focus of the sentence. In this sense, I am generalizing Kayne's theory of scope-assignment to all adverbs. Thus, in the case of the focusing adverbs, the displacements triggered for the assignment of scope have the special effect of assigning focus. The adverbs of (54), though not being focus-sensitive, will also be analyzed *à la* Kayne (1998), given that they have syntactic scope within the sentence. In the case of manner adverbs, for instance, their scope is the VP. Hence, one should also assume syntactic transformations to assign scope to them. In the next chapter, I will discuss the raising of V in the low zone of the clause. Most of the adverbs of (54) belong to that "zone". I will return to them in the next

chapter. I will postpone the discussion on focus-sensitive adverbs to chapter 5, as long as most of them are higher/sentential adverbs.

8. Conclusion

From the viewpoint of the Cinque Hierarchy, extending Kayne's (1998) analysis of scope assignment to adverbs has some interesting and positive consequences. That is, even in their focusing use, AdvPs are merged in the same (Cinquean) Specifiers. There is *no need to adjoin/directly attach* the highest AdvP to the FP it modifies (*contra* Zyman's 2012 "Direct Attachment Proposal", Ernst 2007, etc.) as we will see in chapter 5. Furthermore, as we will notice in the subsequent chapters, the very fact that a VP-preposing (remnant movement) operation takes place after the merger of the (scope-inducing) AdvP could explain some cases of apparent lack of relative ordering between two Cinque adverbs. The remnant contains an adverb which entered the derivation before the AdvP surfacing on its right.

Chapter 4

‘Lower’ Adverbs as Diagnostics for Verb Movement

“Para que se possam encontrar provas a favor ou contra o movimento do verbo, deve-se observar o comportamento dos advérbios de modo, gerados em adjunção a uma projeção de V.” (Galves 1994[2001]: 109)

The tradition in Generative Syntax, starting with Emonds (1978) and Pollock (1989), has taken AdvPs as diagnostics for the movement of (different) *V*-forms. Nevertheless, the assumption that the structure of the CP (Rizzi 1997) and the IP (Cinque 1999) domains are much more articulated than previously thought brings about an interesting question: how can AdvPs be taken as diagnostics for *V*-movement? In this chapter, I suggest that lower AdvPs are a bona fide test for verb movement in Romance and English, since *V* obligatorily moves (at least a little) in these languages (even in English – Cinque 1999: 33). Taking Cinque’s representation of the IP \bar{x} zone, I show that BP has *V*-movement which is limited to a medial position: *V*(*P*) cannot raise past *já* ‘already’, which sits in the left-edge of $T_{Anterior}P$. In European Portuguese and Italian, *V* can raise past *já*/*già* ‘already’. This may be due to the fact that *T* is weak in BP but not in EP (Cyrino 2011) and Italian for that matter.

1. Introduction

The idea that the Inflectional Phrase (IP) could be split into more functional projections, which traces back to Pollock’s (1989) seminal work, sets the stage for a more comprehensive understanding of the structure of the clause and its main phrases. In essence, Pollock’s paper

has shown that Chomsky's (1986) representation of the clausal skeleton—which assumed three layers, namely, VP, IP and CP—should be rethought. On the basis of the observation that in French, but not in English, V would leave the VP overtly (by looking at the interaction of V and AdvPs, V and Negative adverbs and V and Floating Quantifiers), Pollock proposes that Infl should be split into more functional projections, namely AgrP, NegP and TP.^{78,79} His cross-linguistic work showing the differences between English and French regarding the movement of different verbal forms was undoubtedly the kick-off for every work which readdressed and readdresses the question of verb raising.

Cinque (1999) makes an additional step by proposing that the Inflectional Phrase (once split in two FPs by Pollock) should actually be seen as a zone made of almost 40 FPs of distinct (Mood, Modal, Tense and Aspect) semantic import (see (1)).

(1) The Universal Hierarchy of Functional Projections within the IP (Cinque 1999:106, modified in Cinque 2006)

[*frankly* Mood_{SpeechAct} > [*luckily* Mood_{Evaluative} > [*allegedly* Mood_{Evidential} > [*probably* Mod_{Epistemic} > [*once* T_{Past} > [*then* T_{Future} > [*perhaps* Mood_{Irrealis} > [*necessarily* Mod_{Necessity} > [*possibly* Mod_{possibility} > [*usually* Asp_{Habitual} > [*finally* Asp_{Delayed} > [*tendentially* Asp_{Predispositional} > [*again* Asp_{Repetitive(I)} > [*often* Asp_{Frequentative(I)} > [*willingly* Mod_{Volition} > [*quickly* Asp_{Celerative(I)} > [*already* T_{Anterior} > [*no longer* Asp_{Terminative} > [*still* Asp_{Continuative} > [*always* Asp_{Continuous} > [*just* Asp_{Retrospective} > [*soon* Asp_{Proximative} > [*briefly* Asp_{Durative} > [(?) Asp_{Generic/Progressive} > [*almost* Asp_{Prospective} > [*suddenly* Asp_{Inceptive} > [*obligatorily* Mod_{Obligation} > [*in vain* Asp_{Frustrative} > [(?) Asp_{Conative} > [*completely* Asp_{SgCompletive(I)} > [*tutto* Asp_{PlCompletive} > [*well* Voice > [*early* Asp_{Celerative(II)} > [? Asp_{Inceptive(II)} > [*again* Asp_{Repetitive(II)} > [*often* Asp_{Frequentative(II)} > ...

⁷⁸ Belletti (1990), on the basis of the Mirror Principle (Baker 1985), suggests that the order of the Infl projections would actually be AgrP > TP, given the belief that the verb would first move to T to pick up the MTA (i.e. Mood/Mode, Tense and Aspect) morphology and then V-T would move and adjoin to Agr^o, to pick up the agreement morphology. Belletti's idea is the one adopted in Chomsky (1991).

⁷⁹ As shown in chapter 2, there are interesting works on V-movement in Portuguese which reflect the development of the Generative Theory, especially in the nineties. See, for instance, Galves (1993, 1994[2001]), Figueiredo Silva (1996) and Cyrino (2011) on verbal movement in Brazilian Portuguese. See also Ambar (1989), Gonzaga (1997) and Costa (2000, 2004) on V-movement in European Portuguese. For a comparative view on these two varieties of Portuguese, see Modesto (2000, section 1.6), Brito (2001), Ambar, Negrão and Gonzaga (2004), Negrão, Ambar and Gonzaga (fc.), Cyrino (2011), a.o. The unifying feature of these analyses, as suggested in chapter 2, independent of the structure of the clause assumed by each author, could perhaps be reduced to the belief that the V raises more in European Portuguese than in Brazilian Portuguese. Costa & Galves (2002) argue that there is no difference in V-movement in these two languages. Some authors, e.g. Galves (1993, 1994), attribute the loss of Verbal Movement in Brazilian Portuguese to the weakening of the inflectional verbal paradigm (Duarte 1995, 2000, 2002) in this language which would be one property of a cluster of morphosyntactic properties due to the loss of second person pronouns in the grammar of BP.

The assumption of such a richly articulated structure for the IP coupled with the belief that nothing enters the derivation to the right of the lexical V—Cinque’s left-right asymmetry (chapter 2, § 5)—raises two interesting questions for theory of Syntax:

- (i) how should verb movement be approached?
- (ii) how could the issue of cross-linguistic variation be accounted for?

These questions have received particular attention within the Cartography Framework, after Cinque’s (1999) work (e.g. Vecchiato 2001; Cinque 2004; Fedele 2010; Laenzlinger 2002, 2005, 2011; Ledgeway & Lombardi 2005; Laenzlinger & Soare 2005a,b; Roberts 2010; Garzonio & Poletto 2011; Zyman 2012, a.o.). (i) and (ii) are very special questions for the Cartography Approach, given the fact that, as Laenzlinger (2011) and Poletto (2012 [class lectures]) pointed out, one of the fundamental assumptions of this framework is the belief that, within the IP zone, adverbs match functional heads in number, relative order and semantic content (Cinque 1999). This would explain why verb movement and crosslinguistic variation have received this special attention within Cartography.

One recent theoretical debate in Generative Grammar has been triggered by Chomsky’s (2001) contention that head-movement should no longer be considered to belong to Narrow-Syntax but rather to PF. The debate has only peppered the discussion which had already been the object of a previous debate (e.g. Mahajan 2000, Koopman & Szabolcsi 2000, a.o.). Many works have already been developed, assuming the idea that head-movement should be reduced to phrasal-movement (see, for instance, Koopman & Szabolcsi 2000; Cinque 2005, 2010a,b, 2013, *f.a.*; and Kayne 2005). Thus, question (i) found above should still be worked out under these current considerations regarding the role of phrasal movements. Another point which still deserves investigation concerns the role of higher adverbs as diagnostics (or not) for Verb raising due to their puzzling distribution. But the discussion of this latter issue is postponed until chapter 5.

Since the paper revisits the issue of V-movement assuming Cinque’s Cartography, it is also concerned with the syntax of AdvPs. Post-Pollockian works have traditionally taken AdvPs as diagnostics for the movement of (different) V-forms. However, the observation that distinct V-forms behave differently with respect to obligatory and ‘optional’⁸⁰ movements in

⁸⁰ Optionality is not a useful idea for both Minimalism and Cartography. In fact, it must be avoided in any formal theory (Cecilia Poletto, 2012, *class lectures*). Chomsky (1995) and Kayne (2008) had already claimed that optionality has no place in a theory of UG. Section 3 of this chapter and section 3 and 4 of

the clausal structure (Belletti 1990, Cinque 1999) brings to light another interesting question: are AdvPs reliable diagnostics for V-movement? In the present chapter, I attempt to answer this question.

It will be argued that the lowest lower adverbs are reliable diagnostics for V raising given the fact that, though the assignment of scope to them implies the raising of the “VP” to the Spec of the probing head associated with them—*à la* Kayne (1998), see previous chapter—, the very fact that the V must still move past them after their Merge implies that they are reliable diagnostics. Generalizing Kayne’s treatment of scope-inducing elements to all adverbs is not incompatible with Cinque’s (1999) claim that V obligatorily raises past some (lower) projection(s) in Romance and English (see section 2.1). This occurs because, after being attracted to the Spec of the probing head associated with the adverb, the VP or the chunk containing it still moves past the adverb before the raising of the remnant.

The chapter is organized as follows. Section 2 investigates the obligatory movement of the VP through the lowest projections of the IP space (§ 2.1) and what looks like ‘optional’ raisings of V (§ 2.2). Section 3 investigates the distribution of medial adverbs with respect to the predicate. Section 4 revisits the debate on the impoverishment of the inflectional verbal paradigm in BP and tentatively suggests that it is the fact that T is weak in BP (Cyrino 2011) that could explain why V raises at most up to a medial projection in BP. In section 5, I briefly discuss another ‘diagnostic’ for V raising, namely, the phenomenon of VP-ellipsis, which takes place both in Brazilian and European Portuguese and is associated with V-to-I raising. Section 6 presents a few conclusions on the subject. I have attached an appendix to this chapter, which discusses the distribution and interpretation of the adverb *sempre* in Portuguese.

I am assuming, as explicitly stated in the introduction and previous chapters, that only phrasal-movements play a role in a theory of UG. Thus, when I refer to V-raising and V-to-I raising (unless explicitly stated), I have phrasal-movements of V in mind, i.e. movement of the projection it heads (namely, the VP) or of a chunk containing it, in case it pied-pipes the object, circumstantial phrases and (some) lower adverbs.

2. On VP movement in the ‘Lower zone’ of the clause

chapter 5 attempt to show that what looks like *optional* movements of V among the AdvPs placed in Spec

2.1. On the ‘obligatory’ raising of V

As mentioned in Chapter 2, I assume Cinque’s (2005, 2009a,b, 2010a,b, 2013, *f.c.*) ‘left-right asymmetry’, according to which *nothing* enters the derivation to the right of the lexical head in the extended projection of the Verb, the same being valid for the extended projection of the N (cfr. also Kayne 2008). Thus, not only Circumstantial-DPs (locative and temporal adjuncts) and adverbs merge *to the left of the VP*; arguments of V also merge above it (see fig. 4.1 below and see sections 5 and 6 of chapter 2). The ultimate position of Circumstantials is the result of movement, which may give us the illusion that they could freely adjoin (Cinque 2006, Schweikert 2005).

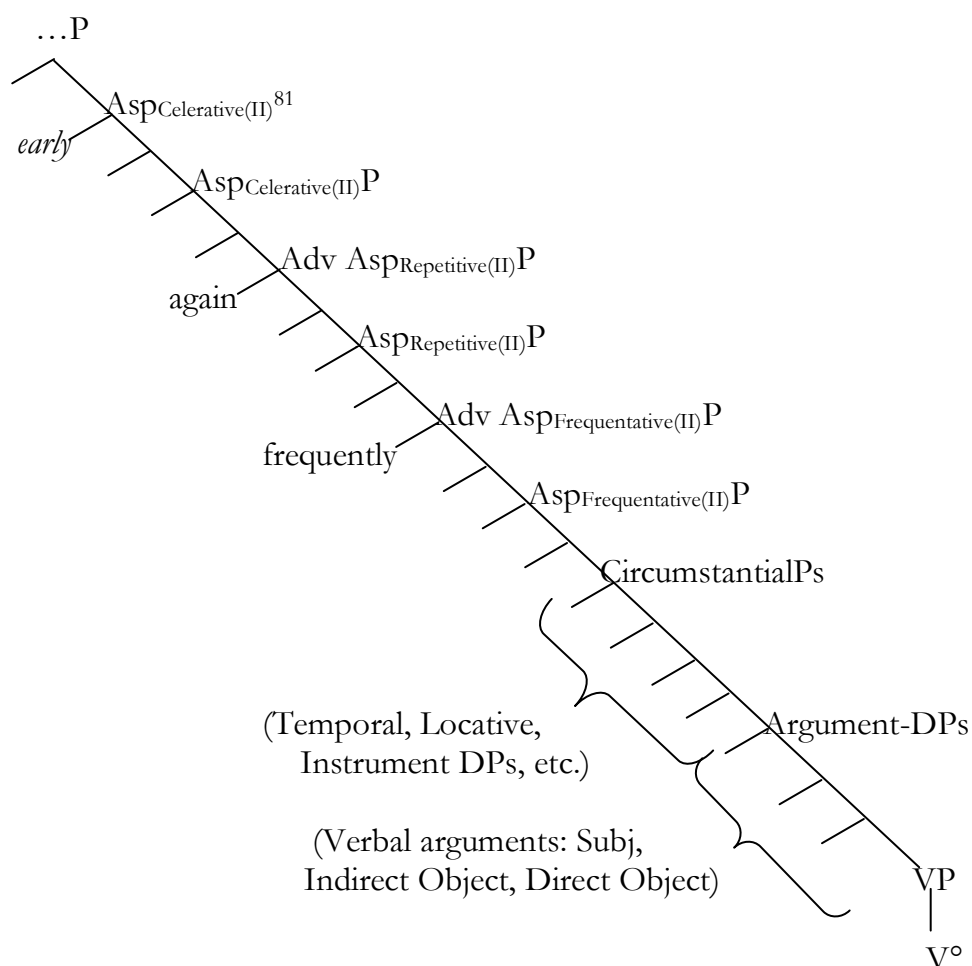


Fig. 4.1: The lower portion of the extended projection of V

positions in the IP space is very far from being optional.

⁸¹ Remember that I am assuming Cinque’s (2002: 9, fn.6; 2010b; 2011) suggestion that each FP of his (1999) monograph be split in two other FPs (Chapter 2, section 6). The functional head merges in the lowest projection. The upper head would license the AdvP in its Spec.

As we saw in chapter 2, section 6 (see also the discussion below), the first step in the derivation of a sentence involves—after the Merge of V and the Merge of the first argument in a Spec to its left—VP-movement (the VP contains only the V—see fig. 4.1) to the left of the first argument merged. In the case of a transitive sentence, this argument is the direct object. I will show that, once the VP moves to the left of the argument, it must pied-pipe it. This obligatory pied-piping can be seen in those sentences involving the lowest adverbs of the Cinque hierarchy (e.g. *early*), see below, which must also be pied-piped in a snowballing fashion.

Given the hierarchy below—from Cinque (2010b: 10) (see Chapter 2, § 6 for details)—,

- (2) $DP_{\text{time}} > DP_{\text{location}} > \dots > DP_{\text{instrument}} > \dots > DP_{\text{manner}} > \dots > DP_{\text{agent}} > DP_{\text{goal}} > DP_{\text{theme}} > V^{\circ}$

and Cinque’s *left-right* asymmetry (Cinque 2000, 2006, 2010, 2013, *f.c.*), sentence (3) would be derived by first merging the V, then the direct object (the theme, in this case), and then the agent.

- (3) O Mané come banana.
The Mané eats banana.
‘Mané eats banana’

Remember that each time an argument is merged in a Spec to the left of the VP, it is followed by VP raising to the next Specifier (to the left). The Merge of arguments is represented in the fig. below (4.2), which also illustrates the raising of the VP interspersing each argument sitting in its root-merging position. Once the arguments are merged, I assume, with Schweikert (2005) and Cinque (2006)—who follow Kayne (2000, 2005)—that an accusative Case-licensing head is merged and attracts the theme-DP *banana* to its Spec. Then, remnant-movement puts “V plus Agent-DP” to the left of the projection hosting the accusative-bearing DP *banana*.

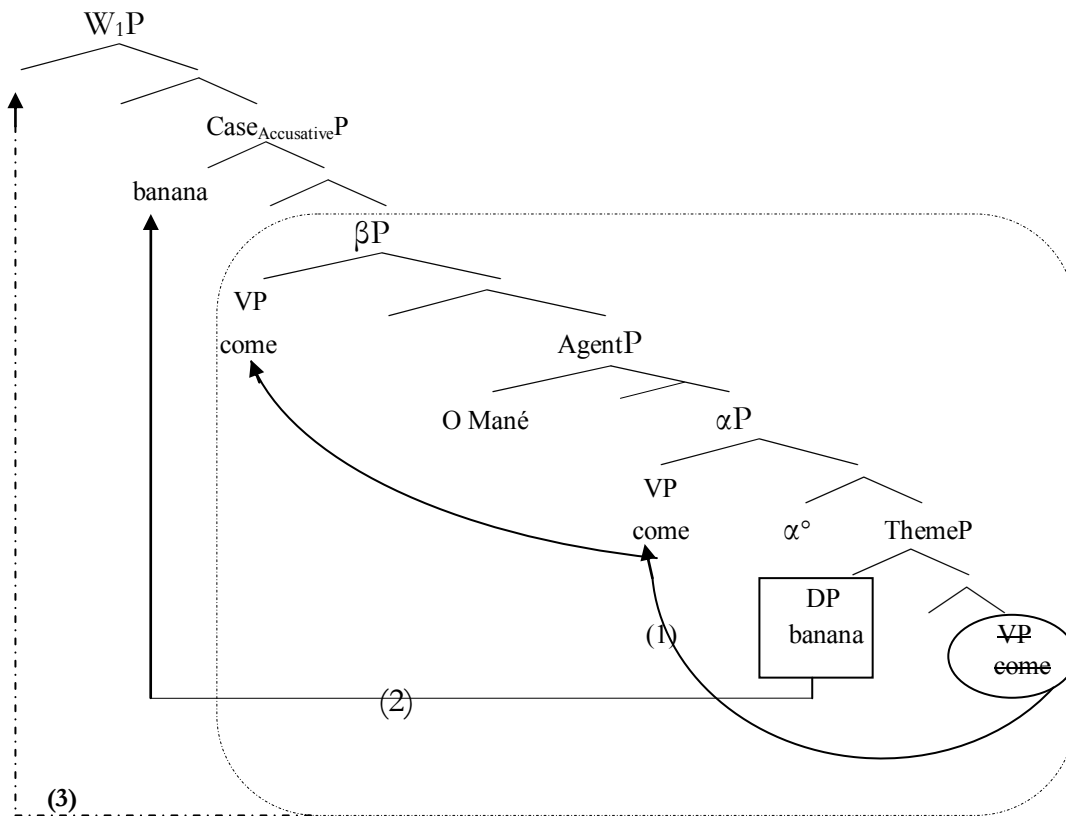


Fig. 4.2: The derivation of (3): The Merge of the arguments and VP-movement around them

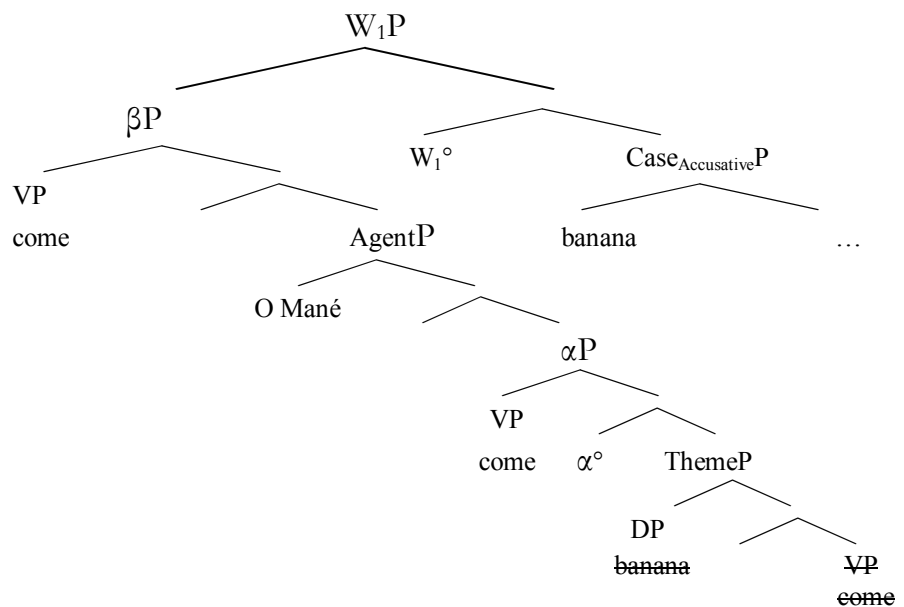


Fig. 4.3: The derivation of (3): movement of *banana* to check case and remnant-movement

Next, following Kayne (2005) on case-assignment/checking/matching, I assume that a nominative case-assigning head attracts the Agent-DP to its Spec, followed by remnant movement past it.

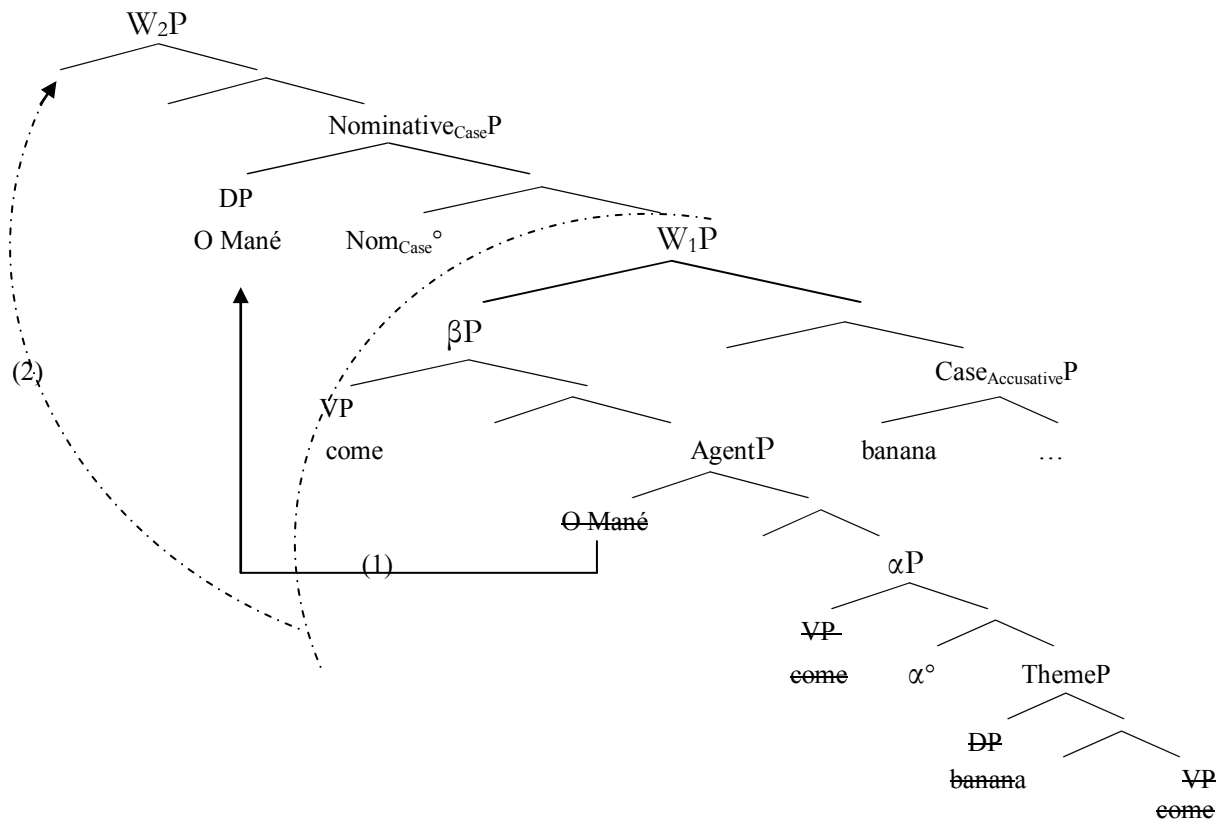


Fig. 4.4: The derivation of (3): movement of *O Mané* to check case and remnant movement

I assume that the V, on its movement, pied-pipes the object. Thus, they move together to check the V-features of each IP-related FP (see fig. below).

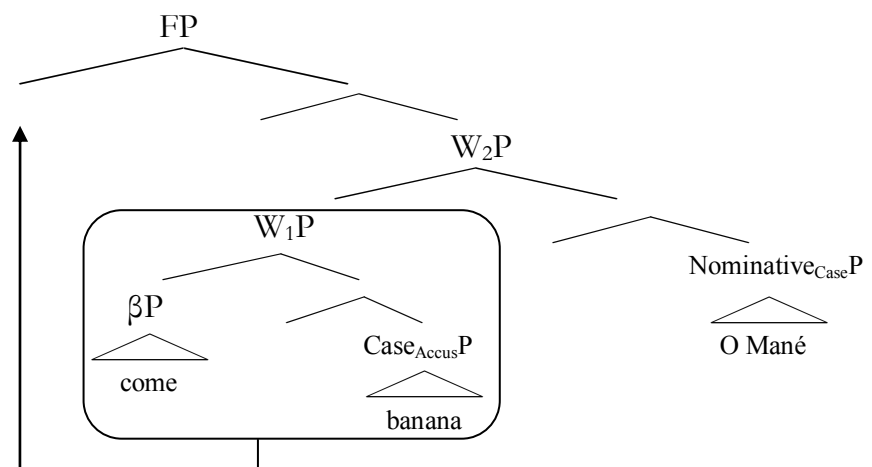


Fig. 4.5: The derivation of (3): movement of V plus object

In due time, the DP, which is the most embedded constituent, is extracted and moved to the specifier of [SubjP], to check the criterial features of that projection (Rizzi 2004b, 2007, 2010).

From this brief introduction, the relevant information is:

- nothing is merged to the right of V (Cinque's (1996, 2006, 2007, 2010b, 2013, *f.c.*) *left-right* asymmetry);
- arguments are merged in fixed positions to the left of the V(P);
- Kayne's (2000, 2005) system for Case checking/assignment/matching interacts with the Cinque Hierarchy. That is, after the Merge of the arguments, they move to dedicate positions to check Case. See the suggestions made in chapter 2 that these positions for Case-assignment/checking are necessarily lower in the clause (§ 7 of chapter 2).

Before proceeding to investigate the issue of V raising in BP, let me make a brief comment on the fact that some aspectual adverbs can be merged in two distinct positions. Cinque (1999, 2004) suggests that there are two quantificational zones for some aspectual adverbs, the highest quantifying over the event, the lowest over the process. For this reason, some FPs of the Cinque hierarchy appear twice, necessarily with some difference in interpretation (in terms of scope). This amounts to saying that the same lexical item can be merged in two distinct—though semantically related—functional projections. As suggested in Cinque (1999, 2004), some items can be merged only in one of the two projections, though. This is the case of *solitamente* 'usually' which can appear only in the highest $Asp_{\text{Habitual}}P$. The same is true of BP. Thus, to investigate the height that the V can reach in this language, it is important to make sure that we are playing with the right adverb. This is shown below for $Asp_{\text{Frequentative}}$, which, according to Cinque (1999), is 'generable' in two quantificational zones. Therefore, there would be two projections for *frequentative adverbs* which he calls $Asp_{\text{Frequentative(I)}}P$ and $Asp_{\text{Frequentative(II)}}P$, the former—which is higher in the hierarchy than the latter—specialized for quantification over events; the latter, for quantification over the process.

(4b-5b) shows that the PP *com frequência* 'frequently' can only be merged in the lowest position reserved for the frequentative aspect, i.e. the one Cinque (1999) calls $Asp_{\text{Frequentative(II)}}P$, the lowest FP of his (1999) hierarchy. Instead, *frequentemente* 'frequently' can be merged in both positions (see (4a,5a)). For more, see § 3 below. Also, see § 4 of chapter 5 and Cinque 1999: 19ff; 169,n. 12; 1881,n. 89; 204,n. 36; Cinque 2004: 609ff.; as well as Ernst 2007: 1011.

- (4) a. A Mara limpa a casa frequentemente.
The Mara cleans the house frequently
'Mara cleans the house frequently'
- b. A Mara limpa a casa com frequência.
The Mara cleans the house with frequency
'Mara cleans the house frequently'
- (5) a. A Mara frequentemente limpa a casa.
The Mara frequently cleans the house
'Mara frequently cleans the house'
- b. */??A Mara com frequência limpa a casa.
The Mara with frequency cleans the house
'Mara frequently cleans the house.'

The highest position, i.e. $Asp_{\text{Frequentative(I)}}P$ quantifies over the event, whereas the lowest, $Asp_{\text{Frequentative(II)}}P$, quantifies over the process (Cinque 1999: 19ff; 169,n. 12; 1881,n. 89; 204,n. 36; Cinque 2004: 609ff.; Ernst 2007: 1011; see also chapter 5, § 4 of this dissertation). The fact that both positions can be filled is convincing evidence for the contention that both positions are needed and are not related transformationally. The fact that both are filled cannot be a consequence of movement of the adverb from one position to the other, otherwise the different interpretations in terms of scope should not be expected.

- (6) A Mara frequentemente limpa a casa com frequência.
The Mara frequently cleans the house with frequency
'Mara often cleans the house frequently'.

Let us force a context where the contribution of each frequentative adverb in (6) is available. Let us suppose that Medina is Mara's friend. Whenever he goes to Mara's, he realizes that the house has just been cleaned (because both the house and, surprisingly, Mara are smelling of floor cleaner). The quantification over the process use of *frequentemente* in (6) is given by the leftmost adverb in this sentence and can be related to the number of visits in which Medina finds both Mara and the house smelling of floor cleaner. Let us suppose now that not only does Mara clean her house but is also addicted to it. Thus, it happens that during each single visiting event, Medina witnesses Mara cleaning the floor again and again, cleaning the kitchen most times, cleaning the toilet more than once a day, and so on. Mara does not actually stop

doing housework. It corresponds to the quantification over the process reading and is given, in sentence (6) by *com frequência*, i.e. the frequentative adverb which appears to the right in (6). Thus, it is possible to think of a situation where Medina, during a certain period, for example, month, has noticed the everrepeating event (i.e. many times in a month) of Mara cleaning her house more than once a day. Were these two interpretations related transformationally, say, by moving the adverb from the quantification-over-the-process position to the quantification-over-the-event one, such differences should not be expected (G. Cinque, p.c.). Thus, the way to achieve them is by merging the adverb in these two distinct positions.⁸²

In English, there seems to be a specialization for one form of the adverb of frequency as well. Laenzlinger (2011: 39) reports a contrast between the frequency adverbs *frequently* and *often*, in that the former, but not the latter, can appear sentence-finally in English:

(7) John read/has read this book [?]often/^{ok}frequently. (Laenzlinger 2011: 39)

In (8) and (9) the same is occurring for the repetitive adverb *de novo/novamente* ‘again’. Only the “synthetic” form can appear in the highest and in the lowest $\text{Asp}_{\text{Repetitive}}$ position. The repetitive PP can only appear in the lowest position (cfr. (8a,9a)). The synthetic form is possible in both, i.e., either in the highest (and/) or the lowest position (cfr. (8b, 9b)).

(8) a. O Eduardo limpou a casa de novo.⁸³

⁸² Alternatively, one could think that adverbs do follow the Cinque hierarchy, as far as their relative order is concerned, but are not directly externally-merged in the IP-related projections that Cinque (1999) identified as the positions they first-merge, as suggested by Richard Kayne, in a talk given in Venice (Summer 2012). Thus, they would be externally-merged to the immediate left of the νP and their (ultimate) position in the IP would be a derived one. Relativized Minimality would ensure that the order of Merge of the adverbs would be preserved. A similar approach is suggested in Cinque (2006) and Schweikert (2005) for circumstantial (manner, time, locative, instrumental, etc.) DPs. If the same approach should be extended to adverbs, following the suggestion made by Kayne, the present discussion in the text (as well as the other facts investigated in this dissertation) should not be affected, I think. The only thing to be worked out, in this case, is the amount of transformations which would be increasingly bigger.

⁸³ Thinking of the preceding footnote, the adverbials *de novo* ‘again’ in (8-9) and *com frequência* ‘frequently’ (5-6), which are PPs, could actually illustrate Kayne’s belief that adverbs are not directly merged in the Specifier of IP-related functional heads, but come to occupy those positions transformationally. One could extend Cinque’s (2006) treatment of circumstantial DPs to AdvPs. AdvPs would merge, following the Cinque hierarchy, to the left of the VP, so that their IP position would be a derived one. If Cinque’s conjecture on the left-right asymmetry (Cinque 1996, 2005, 2006, 2010a,b, 2013, *f.c.*) is on the right track, the V would be the first to merge, followed by the arguments (which would merge in dedicated specifier positions to the left), circumstantial DPs (i.e., locative, temporal, benefactive,

- The Eduardo cleaned the house again
‘Eduardo did housework again’
- b. O Eduardo limpou a casa novamente.
The Eduardo cleaned the house again
- (9) a. *O Eduardo de novo limpou a casa.⁸⁴
The Eduardo again cleaned the house
‘Eduardo did housework again’
- b. O Eduardo novamente limpou a casa.
The Eduardo again cleaned the house

Having shown this double merging source for some aspectual adverbs—to which I will still return in section 3 of this chapter and also in section 4 of the next chapter—, we can discuss the issue of V movement among the functional projections of the IP space.

Like the other Romance languages, BP has obligatory movements of the V(P) to the Spec of a lower FP within the IP. By comparing V raising in BP and in Italian, the V *preferably* raises more in the latter language—at least in Northern varieties of Standard Italian (Garzonio & Poletto 2011)—, i.e. V is generally found to the left of *mica* and all AdvPs following it (Cinque 1999: 152). However, the V *must* raise less in Italian: in the obligatory case, it has to raise to the left of *tutto* ‘all’, except in passives. In BP, it must raise to the left of *completamente* (‘completely_(t)’), independent of the V form—except in passives to which I will return to later. The following sentences illustrate this with the data from BP:

- (10) a. *O João completamente acabou seu trabalho. (BP)
The J. completely finished his work.
‘J. completely finished his work.’
- a’. *O J. completamente seu trabalho acabou.
The J. completely his work finished (= a)
- b. O João acabou completamente o seu trabalho.
the J. finished completely the his work (a,b from Galves 1994[2001: 109])
- c. O João acabou o seu trabalho completamente.
The J. finished the his work completely.
- (11) a. O João (*tudo) fez (tudo) com paciência.
The J. (all) did (all) patiently.
‘J. did all the homework patiently.’ (As_{PP}Completeive)
- b. O João (*fluentemente) fala (fluentemente) francês (fluentemente).

instrument, etc.) and the adverbs. The appearance of AdvPs in the IP would be the result of the attraction of the constituent under their scope, followed by their movement and remnant movement past them. In the case of adverbial PPs, after their attraction, a P would merge above, in the next head, attracting the remnant to its Spec.

⁸⁴ (9a) is only acceptable if *de novo* ‘again’ bears focus stress.

- The J. fluently speaks fluently French (fluently).
 ‘J. speaks French fluently’ (Voice)
- c. O João (*cedo) acordou (cedo).
 The J. early got up early. (Asp_{Celerative(II)})
 ‘J. got up early.’

The BP data shown in (10) would suggest that the V must raise to the left of *completamente* (‘completely’), its relative position with respect to the object not being the reason for the ungrammaticality of (10a) (cfr. (10a’)).⁸⁵ (11) shows that all AdvPs following *completamente* generate ungrammatical sentences if the V has not moved past them.

In Italian, as reported in Cinque (1999: 214, endnote 7; 228, endnote 16), there is an obligatory movement of the finite V(P) to the left of *tutto* ‘all’ and *bene* ‘well’ with finite Vs:

- (12) *Italian* (from Cinque 1999: 214)
- a. *Maria presto si alzava ogni mattina.
 M. early would get up every morning.
 ‘M. would get up early every morning.’
- b. *Maria bene fece tutti i compiti.
 M. well did all the homework
 ‘M. did well her homework.’
- c. ?Maria completamente distrusse tutto quello che aveva fatto fino ad allora.
 M. completely destroyed all that that have.2S.IMP done till then
 ‘M. completely destroyed all that she had done till then.’

⁸⁵ In fact, the position of the object relative to the V, as shown by the data given in (10b), would only tell us that the object checks Accusative Case in a very low position in the structure, since the movement of the object is not a necessary condition for the grammaticality of the sentence. What is at stake in the text is the movement of the V past *completamente* ‘completely’. Nonetheless, more data involving adverbs lower than *completamente* would indeed helpfully suggest that the object checks Accusative case probably in a left-edge position of the “*vP* phase” but not in the ‘IP space’:

- (i) a. O João fez cuidadosamente a lição.
 The J. did carefully the homework.
 (‘J. did the homework carefully’)
- b. O João fez CEDO(CEDINHO) a lição.
 The J. did early (very early) the lesson
 (‘J. did early the lesson’)

If the Object checks case as in Cinque (2006, chapter 6), which is based on Kayne’s (2000, 2005) work, the set of two Kaynean-like FPs—the lowest having a head to check accusative case; the highest, a head to receive the remnant material in its Spec—should be integrated in Belletti’s (2004) ‘low-IP area’ (for further discussion, see chapter 2, section 7).

Judging from Laenzlinger (2004: 214), similar observations should be extended to French. In that language, lower AdvPs can also be followed by the object. This seems to suggest that the “Accusative Phrase” receiving the object should be merged before Cinque’s lowest IP-related FP (i.e., Asp_{Completive(II)P}).

The data in (10-11) shows the obligatory raising of the V to the left of some lower adverbs of the Cinque hierarchy. The idea is that in BP the AdvPs found to the right of *completamente* ‘completely₍₀₎’ (this one included) must be crossed over by the V(P). In Italian, the finite V has to cross over all AdvPs following *bene* ‘well’, i.e. it obligatorily raises but a little less.

I will go back to the important issue of V movement among the lowest projections of the Cinque hierarchy below. I will show, following a suggestion by G. Cinque (p.c.), that for some of the lowest projections of his hierarchy, V-movement pied-piping them (and V complements) in the *whose-pictures* type seems to be the norm. Hence, the data given in (10-12) has the important role of showing that there is verbal movement in BP (and Italian), as already known since Belletti (1990), for Italian, and Galves (1993, 1994) for BP.

As far as the other verbal forms are concerned, in BP there seems to be no variation with regard to obligatory V raising, the only exception being the passive past participle, which has to raise to [Spec, Voice], but not necessarily any higher. As a consequence, manner adverbs (which Cinque 1999 takes to occupy the specifier of Voice) do not need to be crossed over by the passive past participle. The same behavior is reported for the passive past participle in Italian (cfr. Cinque 1999: 147).

- (13) a. Meu trabalho foi cuidadosamente cumprido.
 My job was carefully done
 ‘My job was done carefully.’
 b. Meu trabalho foi cumprido cuidadosamente.
 My job was done carefully
- (14) *Italian* (Cinque 1999: 147)
 a. (?)Per fortuna, è stato tutto bene arrangiato.
 Luckily, is been everything well arranged
 ‘Luckily, everything has been well arranged.’
 b. Per fortuna, è stato tutto arrangiato bene.
 Luckily, has been everything arranged well.
 c. Per fortuna, è stato arrangiato tutto bene.
 Luckily, has been arranged everything well.

In assuming the Cinque hierarchy, one expects the existence of cross-linguistic variation regarding the landing site for the movement of V forms (among different positions in his hierarchy). A competitive analysis assuming adjunction to vP/TP, for example, could not

reach this result so naturally. It should turn to *ad hoc* solutions (see Cinque 1999, chapter 2). Moreover, as suggested to me by G. Cinque (p.c.) (see also Cinque 2004), no semantic difference seems to be detected with regard to, for instance, the obligatory raising of the active past participle which must move to the left of *tutto* ‘all’ in Italian, but not in French. In BP, it has to raise to the left of *completamente* ‘completely’. Once again, no semantic difference is detected as far as the obligatory movement of the active past participle is concerned in these three varieties.

Now, assuming that the arguments of V, circumstantial complements and adjuncts as well as AdvPs are all merged to the left of the VP according to Cinque’s *left-right asymmetry*, one should wonder if the appearance of the lowest lower adverbs (see (15)) to the right of V plus complement(s) is due to snowballing movements which have the effect of reversing the order of these elements in the hierarchies.

- (15) ... [*suddenly* Asp_{Inceptive} > [*obligatorily* Mod_{Obligation} > [*in vain* Asp_{Frustrative} > [(?) Asp_{Conative} > [*completely* Asp_{SgCompletive(I)} > [*tutto* Asp_{PlCompletive} > [*well* Voice > [*early* Asp_{Celerative(II)} > [(?) Asp_{Inceptive(II)} > [*again* Asp_{Repetitive(II)} > [*often* Asp_{Frequentative(II)} > ...

Thinking of the lowest adverb of the Cinque hierarchy, i.e. the frequentative AdvP quantifying over the process, if the V pied-pipes its “internal” argument—which is merged to its left (see fig. 3.6)—, it must pied-pipe the frequentative adverb (see 16). For the remainder of this chapter, I will gloss over the movements of the verb arguments for Case reasons (see chapter 2, § 7 for more details).

- (16) a. O José come banana com frequência. (Asp_{Frequentative(II)})
 J. eats banana with frequency
 ‘José eats banana frequently.’
 b. */??O José come com frequência banana.
 The J. eats with frequency banana
 c. ^{OK}O José come, com frequência, banana.
 The José eats, with frequency, banana

The (c) sentence in (16) cannot be used out-of-the blue. This is noticed by its rejection as an answer to (16’):

- (16) A: - O que aconteceu?
 What happened
- (16') a. ^{OK}O José come banana com frequência. (Asp_{Frequentative(II)})
 J. eats banana with frequency
 'José eats banana frequently.'
 b. *O José come com frequência banana.
 c. #O José come, com frequência, banana.

(16'a) suggests that the frequentative adverb must be pied-piped in case the V pied-pipes the object. Fig. 4.6, see below, helps us to understand what is going on in the derivation of (16a). First, the V merges, projecting the VP. The object merges to the left. VP moves past the object (I am indicating this step as “(1)” in fig. 4.6). The subject merges in the sequence. VP plus object moves to the left of the subject (step “(2)”). Remember, from the previous chapter, that I am generalizing Kayne’s (1998) treatment of *only* to all adverbs, given the fact that, being modifiers, they are also scope-inducing elements. Hence, each time an adverb is merged, an associated probing head is merged before, attracting the XP under the scope of the adverb to the Spec of that probing head. In fig. 4.6, this movement to the Spec of the probing head is referred to as “(3)”. The adverb merges above in the sequence and, before the movement of the remnant, the chunk “VP+object” moves again, this time past the frequentative adverb, i.e. to [Spec, Asp_{Repetitive(II)}P]⁸⁶ (step “(4)”).⁸⁷ Remnant-movement (step “(5)”) places the subject to the left of the VP+object (see fig. 4.7).

⁸⁶ The V+object must raise past some of the lowest ‘lower adverbs’ (celerative_(II), inceptive_(II), repetitive_(II), frequentative_(II), completive_(II)) even after being attracted to the specifier of the probing head associated with the AdvP. This movement is independent of the Kaynean transformations for scope-assignment. It actually corresponds to the obligatory movements of V past some lower adverbs (Cinque 1999, chapter 1 and appendix 1). Remember that we are assuming with Cinque (2010b, *f.c.*) that each FP of his 1999 monograph should actually be split in two other FPS (see section 6 of chapter 2), the one on the bottom headed by the functional head and the one on the top headed by another silent head licensing the adverb in its Spec. Now, we could say that the chunk V+object would actually move to the specifier of the next functional head (in a bottom up fashion) in the hierarchy. Thus, in the case of (16a), since the VP+object chunk must raise past the frequentative_(II) adverb, it moves to the specifier of Asp_{Repetitive(II)}^o, which is the head merged in the sequence.

⁸⁷ The fact that verb raising is an obligatory operation in Romance (and even in English, at least past some projections of the lowest zone (Cinque 1999: 33)) would justify this further raising which would be in (apparent) violation of ‘Criterial Freezing’ (Rizzi 2004b, 2007, 2010), given that this chunk will have already checked criterial features in the specifier of the probing head associated with *com frequência*.

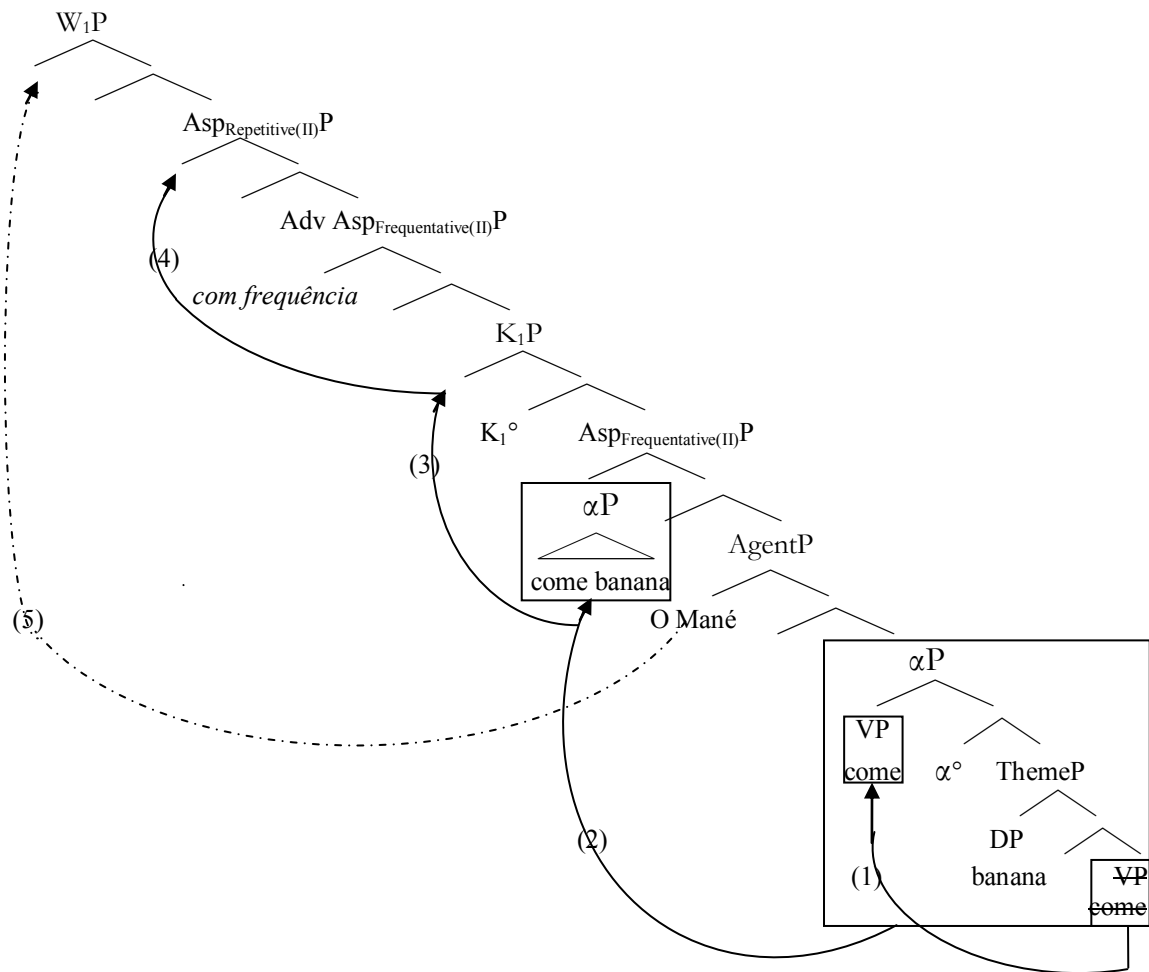


Fig. 4.6: The derivation of (16a)

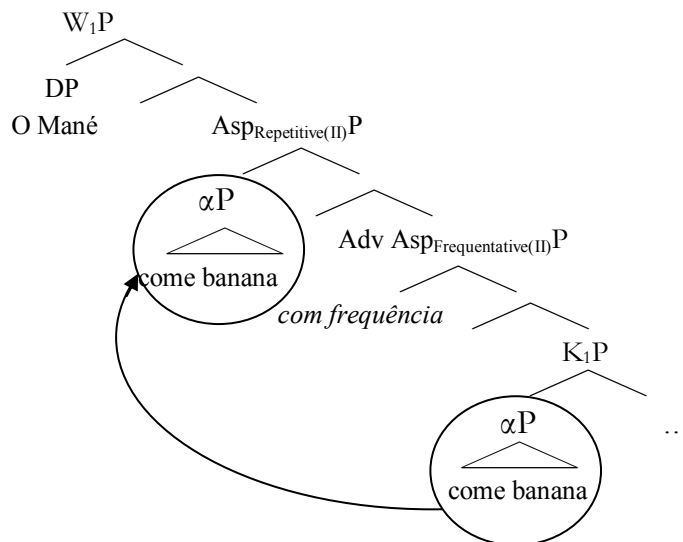


Fig. 4.7: The derivation of (16a) after the raising of the remnant

Once the V pied-pipes the object, the lowest adverb (*com frequência*), if present in the numeration, must also be pied-piped in the *whose-pictures* type of pied-piping. This is suggested

by the fact that the process-related frequentative adverb *com frequência* cannot be found between the V and the object (see (16b), repeated below for convenience), unless prosodically marked (16c).

- (16) b. ^{*/??}O José come com frequência banana. (Asp_{Frequentative(II)})
 The José eats with frequency banana
 ‘José eats banana frequently’
 c. O José come, com frequência, banana.

The same is true of the repetitive adverb *de novo* ‘again’ (see 17).

- (17) a. O José comeu o bolo *de novo*. (Asp_{Repetitive(II)})
 J. ate the cake again
 ‘J. ate the cake again’
 b. ^{*/??}O José comeu *de novo* o bolo.
 J. ate again the cake
 ‘J. ate the cake again’
 c. O José comeu *DE NOVO* o bolo. (with focus on *de novo*)
 J. ate the cake again
 ‘J. ate the cake again’

(17) suggests that, if *de novo* does not bear focus when appearing to the immediate right of *comeu* ‘ate’ (17c), it has to be pied-piped by V (17a), otherwise the sentence is ungrammatical (17b). In (17a), *de novo* ‘again’ is the most embedded constituent. As a result, it bears focus stress *by default* (see Cinque 1993; Cinque 1999: 14).

If we play with the two lowest adverbs of the Cinque hierarchy, namely, Asp_{Repetitive(II)} and Asp_{Frequentative(II)} in a transitive sentence, once the verb pied-pipes the object, it has to pied-pipe the lowest adverbs as well. Thus, (18a), which has the order V – Object – *com frequência* — *outra vez/de novo*, represents the unmarked order. It obtains through V-movement pied-piping the object and then *com frequência* (Asp_{Frequentative(II)}) in the *whose-pictures* mode, reversing the order that the object and the adverb entered the derivation. Subsequently, roll-up raising of V carries along the object and the frequentative adverb past *outra vez/de novo* ‘again’ (Asp_{Repetitive(II)}). These roll-up movements have the effect of reversing the order that the elements entered the derivation.

- (18) a. O Mané tem vomitado sangue com frequência outra vez/de novo.
 Mané has vomited blood with frequency again
 ‘Mané has again been vomiting blood frequently’

The derivation of (18a) is represented in fig. 4.8. First, as in the derivation of the preceding sentence, after the Merge of the object, the VP moves past it (step 1). Next, the subject merges and the “VP plus object” chunk moves to the Spec above it (step 2). Then, the probing head associated with the frequentative_(II) adverb attracts the VP+object to its Spec (step 3). The frequentative adverb is merged in the sequence and the VP+object (“ α P” in fig. 4.8) raises past it, as V movement past the lower frequentative adverb is obligatory in BP (step 4). Remnant movement puts the ‘agent’-DP to the left (step 5).

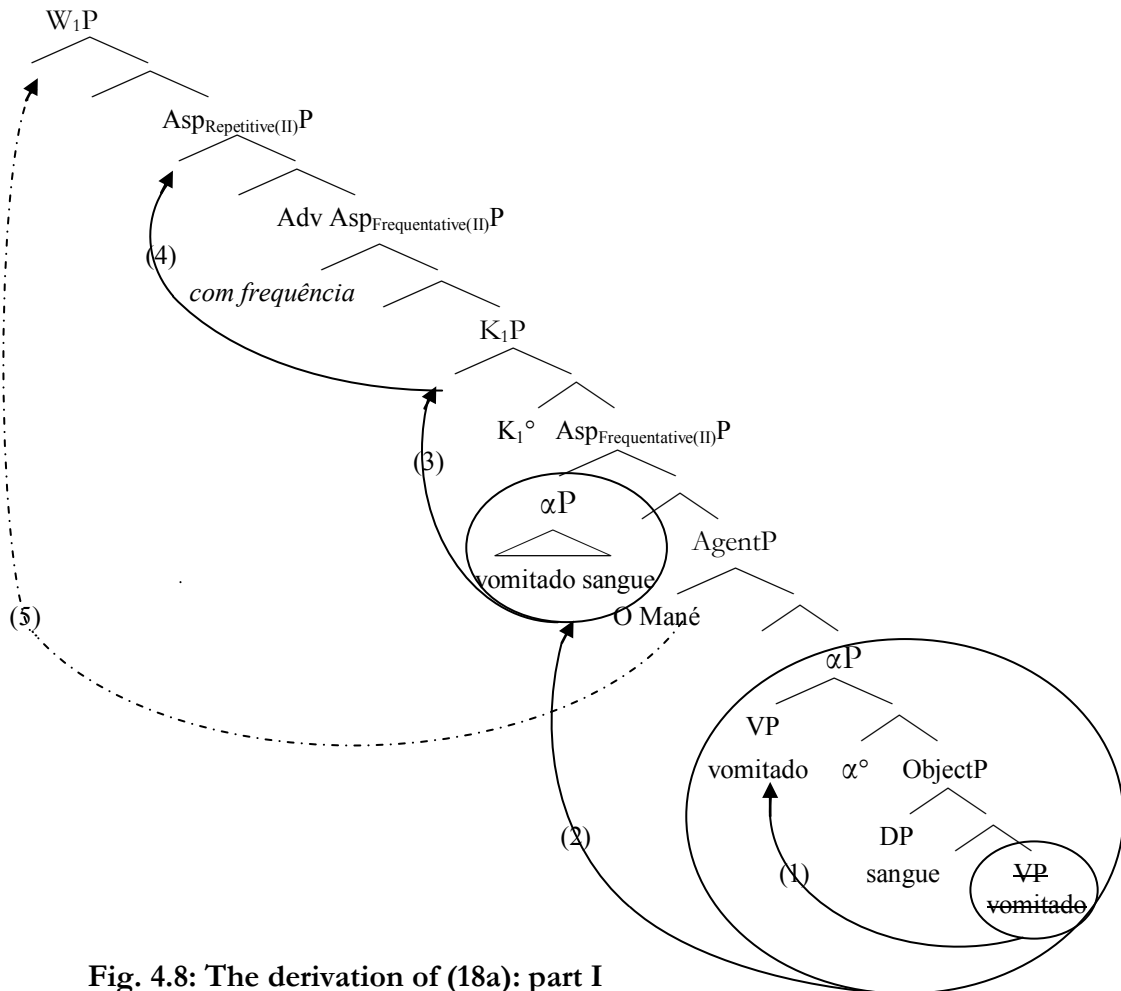


Fig. 4.8: The derivation of (18a): part I

Afterward, the probing head associated with the repetitive_(II) adverb *de novo* ‘again’ attracts the chunk formed by VP plus object plus the frequentative adverb. The adverb *de novo* merges

above. The chunk raises past it, as V movement past *de novo* is also mandatory. Finally, remnant movement puts *o Mané* to the left.

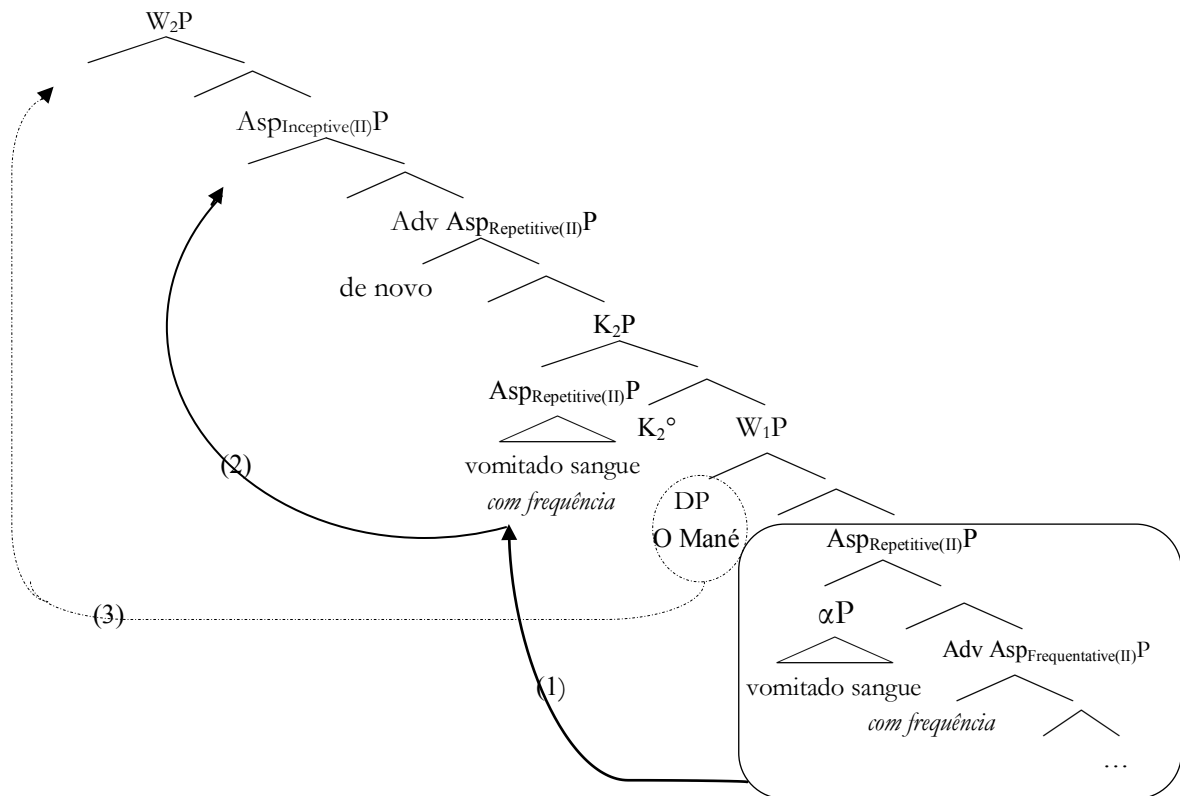


Fig. 4.9: The derivation of (18a): part II

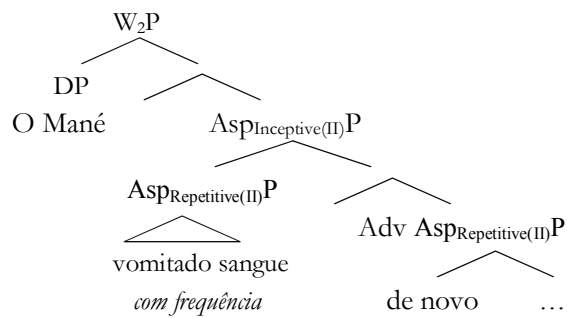


Fig. 4.10: The derivation of (18a): part III

Snowballing movements carrying along the two adverbs are necessary in (18a). This is suggested by the deviance of (18b).

- (18) b. **/??O Mané tem vomitado sangue outra vez/de novo com frequência.*
 Mané has vomited blood again often
 ‘Mané has vomited blood often again’

There is no derivation which would produce (18b). After having pied-piped the object, the V has not pied-piped the Asp_{Frequentative(II)} adverb *com frequência*. Since pied-piping of *com frequência* is obligatory, (18b) is ruled out.

If the numeration has, in addition to the arguments of V, a circumstantial adjunct like the instrumental *com a faca*, the default order in BP is the one where the V pied-pipes first the object and then the circumstantial adjunct (which merges to the left of the object, in Cinque (2006)). Once again, it has the effect of reversing the order. If a very low adverb is also present in the numeration, e.g. *de novo* ‘again’ (Asp_{Repetitive(II)}), it has to be pied-piped as well, in the *whose-pictures* mode.

- (19) O Mané cortou o dedo com a faca de novo.
 Mané cut.3.SG.PAST the finger with the knife again
 ‘Mané has cut his finger with the knife again’

Fig. 4.11 (next page) is the derivation proposed for (19). I am skipping the Merge of the DP-subject as well as those movements involved in the assignment of scope (Kayne 1998) to *de novo*, i.e. the Merge of a probing head associated with *de novo* ‘again’, and remnant movement past this adverb. What matters is that the V pied-pipes the direct object, and then the instrumental circumstantial phrase *com a faca*, which merges, as we saw, to the immediate left of the object, in the ‘circumstantial zone’ (Cinque 2006, chapter 6).⁸⁸ Then, after these movements, the chunk moves past the repetitive_(II) adverb which comes to surface on the right of the *InstrumentalP* by means of the roll-up movements performed.

I am using the repetitive adverb *de novo/outra vez* because, as seen above, it undoubtedly represents the lowest projection of Asp_{Repetitive}, since it cannot appear in the higher ‘repetitive’ projection, i.e. the one related to the quantification over the event.

Sentences (20) and (21) show that the transitive V, in its movement, must not only pied-pipe the object but also the adverb. Therefore, *do nada* ‘out of nowhere’, ‘suddenly’, in (20), which I take to correspond to Cinque’s (1999) Asp_{Inceptive(I)}, and *cedo*, ‘early’, to the Asp_{Celerative(II)} adverb, in (21), must also be pied-piped by the V.

⁸⁸ Of course, following Cinque (2006, chapter 6) and Schweikert (2005), the P *com* does not merge together with the instrumental DP *a faca*. First, the DP merges above the arguments and then raises to the specifier

- (20) a. Você apareceu do nada... e você mexeu demais comigo... (*Titãs*) [Asp_{Inceptive(I)}]
 You appeared out of nowhere and you got so with-me
 ‘You’ve appeared out of nowhere/suddenly and you’ve really got me’
 b. *Você do nada apareceu ... e você mexeu demais comigo...
 c. ^{OK}Você DO NADA apareceu... e você mexeu demais comigo...
- (21) a. O José comeu o bolo cedo. (*early* Asp_{Celerative(II)})
 The J. ate the cake early
 ‘José eat early the cake.’
 b. */??O José comeu cedo o bolo.
 The José ate early the cake
 c. ^{OK}O José comeu CEDO o bolo.
 José ate EARLY the cake

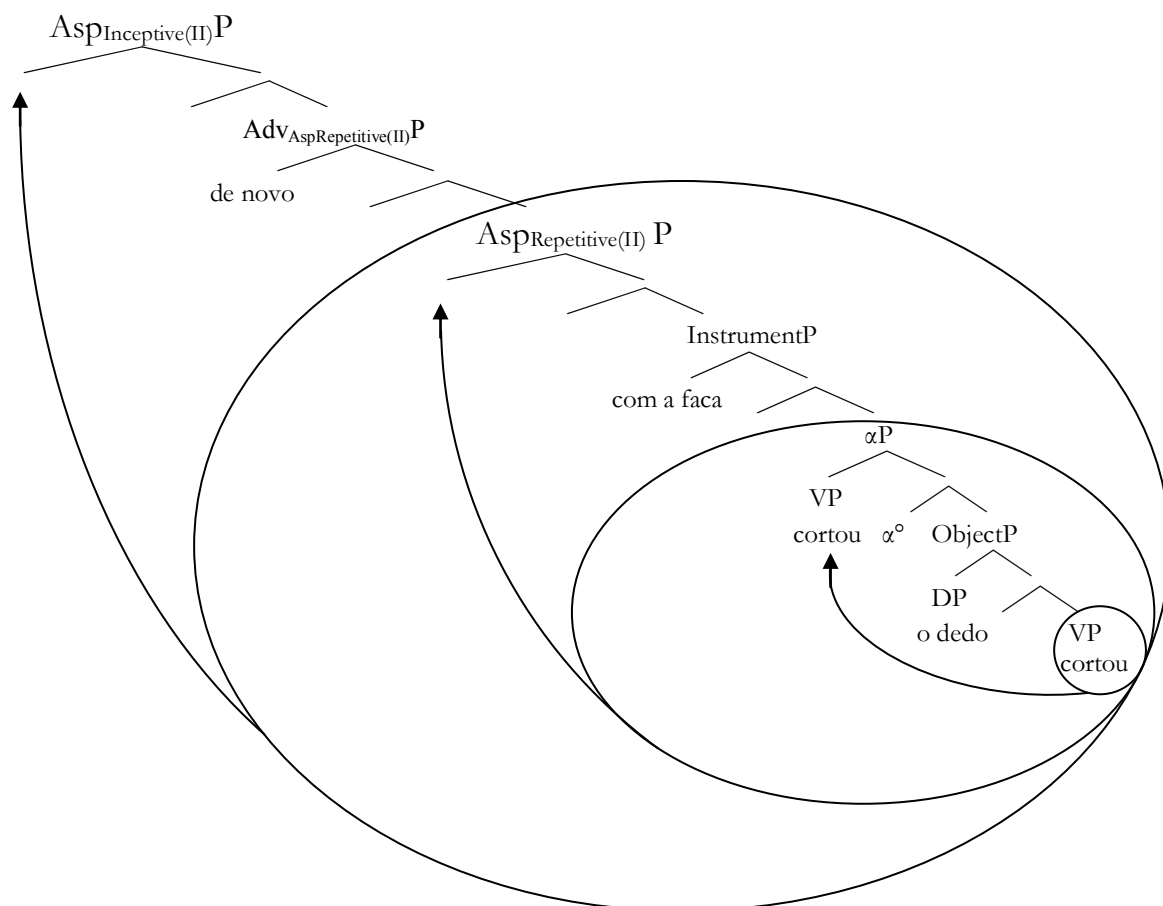


Fig. 4.11: The derivation of (19)

Though judgments are delicate, (22) suggests that if three adverbs are involved, namely, the lowest frequentative, the lowest repetitive and the lowest inceptive (respectively *com frequência*, *de novo* and *do nada*), once the object is pied-piped, the adverbs must also be in the *whose-pictures* mode, i.e. in a roll-up fashion. Only the (a) sentence is grammatical since its derivation

of a Case-assigning head associated with the P which merges above it (in a Kaynean fashion).

involves VP-movement pied-piping the object, the frequentative, the repetitive and the inceptive adverbs.

- (22) a. O Mané tem vomitado sangue com frequência de novo do nada.
 The Mané has vomited blood with frequency again out-of-nowhere.
 ‘The Mané has vomited blood frequently again out of nowhere.’
 b. *O Mané tem vomitado sangue com frequência do nada de novo.
 c. *O Mané tem vomitado sangue de novo com frequência do nada.
 d. */??O Mané tem vomitado sangue de novo do nada com frequência.
 e. */??O Mané tem vomitado sangue do nada com frequência de novo.
 f. */??O Mané tem vomitado sangue do nada de novo com frequência.

The very fact that (22f), which represents the hierarchical order, i.e., *do nada* (Asp_{Inceptive(II)}) > *de novo* (Asp_{Repetitive(II)}) > *often* (Asp_{Frequentative(II)}), is ruled out should not be surprising. Once the object is pied-piped, the lower adverbs must also be.

Based on the data presented thus far, one may conclude that in the very low portion of the clause in BP pied-piping of the three lowest adverbs (namely, Asp_{Inceptive(II)}, Asp_{Repetitive(II)} and Asp_{Frequentative(II)}) is the norm.

From VoiceP (i.e. from the position where manner adverbs merge) upwards, pied-piping, though preferred, seems to no longer be obligatory. This is illustrated by the data in (23-24). In (23a), the V pied-pipes the object and then the manner adverb, thus reversing their order. I feel (23a) much more natural than (23b), though both are grammatical. In (23b), the adverb seems to be focused. That is, to the effect that (23b) is grammatical, the adverb is associated with focus. This fact has been noticed for European Portuguese (EP) by Gonzaga (1997: 87ff.). I reproduce her EP data in (24a,b). I share her intuitions for BP as well.

- (23) a. O José limpou a casa cuidadosamente. (unmarked)
 J. cleaned the house carefully
 ‘José cleaned the house carefully.’
 b. O José limpou cuidadosamente a casa.
 O José limpou a casa bem.
 (24) a. O João resolveu inteligentemente o problema. (Gonzaga 1997: 87)
 The J. solved cleverly the problem.
 ‘J. solved the problem cleverly’
 b. O João resolveu o problema inteligentemente.
 The J. solved the problem cleverly.

In the present context, the fact that the adverb in (23b) and (24a) has to be focalized would be an affirmative indication that manner adverbs should also be pied-piped whenever the V pied-pipes the object.

Now, given Gonzaga’s suggestion that the adverb in (24a)—the same is valid for the data in (23b), for BP—gets focused, one should say which position would host the adverb in these cases. I would like to conjecture that, in (23b) and (24a), the adverb moves to the Spec of a lower focus position (say, Belletti’s 2001 [Spec,Foc] in the right periphery). The VP would then (left-branch-)extract⁸⁹ out of the chunk containing it and move past the adverb, in [Spec,Foc], since—as we will see below—V obligatorily raises past $Asp_{SgCompleteive(I)}P$ in BP (see Fig. 4.13).

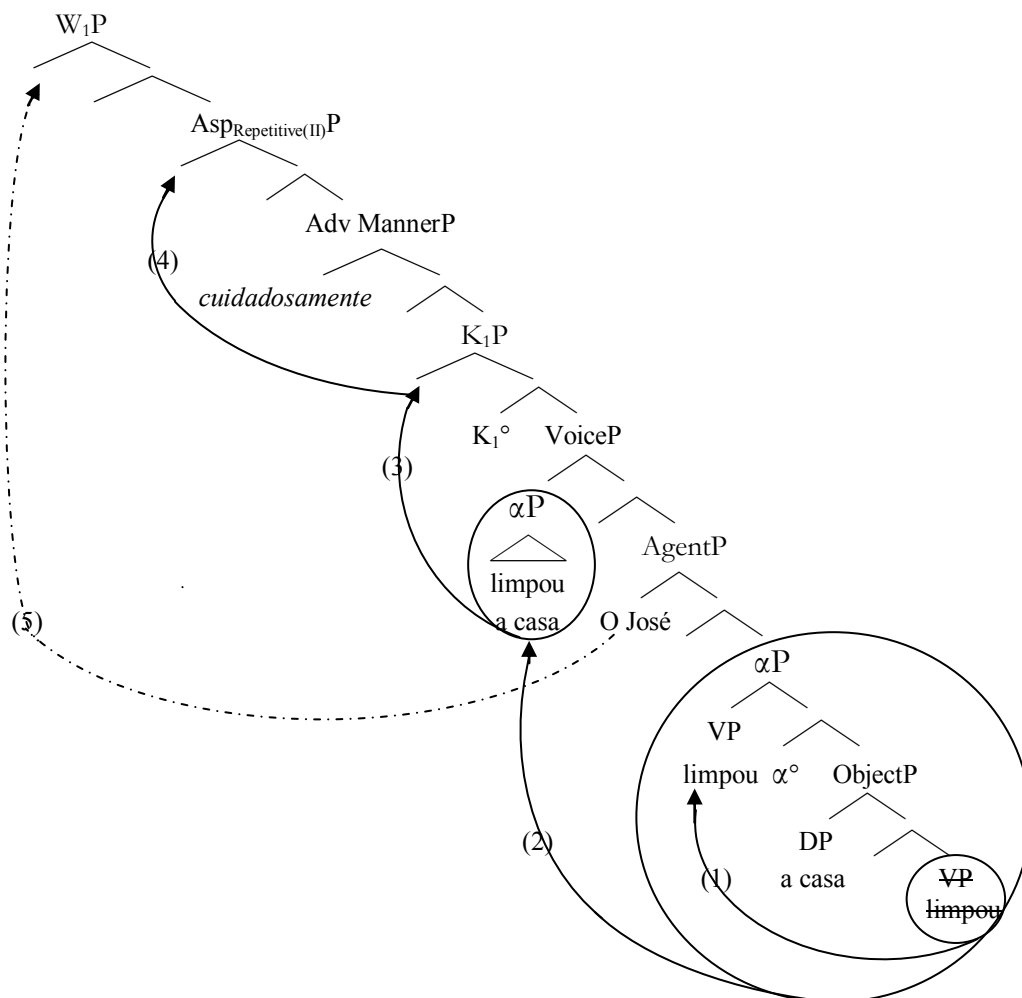


Fig. 4.12: The derivation of (23a) and the ‘first part’ of the derivation of (23b)

⁸⁹ See the footnotes 90 and 134. Also see Cinque (*f.v.*: 12, fn. 36).

Fig. 4.12 represents the derivation of (23a). It also represents the ‘first part’ of the derivation of (23b). Fig. 4.13 represented the ‘second part’ of the derivation of (23b), as described in the aforementioned paragraph.

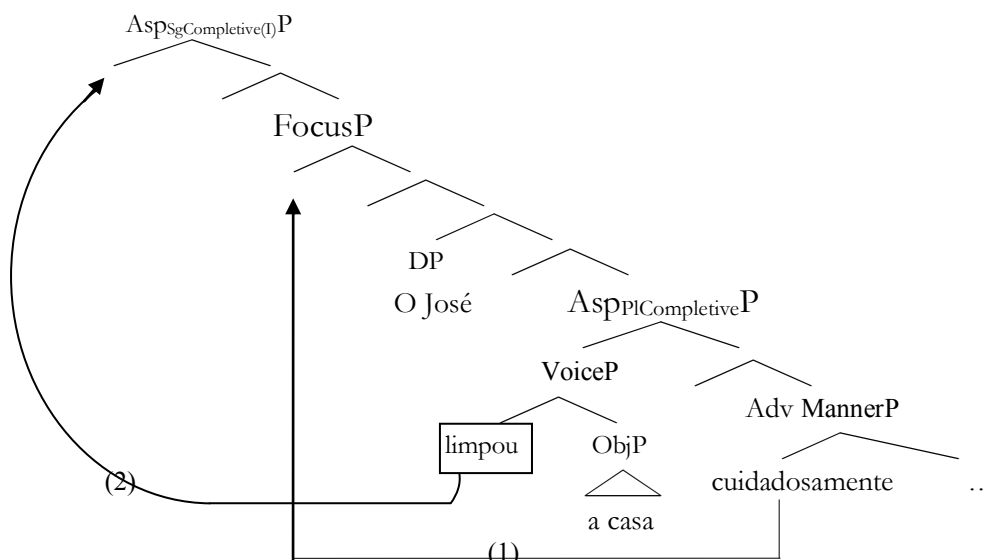


Fig. 4.13: The second part of the derivation of (23b)

Still regarding the position of manner adverbs with respect to the V and the object, the fact that (23a) and (24b) are appropriate answers to (25) found below would confirm that the order V-Object-Manner adverb is the preferred one, at least in BP, and that pied-piping of the manner adverb is also the preferred option (though no longer obligatory):

- (25) A: - O que aconteceu?
What happened?
- (23) a. ^{OK}O José limpou a casa cuidadosamente.
J. cleaned the house carefully
'José cleaned the house carefully.'
- b. #O José limpou cuidadosamente a casa.
O José limpou a casa bem.
- (24) a. #O João resolveu inteligentemente o problema.
The J. solved cleverly the problem.
'J. solved the problem cleverly'
- b. ^{OK}O João resolveu o problema inteligentemente.
The J. solved the problem cleverly.

The next element to be examined is completive *tudo* ‘all’, labeled $Asp_{PICompletive}$. If *tudo* reaches the specifier of $Asp_{PICompletive}P$ transformationally (Cinque 1995b; 1999, chapter 1), its relative position with respect to the manner adverb in (26) is explained. *Tudo* ‘all’ would leave a trace in its position of Merge after which the V pied-pipes it and the manner adverb (26a). Alternatively, after *tudo* raising from its base-generated argumental position to its derived position in the specifier of $Asp_{PICompletive}$, the VP moves past it and then past *cuidadosamente* (26b).

- (26) a. O Mané fez tudo cuidadosamente.
 The Mané did all carefully
 ‘Mané has done everything carefully’
 b. O Mané fez cuidadosamente tudo.
 The Mané did carefully everything

The same observation is valid for $Asp_{SingCompletive(I)}P$. Remember, from the beginning of this section, that the V(P), on its movement upwards, has to move past $Asp_{SingCompletive(I)}P$ obligatorily in BP. Therefore, if the V does not move past $Asp_{SingCompletive(I)}$, the sentence is ungrammatical. All the adverbs following *completamente* in the hierarchy also have to be found to the right of V as shown in (10-11) above. (27a,b) shows that pied-piping of *completamente* ($Asp_{SgCompletive(I)}$), though preferred (27a) is not obligatory (27b).

- (27) a. O Eduardo limpou a casa completamente [*completely* $Asp_{SgCompletive(I)}$]
 The E. cleaned the house completely
 ‘Eduardo completely cleaned the house’
 b. O Eduardo limpou completamente a casa.

Naturally, under the generalized assumption of Kayne’s (1998) theory of scope-assignment to adverbs, each time an adverb is merged, an associated probing head, merged before, attracts the VP plus object (and the lower adverbs $Asp_{Frequentative(II)}$, $Asp_{Repetitive(II)}$ and $Asp_{Celerative(II)}$ if present in the numeration) to its Spec. The adverb merges subsequently. Since V movement past *completamente* ‘completely’ is obligatory in BP, the chunk in the Spec of the probing head moves past the adverb, followed by remnant movement. This is shown in fig. 4.14.

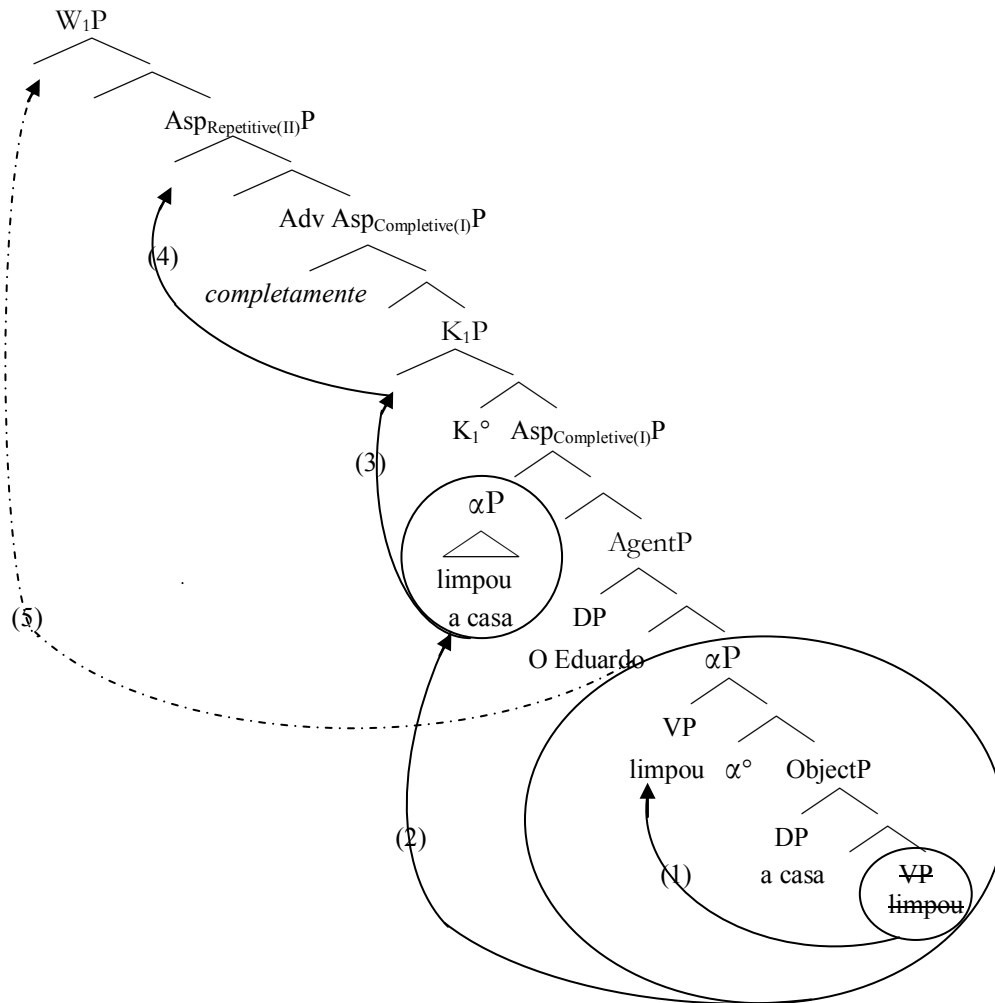


Fig. 4.14: The derivation of (27a): part I

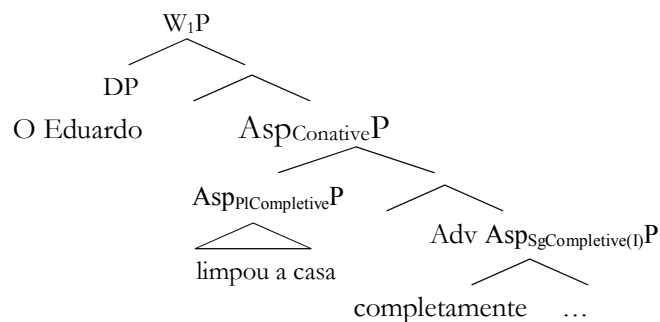


Fig. 4.15: The derivation of (27a): part II

The conclusion we could draw from the data discussed in this subsection is that V movement is obligatory to the left of $\text{Asp}_{\text{Completive(I)P}}$ in BP, i.e. to the left of $\text{completamente}_{(1)}$ and, consequently, to the left of all the adverbs which follow $\text{completamente}_{(1)}$ in the hierarchy. Besides this mandatory raising, the V must pied-pipe the four lowest adverbs (namely, $\text{Asp}_{\text{Celerative(II)}}$, $\text{Asp}_{\text{Inceptive(II)}}$, $\text{Asp}_{\text{Repetitive(II)}}$ and $\text{Asp}_{\text{Frequentative(II)}}$) in the *whose-pictures* type of movement which has, as we noticed, the effect of reversing the order of the elements in the

hierarchy. This is summarized in table 4.1 below. In the following section, we will discuss what looks like ‘optional raising’ of V among the lowest portion of the extended projection of V.

Table 4.1: On the obligatory raising of V in the ‘lower zone’ of the IP

	Obligatory raising of V past the AdvP	Obligatory pied-piping
<i>completamente</i> ‘completely’ Asp _{SgCompletive(I)}	√	no
<i>tudo</i> ‘all’ Asp _{PlCompletive}	√	no
<i>bem/cuidadosamente</i> ‘well’ Manner	√	no
<i>cedo</i> ‘early’ Asp _{Celerative(II)}	√	√
<i>do nada</i> ‘out of nowhere’ Asp _{Inceptive(II)}	√	√
<i>de novo</i> ‘again’ Asp _{Repetitive(II)}	√	√
<i>com frequência</i> ‘often’ Asp _{Frequentative(II)}	√	√

2.2 On ‘optional’ movement

According to Chomsky (1995) and Kayne (2008), there would be no place for “optional” movements in a theory of UG. From a Cartographic perspective, optional movements would also be undesirable and attention should be paid to define what type of movement, if any, might be covered by this label. As in Cinque (1999, 2010a,b), I take (what appears to be) ‘optional movements’ as a manifestation of cross-linguistic variation. The dynamics of VP movement, Spec-to-Spec, from its launching site, seems to be limited to the lower portion of the IP (see chapters 1 and 5). This portion of the clause is closed off by the Asp_{Delayed}-shell. From Asp_{HabitualP} on (see chapter 5), only movements of larger chunks, either involving the raising of the remnant or involving pied-piping in the *pictures of whom* mode, will be allowed. Even if I am using the label “optional” here, I am aware of the fact that there should be (subtle) semantic differences regarding the position of the V to the left or to the right of a given AdvP, though it is quite difficult to pinpoint them. Thus, an in-depth investigation is necessary to situate which are the (expected) semantic effects, if any, involved in V-raising in this ‘lower portion’ of the IP space.

In BP, V(P) would ‘optionally’ move to the left of those lower AdvPs located between T_{Anterior} and Asp_{Completive(I)}. Thus, from *em vão* ‘in vain’ (Asp_{Frustrative}) upwards, V-movement is no longer obligatory.

As far as the frustrative adverb *em vão* ‘in vain’ is concerned, (28a) represents the preferred, unmarked order. (29b) is also possible but, as seen before for manner and completive adverbs, the adverbs are focused. (29c) is possible if the adverb bears emphatic focus.

- (28) a. O José limpou a casa em vão. [*in vain* Asp_{Frustrative}]
 The J. cleaned the house in vain
 ‘J. in vain cleaned the house.’
 b. O José limpou em vão a casa.
 the J. cleaned in vain the house.
 c. (?)O José em vão limpou a casa.
 The J. in vain cleaned the house

So, though V-movement past the frustrative adverb is not obligatory, it is still the preferred option, if the object is pied-piped as well.

From the next adverb on, the absence of V-movement past them represents the unmarked option in BP, as already noted, for instance, in Galves (1994[2001]), Figueiredo Silva (1996), Modesto (2000), a.o. Table 4.2 summarizes the possibilities for V raising in the lower/medial zone of the IP, i.e. from Asp_{Frustrative}, this projection included, to T_{Anterior}, this projection also included.

Table 4.2: From ‘optional’ to ‘forbidden’ raising of V

	No Verb Raising	V raising with pied-piping	V raising without pied-piping
<i>em vão</i> ‘in vain’ Asp _{Frustrative}	2	1	3
<i>quase</i> ‘almost’ Asp _{Prospective}	1	*/??	*
<i>obrigatoriamente</i> ‘obligatorily’ Mod _{Obligation}	1	2	3
<i>repentinamente</i> ‘suddenly’ Asp _{Inceptive}	1	2	3
<i>brevemente</i> ‘briefly’ Asp _{Durative}	2	3	1
<i>dentro em pouco</i> ‘soon’ Asp _{Proximative}	1	2	3
<i>sempre</i> ‘always’ Asp _{Continuous}	1	2	---
<i>ainda</i> ‘still’ Asp _{Continuative}	1	2	3
<i>(não) mais</i> ‘no longer’ Asp _{Terminative}	?	2	1
<i>já</i> ‘already’ T _{Anterior}	1	2	*

Where 1, 2, and 3 are given as a scale of preference: from the most preferred order (1) to the least preferred (but still grammatical) order.

On *sempre* (“---”), see the *Appendix* of this chapter.

As the reader may have realized, for most of the adverbs the preferred order is that involving no V raising past the adverb (“1” in table 4.2). (29a) illustrates this for the Mod_{Obligation} adverb *obrigatoriamente* ‘obligatorily’. In those cases, V-movement pied-piping the object and the adverb is still grammatical, but is no longer the preferred option. V raising with no pied-piping is grammatical, though less preferred for most of the adverbs (see (29c)).

- (29) a. O José obrigatoriamente limpará a casa. [*obligatorily* Mod_{Obligation}]
 The J. obligatorily will-clean the house
 ‘José obligatorily will do houseworks’
 b. O José limpará a casa obrigatoriamente.
 the J. will-clean the house obligatorily
 c. O José limpará obrigatoriamente a casa.
 the J. will-clean obligatorily the house

To obtain (29a), before the Merge of the adverb, the probing head associated with it attracts ‘V plus complement’ to its Spec. The adverb is merged in the sequence and remnant movement puts the subject to the left of the adverb. No additional V raising past the adverb—and before the movement of the remnant subject—takes place in this case (as it is no longer obligatory). To get (29b), after the attraction of ‘VP plus complement’ and Merge of the adverb to the left, ‘VP plus complement’ moves past it, again followed by remnant movement in the sequence. (29c) obtains on the basis of the attraction of ‘VP plus complement’ to the Spec of the probing head (associated with the adverb), Merge of the adverb, “left-branch extraction” (movement)⁹⁰ of the VP (which raises past the adverb) and remnant movement of the subject. These derivations will be valid for the correspondent orders in the examples (30-33)

- (30) a. A Mara repentinamente chegou na festa. (*repentinamente* ‘suddenly’ Asp_{Inceptive})
 The Mara suddenly arrived at-the party
 ‘Mary suddenly arrived at the party’
 b. A Mara chegou na festa repentinamente.
 The Mara arrived at the party suddenly
 c. A Mara chegou repentinamente na festa.
 The Mara arrived suddenly at-the party
 (31) a. A Mara dentro em breve vai pros EUA. (*dentro em breve* ‘soon’ Asp_{Proximative})

⁹⁰ Under Kayne’s (1994) definition of c-command, this contention should be relativized to the effect that the VP is not contained within the FP it is the Specifier of. Thus, there is no extraction, only a displacement. See footnote 134 of chapter 5. Also see Cinque (*f.c.*: 12, fn. 36).

- The Mara soon will-go to-the USA
 ‘Mara will soon go to the USA’
- b. A Mara vai pros EUA dentro em breve.
 The Mara will-go to-the USA soon
- c. A Mara vai dentro em breve pros EUA.
 The Mara will-go soon to-the USA
- (32) a. O Zé-botinha ainda vende leite. (*ainda* ‘still’ Asp_{Continuative})
 The Zé-botinha still sells milk.
 ‘Zé-botinha still sells milk’
- b. O Zé-botinha vende leite ainda.
 The Zé-botinha sells milk yet
- c. O Zé-botinha vende ainda leite.
 The Zé-botinha sells still milk.

As far as *quase* is concerned, judging by Figueiredo Silva (1996),

- (33) a. *O João perdeu quase a cabeça. [*quase* ‘almost’ Asp_{Prospective}]
 The J. lost almost the head
 ‘João almost lost his head’
- b. O João quase perdeu a cabeça.
 The J. almost lost the head (Figueiredo Silva 1996: 51)

it cannot appear between the subject and the DP-complement. I share her intuitions on the data. *Quase* cannot appear in the post-complement space (34a), as well, unless prosodically marked (34b):

- (34) a. *O João perdeu a cabeça quase.
 The J. lost the head almost
 ‘João almost lost the head’
- b. O João perdeu a cabeça, QUASE.
 The J. lost the head, ALMOST

Garzonio & Poletto (2011) investigate the position of (lower) scalar adverbs like *già* ‘already’, *ancora* ‘still’, *sempre* ‘always’ relative to V in some varieties of Central and Southern Italian dialects. In these varieties, these adverbs can appear before the inflected verb, thus differing from Northern Italian varieties which places the adverb obligatorily after the verbal form. That would also be the case of *quase* ‘almost’ in (33). According to Garzonio & Poletto there would be two possible analyses for the preverbal appearance of scalar adverbs. ‘Alternative A’

would suggest that the V fails to raise, i.e., it stops in a lower FP (as in Cinque 1999, Ledgeway & Lombardi 2005). The second type of analysis, ‘Alternative B’ (proposed by Garzonio & Poletto), would suggest that the AdvP raises to an informational position of Benincà & Poletto’s (2005) left-periphery.

The fact that a Subject-QP is marginal with preverbal *quase* ‘almost’ would be due to the fact that this adverb has been moved to the left periphery, thus suggesting an analysis *à la* Garzonio & Poletto (namely, ‘Alternative B’) to its appearance pre-verbally in (33).

- (35) ??/*Ninguém quase acabou a tarefa ainda.
 Noone almost finished the homework yet.
 ‘Noone almost finished the homework yet’

Furthermore, the very fact that *quase* can appear in LD-structures between the topic and the resumptive subject *ele* ‘he’ in (36) would suggest that preverbal *quase* raises to the left-periphery.

- (36) O Eduardo quase (que) ele foi à casa de chá.
 The Eduardo almost that he went to the tea room.
 ‘Eduardo has almost gone to the tea room.’

Thus, it appears that an analysis in the spirit of Garzonio & Poletto is enough to explain the pre-verbal position of *quase* ‘almost’ in table 4.2. Remember, from (34), that *quase* can appear sentence-finally, if prosodically marked. We could explain sentence-final *quase* on the basis of its raising to the left-periphery (*à la* Garzonio & Poletto (‘alternative B’)), after which the remnant IP moves past it to a Topic position.

As far as the Asp_{Terminative} (*não mais* ‘no longer’) is concerned, it is exceedingly degraded if placed before the V (37b):⁹¹

- (37) a. O João não fala mais.
 The J. not speak any longer
 ‘J. doesn’t speak any longer’

⁹¹ I will not attempt an analysis of negative adverbs here. On this issue, see Zanuttini (1997), Cinque (1999, chapter 5), and, on the Syntax of negative adverbs and negation in BP, see Mioto (1991), Figueiredo Silva (1996), Modesto (2000), Souza (2012).

- b. *?O João não mais fala.
The J. no longer speaks.

(Figueiredo Silva 1996)

Considering table 4.2, I must still explain the distribution of *sempre* ‘always’ (Asp_{Continuative}) and *já* ‘already’. Let us leave *sempre* ‘always’ for the moment. I will discuss its position(s) and the different interpretations associated with it (not only in BP but also in European Portuguese) in the *Appendix* of this chapter. As far as *já* ‘already’ is concerned, things are different for the position of this adverb relative to V. V movement past *já* ‘already’ in BP is reported as ungrammatical in both Modesto (2000) and Silva (2001). I also share their judgments. The data below is from Silva (2001: 33).

- (38) a. Eu **já** sei português.
I already know Portuguese
'I already know Portuguese.'
b. Eu sei português **já**.
I know Portuguese already
'I already know Portuguese.'
c. *Eu sei **já** português.
I know already Portuguese

(Silva 2001: 33)

(38a) represents the default order. (38b) is marked, but possible. *Já* in (38b) is accented. Naturally, the assumption of Kayne (1998) would lead us to think that before the Merge of *já* in (38a) and (38b), the VP+object chunk, namely, *sei português* ‘(I) know Portuguese’, would raise to the specifier of the probing head associated with *já*. After that, *já* would merge and remnant movement would put the subject to its left. Until now, we would have achieved (38a). (38b) would derive from (38a). Hence, after remnant movement past *já*, we could assume that *já* would be attracted to the Specifier of a FocusP, followed by the Merge of a head, to the left, and remnant movement to its Spec.⁹² The very fact that sentence-final *già* ‘already’ in Italian, besides being accented, requires a preposition before it (see (39), below) would give support to this analysis. Pursuing the same analysis for BP (and Spanish for that matter—see below), there would be a *silent* preposition merged to license the remnant in its Spec, as suggested by G. Cinque (p.c.).

⁹² I owe this suggestion to G. Cinque (p.c.).

- (39) Gianni ha riceuto la notizia *(DI) GIÀ. (Italian)
 ‘G. has received the news already.’ (Cinque 1999: 14)

Now, must explain the ungrammaticality of (38c).

- (38) c. *Eu sei **já** português. (Silva 2001: 33)
 I know already Portuguese

There would be at least two ways to account for this ungrammaticality. Remember the discussion on pre-verbal *quase* ‘almost’ above. Garzonio & Poletto (2011) suggest two possible analyses to explain the appearance of scalar adverbs pre-verbally. Under ‘Alternative A’, the prohibition of a preverbal adverb would be the result of V-raising. Therefore, (38c) would be ungrammatical because V would have raised past *já* ‘already’. Under ‘Alternative B’, on the other hand, (38c) would be ungrammatical because *já* would not have raised to a left-peripheral position. We must decide between these two alternatives. I will show that, differently from what was suggested above for *quase* ‘almost’, the ungrammaticality of (38c) and the grammaticality of (38a) are not due to the fact that the adverb fails to raise in (38c) and raises in (38a) to the left periphery. Instead, I propose that the data in (38a,c) is better explained by ‘Alternative A’, i.e. by V-raising.

First, if compared with *quase* (see (35) above), *já* ‘already’, though marginal, is not fully-ungrammatical with a subject-QP (see (39)):

- (39) ?Ninguém já terminou de ler o livro.
 Noone already finished of reading the book
 ‘Noone has already finished the book’

Furthermore—and this is very clear for BP—, *já*, in contrast to *quase* (see (36) above), cannot appear before the resumptive subject in LD-structures (see (40)).

- (40) *A Carolzinha, já ela, aprendeu a falar.
 The Carolzinha, already she learned to speak
 ‘Carolzinha, she has already learned to speak’

Thus, (40) would be a valid argument, I think, to explain (38a,c)—repeated below—on the basis of V raising, i.e. under ‘Alternative A’. (38a) is grammatical because V has not raised past *já* ‘already’. (38c), on the other hand, is ungrammatical because V, in BP, cannot raise past *já* ‘already’.

- (38) a. Eu **já** sei português.
 I already know Portuguese
 ‘I already know Portuguese.’
 c. *Eu sei **já** português.
 I know already Portuguese
- (Silva 2001: 33)

Hence, the conclusion is that the V(P) in BP can raise but no higher than $T_{\text{Anterior}}P$. That is, it can raise to T_{Anterior} but not past it (38c). I will link the impossibility of V-raising past T_{Anterior} to the weakening of T in this language (Ambar 2008, Cyrino 2011) in section 4. I will bring data from European Portuguese on the position of V relative to T_{Anterior} . We will thus observe that V raises more in EP than in BP.

For the time being, we noticed that lower adverbs *are* reliable diagnostics for verbal raising, since they occupy a left-edge position in the ‘lower zone’ of the clause. Thus, previous analysis on the validity of left-edge/VP adverbs as diagnostics for V raising (Pollock 1989, Galves 1994[2001], Costa 1998, 2004a,b, Costa and Galves 2002, a.o.) are confirmed by our Cartographic analysis. We also noticed that the lowest lower adverbs, namely, $Asp_{\text{Frequentative(II)}}$ (*frequentemente* ‘frequently’), $Asp_{\text{Repetitive(II)}}$ (*de novo* ‘again’) and $Asp_{\text{Celerative(II)}}$ (*cedo* ‘early’) must be pied-piped by the VP together with the complement of V. From Voice to $Asp_{\text{Completive(I)}}$, the adverb is pied-piped in the unmarked case. Besides this, the adverb may appear between the V and its complement. Since the adverb is focalized in this case (Gonzaga 1997), I suggested that the adverb moves to [Spec,FocP] of Belletti’s (2004) right periphery. We also noticed that V movement, from $Asp_{\text{SingCompletive(I)P}}$ to T_{Anterior} is ‘optional’, in the sense that the V may move or not. The V necessarily stops in T_{Anterior} or even lower, since it cannot move past *já* ‘already’. The next section is a brief attempt to characterize the position that the V can

occupy with respect to the “lower adverbs” merged in medial positions within the IP, i.e. those merged to the left of T_{Anterior} but to the right of $\text{Asp}_{\text{Habitual}}$. These (mostly aspectual) adverbs will also be the topic of investigation in section 4 of the next chapter.

3. Medial adverbs and V-to-I raising

The adverbs given in the hierarchy extract in (41)

- (41) [... [*tendencialmente* ‘tentially’ $\text{Asp}_{\text{Predispositional}}$ > [*novamente* ‘again’ $\text{Asp}_{\text{Repetitive(I)}}$ > [*frequentemente* ‘often’ $\text{Asp}_{\text{Frequentative(I)}}$ > [*voluntariamente/de gosto* ‘willingly’ $\text{Mod}_{\text{Volition}}$ > [*rapidamente* ‘quickly’ $\text{Asp}_{\text{Celerative(I)}}$ > ...

occupy medial positions in the IP zone, i.e., they occupy positions above T_{Anterior} but below $\text{Asp}_{\text{Delayed}}$ (the latter marking the ‘left-edge’ of the “lower zone” of the IP, i.e., the highest position for “lower”/“VP-adverbs”).

If V cannot raise past *já* ‘already’, in BP, it should not raise past the adverbs of (41) as well. But as we noticed in the previous chapter, adverbs are scope-inducing elements. Thus, their appearance on the right of V can be justified if they are associated with the focus of the sentence, which surfaces on their right. Since their scope is defined over c-command, remnant movement takes everything which was previously merged to the right of the adverb and places it to its left, giving the illusion that, in a sentence like (42), the V raises past the adverb.

- (42) A Carolzinha age *tendencialmente* com muita ternura.
 The Carol-little acts tendentially with too-much endearment
 ‘Little Carol tendentially acts with too much endearment’

Movement of the PP to the specifier of the probing head associated with *tendencialmente* ‘tentially’ in (42), and merged before it, followed by remnant movement of ‘subject plus V’ past the adverb explains why the V surfaces to the left of the adverb. Fig. 4.16 is an attempt to represent this derivation. I am glossing over the details which are not relevant for the present purpose, namely, the merger of the DP *muita ternura* ‘too much endearment’, the

merger of the V, movement of the DP to check case, merger of the preposition *com* ‘with’, VP-raising in the ‘lower zone’, etc.

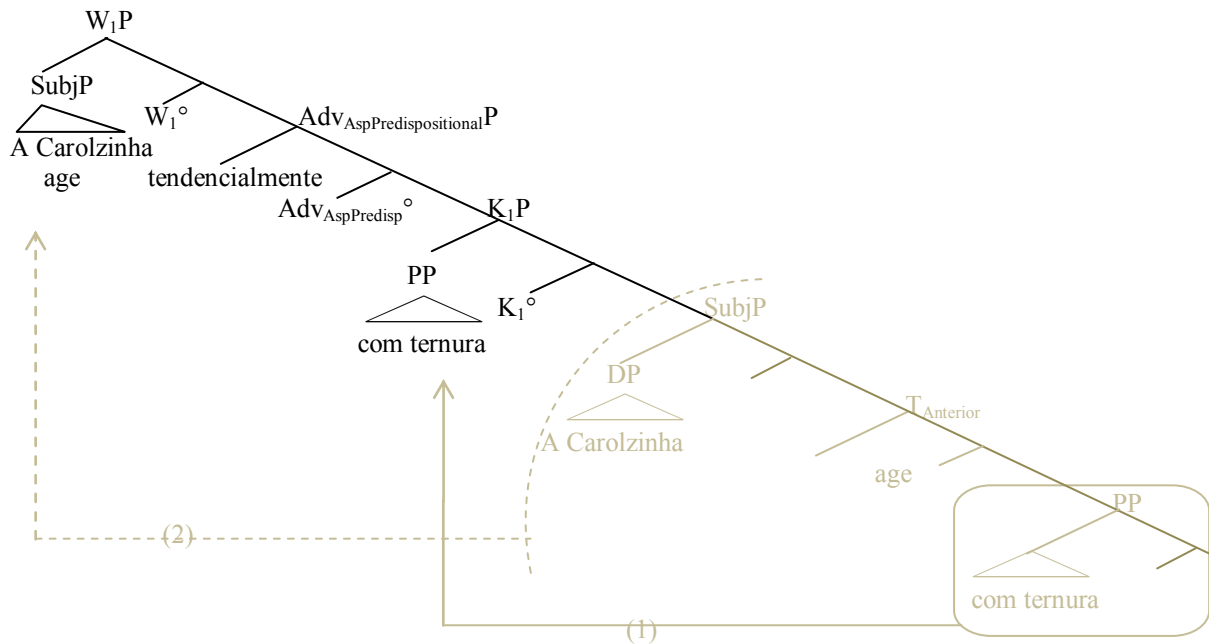


Fig. 4.16: The derivation of (42)

Besides these cases involving remnant-movement of V past the adverb, there is another reason why some aspectual adverbs give us the impression that V might optionally move past them. The following examples illustrate this.

- (43) a. O João raramente lê os jornais. (Asp_{Frequentative})
 the J. hardly ever reads the newspapers
 'J. hardly ever reads the newspapers.'
 b. O João lê raramente os jornais. (Figueiredo Silva 1996: 48)
 the J. reads rarely the newspapers

The question is: has the V moved past *raramente* ‘rarely’ (a frequentative adverb) in the (b) example of (43)? My answer, of course, is “no”, given the already known fact that the VP cannot raise past *já* ‘already’ (T_{Anterior}). The conjecture is that in (43) one is playing with two distinct positions for the Frequentative AdvP *raramente* ‘rarely’, both in the lower zone of the VP (see section 2.1 above). Since the lexical V in BP cannot move to the left of T_{Anterior}P (cf.

39 above), the data shown in (43) would be interpreted as involving the movement of V to the left of the lowest Frequentative AdvP (in 43b) but not to the left of the highest one, given the fact that V cannot move past *já* which sits in the left-edge of T_{Anterior}. The contrast shown in (44) also gives support to this idea. (44) presents two *raramente* ‘rarely’ in the same sentence. This does not go against Jackendoff’s (1972) premise that adverbs of the same class cannot appear in the same sentence, since the two adverbs belong to different projections in the clause and take different portions of it under their scope. Hence, the highest *raramente* has not been crossed over by the V.

- (44) a. (?)O João raramente lê os jornais raramente
 The J. rarely reads the newspaper hardly ever.
 ‘J. rarely reads the newspaper hardly ever.’
 b. *O João lê raramente os jornais raramente.
 The J. reads rarely the newspapers hardly ever.

In section 4 of chapter 5, I will return to the issue of merging one and the same aspectual adverb in two distinct positions of the Cinque hierarchy. I will suggest, *contra* Ernst (2007), that a correct cartographic analysis of the facts does not need to assume more than two functional projections to account for the English data discussed by him. Therefore, Cinque’s (1999, 2004) contention that some aspectual/time-related adverbs should have two distinct positions of Merge remain the same if one assumes that whenever an adverb is merged, it triggers a series of displacements for scope-assignment (*à la* Kayne 1998).

4. V raising, the impoverishment of the verbal paradigm and the weakening of Tense: some conjectures

A plethora of works in the last twenty years have shown that from the 19th Century on, the grammar of BP has undergone a number of changes which makes it each time more distant from its sister, European Portuguese. See, for instance, a collection of works in Roberts & Kato (1993) and Kato & Negrão (2000), Galves (2001), among many others. One of these changes refers to a simplification of the inflectional paradigm in BP (see table 4.3 below).

Table 4.3: Pronominal and Inflectional Paradigms in the History of BP (Duarte 1995: 32)

Person-number	Pronoun	Paradigm 1	Paradigm 2	Paradigm 3 ⁹³
1 st singular	Eu	am o	am o	am o
2 nd singular	Tu	am a s	-	-
	Você	am a	am a	am a
3 rd singular	Ele/ela	am a	am a	am a
1 st plural	Nós	am a mos	am a mos	-
	A gente	-	am a	am a
2 nd plural	Vós	am a is	-	-
	Vocês	am a m	am a m	am a m
3 rd plural	Eles/elas	am a m	am a m	am a m

From the data shown in this table, the verbal inflectional paradigm has evolved from a system with six distinct inflectional endings (paradigm 1) to a system with only three distinct forms (paradigm 3, which represents the speech of the young speakers of current BP). As argued in the literature (Duarte 1993, 1995, 2000, a.o.), this change has been motivated by a change in the set of the pronominal subjects. Duarte (2000: 18) reports that it starts by affecting the forms of the 2nd person, which used to combine with verbal forms having exclusive endings (see paradigm 1), and were replaced by *você* (singular) and *vocês* (plural) which take the inflectional endings of the third person singular and plural (paradigm 3). The first person plural *nós* (paradigm 1 and 2) has also been replaced by the pronominal expression *a gente* ‘we folks’, which also takes the inflectional ending of the third person singular. All these changes explain why BP has an impoverished inflectional verbal paradigm (Galves 1994 [2001]; Rodrigues 2004; Duarte 1995; Figueiredo Silva 1996; Ferreira 2000; Kato, Duarte & Cyrino 2000; Barbosa, Duarte & Kato 2005; Avelar 2009a,b, a.o.). BP inflectional verbal system lacks the feature [person]. Only the feature [number] is morphophonologically marked in BP (see Galves 1993 and Duarte 1993).

Given this attested poverty in the BP morphological paradigm, one should ask if it would have a reflex on the syntax of V movement in this language. As we noticed in chapter 2, section 10, BP still has V-to-I movement, given that T is still present in this language.⁹⁴

⁹³ As Avelar (2009b: 161) points out, the only clear distinction in current BP is the first person singular to the effect that paradigm 3 would co-exist with a “paradigm 4” where only the first person singular would have an exclusive ending. All the other persons would exhibit the zero morpheme (\emptyset): Eu am-o (first person sing.) vs. Você (2nd p. sing.) ama- \emptyset ; Ele/ela (3rd p. sing.) ama- \emptyset ; A gente/Nós (1st p. plur.) ama- \emptyset ; Vocês (2nd p. plur.) ama- \emptyset ; Eles/elas (3rd p. sing.) ama- \emptyset .

⁹⁴ Remember, from section 10 of chapter 2 that Galves (1993, 1994[2001]) assumes a revisited Pollockian version of the IP which is split in AgrP and TP.

Galves explains the weakening of the inflectional verbal paradigm in BP (paradigm 3 of table 4.3 above) and links it to V-raising. V would no longer move to AgrP (assuming the representation [AgrP [TP [...]]]), in BP. Rather, it would stop in a lower head (T°), given the weakening of Agr in BP.

If AgrP as a functional projection of the clausal structure is excluded (Chomsky 1995, chapter 4), associating the loss of V-movement in BP to the weakening of the inflectional verbal paradigm would be obsolete nowadays, in its lack of theoretical-conceptual motivation.

Cinque (1999, chapter 5) suggests that agreement may be generated on the left-edge of each IP-related functional projection of his hierarchy which corresponds to his “DP-related functional projections”. If these DP-related functional projections may be generated on top of each FP of his functional hierarchy, there is no empirical motivation, as well, for associating the loss of V-movement in BP to the weakening of the inflectional verbal paradigm. In the best of possible worlds, the only way to keep with this idea would be by suggesting that some languages, in addition to VP raising to the Spec of a Cinquean FP would have a further displacement of the VP to the specifier of an AgrP above it (much in the spirit of Poletto (1992)—with the difference that in Poletto these movements were head-movement). Italian and European Portuguese would be examples of these languages. The problem is how to deal with BP where the inflectional morphology goes from one extreme (e.g. in Standard BP which clearly has four morphological distinctions for the V (amo ‘I-love’ (first person singular), ama ‘you-love’ (second and third person singular), amamos (first person plural), amam (second and third person plural)) to the other (e.g. in my father’s (colloquial) BP where normally only the first person gets inflected (amo (first person sing.) vs. ama (all the other persons) (see Galves 2001; Avelar 2009b: 161). However, even in my father’s colloquial variety of BP, sometimes the verb is inflected for tense and number/person (at least in the first person plural), e.g. in the simple past: Nó(i)s fizemu ‘we did’, Nó(i)s compramu ‘we bought’, Nó(i)s limpamu ‘we cleaned’, Nó(i)s vencemu ‘we won’, Nó(i)s falemu ‘we spoke’. These forms are clearly distinct from the aforementioned third person form of the verbs just cited, which respectively are: *fez, comprou, limpou, venceu, falou*. All things considered, it seems that associating the loss of V-movement in BP (i.e. its raising up to T_{Anterior} but not any higher) with the weakening of the inflectional paradigm would not be accurate.

Yet, Galves’s (1993, 1994[2001]) intriguing ideas should not be completely abandoned. Apart

from the theoretical-conceptual reasons which would favor the contention that V does not target a higher INFL node in BP (namely, the weakening of the inflectional verbal paradigm), there is also independent empirical evidence to propose that V raises to a lower/medial projection in the structure of the clause. Remember, from chapter 2, that Galves argued that V does not raise to a higher position of the IP on the basis of its position relative to adverbs and floating quantifiers. This empirical evidence should not be dispensed with. Thus, one should try to explain how current theories on the representation of the clausal structure could capture Galves’s empirical evidence.

Since this work assumes a Cartographic view, the first question to ask is, “Which functional projection of the Cinque hierarchy would correspond to Galves’s “T”?”.

Remember, from the previous section, that V cannot move past T_{Anterior} , in BP. Silva (2001) shows that V cannot raise past *já* ‘already’ in this language. (38a) is grammatical because V has not raised past *já* ‘already’. (38c), on the other hand, is ungrammatical because the V, in BP, cannot raise past *já* ‘already’.

- (38) a. Eu **já** sei português.
 I already know Portuguese
 ‘I already know Portuguese.’
 c. *Eu sei **já** português.
 I know already Portuguese (Silva 2001: 33)

Thus, it seems that Galves’s “T” (1993, 1994[2001]) corresponds to Cinque’s T_{Anterior} . But before deciding if Galves’s T would actually be identified with Cinque’s T_{Anterior} , i.e. the lowest tense-related functional projection of the Cinque Hierarchy, let us explore the position of the V relative to *já* ‘already’ in closely-related languages. The position of V relative to *já* ‘already’ would be a good indicator of microparametric variation, as parameters have been identified with properties of functional heads (Kayne 2005). Many scholars working on Portuguese have proposed that V raises more in European than in Brazilian Portuguese (Modesto 2000, Ambar, Negrão & Gonzaga 2004, Negrão, Ambar & Gonzaga f.c., Matos & Cyrino 2001, Cyrino & Matos 2002, Cyrino 2011, a.o.). Judging from Modesto (2000: 27), in BP, neither the lexical V nor the auxiliary *tinha* ‘had’ can raise past *já* (compare (45) with (46)). In European Portuguese, on the other hand, V can raise past *já* ((46) is possible in EP).

- (45) a. A Maria já não come nada, não devia fazer dieta. (BP,EP)
 the M. already not eats anything, not should do diet.
 ‘M. already doesn’t eat anything, she shouldn’t be in a diet.’
 b. A Maria já tinha comido. (BP; EP)
 the M. already had eaten
 ‘M. had already eaten.’
- (46) a. A Maria não come já nada, não devia fazer dieta. (*PB; ^{OK}EP)
 the M. not eats already anything, not should do diet.
 ‘M. already doesn’t eat anything; she shouldn’t be in a diet’
 b. A Maria tinha já comido. (*PB; ^{OK} EP)
 M. had already eaten
 ‘M. had already eaten’ (Modesto 2000: 27)

Though Costa & Galves (2002) state that there is no difference in BP and EP as far as V raising is concerned—the authors assume that the microparametric differences should be related to the position that the subject comes to occupy in each language (the subject would raise more in EP than in BP)—,⁹⁵ one could take Modesto’s data to suggest that there would be some. Therefore, V would raise more in EP than in BP. I take the position of the lexical V and the auxiliary in (45-46) to suggest that V cannot raise past *já* in BP, though it can in EP.

That the verb raises more in EP than in BP is also assumed in Cyrino & Matos (2002). They suggest that V raises to T° in EP. In BP, it would stop in a(ny) functional head lower than T°, if one assumes an enriched structure. This difference concerning V raising would explain the different behavior of VP ellipsis of verbal sequences in these languages (see Cyrino & Matos 2002, § 3 and Matos & Cyrino 2001; also see the next section). Ambar, Negrão and Gonzaga (2004), Negrão, Ambar and Gonzaga (f.c.) also suggest that the V stops in T (a lower functional projection in their system) in BP while it raises to a higher FP, namely, AgrS, in EP (see the *Appendix* of this chapter).

Assuming Cinque’s (1999) representation of the IP structure, we could say that V stops in T_{Anterior} or even lower in BP, since it cannot raise past *já* ‘already’. Modesto’s (2000) data on the placement of *já* in BP and EP (45-46) would suggest that T_{Anterior} would be the locus for the (micro)parametric variation concerning V raising in BP and EP.

⁹⁵ Galves (1993, 1994[2001]), on the other hand, assumed (see chapter 2, § 10) that in BP there would be verb movement, but not to the highest INFL node, differently from EP. Silva (2001) also assumes that BP has V-to-Infl but this movement is limited to Asp. Cyrino (2011) assumes that verb movement in BP would be limited to Asp (or T₂, in her terms).

An interesting suggestion is put forth in Cyrino (2011) concerning the richness of T in BP and EP. The author proposes that T is rich in EP but not in BP—the same suggestion is made in Ambar et al. (2009) and Ambar (2008)—, in spite of being morphologically marked in both. Cyrino associates the absence of V raising to T (a higher projection in her framework) to the weakness of tense in this language. According to her, V does not move to the highest T in the clause, but to a lower Asp Projection, which she identifies as T₂ (based on Giorgi and Pianesi 1997).

The data shown in (47-48), from BP and European Portuguese (EP), are crucial for Cyrino's contention that T is not rich in BP. The synthetic form of past tense is neutralized in BP, since it can be used in reference to a past situation or, depending on the context, even in reference to the moment of speech.

- (47) a. *Só falta* cerveja nessa festa!
 Only lack beer in-this party
 'Only beer is missing in this party!'
 (OK EP, OK BP = there is still the possibility that someone will buy beer)
- b. *Só faltou* cerveja nessa festa!
 Only lacked beer in-this party
 'Only beer was missing in this party!'
- (i) OK EP, OK BP = the party is over, the speaker has accepted the situation, that there was no beer and that the situation didn't change
- (ii) *EP; OK BP = the party is not over, the speaker has accepted the situation – that there is no beer and that the situation is not going to change.
- (48) a. *Você vira* na High Street, e *chega* na universidade. (OK EP; OK BP)
 You turn in-the High Street and arrive in-the university
 'Turn on High Street and then you arrive at the university'
- b. *Você virou* na High Street, e *chegou* na universidade. (*EP; OK BP)
 You turned in-the High Street and arrived in-the university
 'Turn on High Street and then you arrive at the university' (Cyrino 2011: 58)

(43-44) would suggest that T is weak in BP and that, for this reason, this language lacks V-raising to a higher Infl node.⁹⁶ Since there is independent evidence for V-raising in BP

⁹⁶ An additional example which suggests that the synthetic preterit form could also refer to the moment of the speech in BP could be illustrated by (i) below. The context for this interpretation could be a situation where a girl has just put on her new dress. A friend of hers who approves her new acquisition could utter something like (i):

- (i) *Gostei* desse vestido!
 (I-)liked of-this dress.
 'I like this dress!'

(Galves 1993, 1994, Figueiredo Silva 1996, Cyrino and Matos 2002), Cyrino suggests that V-raising is limited to Asp (or T₂) in this language.

Since I am assuming Cinque's (1999) structure of the IP, I identify Cyrino's Asp/T₂ with T_{Anterior}, the lowest Tense-related node in Cinque's representation. V cannot move past *já* 'already' in BP (as we have seen in (45-46)). *Já* sits on the left-edge of T_{Anterior}. Thus, the idea that V cannot leave T_{Anterior} because tense is weak in BP makes sense, as long as leaving T_{Anterior}, in the present context, would mean moving past *já*. All this amounts to saying that the data given in (38) and (45-46), from Silva (2001) and Modesto (2000), found above, would meet Cyrino's contention that V does not raise to a higher projection in BP.

Hence, it seems that the fact that V does not move any higher than T_(Anterior) in BP should be attributed to the fact that T becomes weak in this language (Cyrino 2011, Ambar 2008). This proposal still adheres to Galves's (1993, 1994) idea that V does not move to a higher INFL node in BP. The tests applied by Galves (1993, 1994[2001])—see also section 10 of chapter 2—also suggests that V-to-I is limited, in BP, to a medial position. Viewed from this perspective, the weakening of the inflectional verbal paradigm, though important, for instance, to explain the loss of referential null subjects in BP (Duarte 1995), seems to not be the reason for the loss of V-movement in declaratives.

Let us explore the distribution of V relative to T_{Anterior} in other Romance languages. Judging from Silva (2001), Spanish would behave almost like BP, as far as the position of *ya* 'already' relative to V is concerned. Thus, V would preferentially be found to the right of *ya* 'already' (cp. (49a) with (49b)). Sentence-final *ya* would also be possible (49c).

(i) does not refer to a situation in the past where the speaker liked her friend's dress. On the contrary, (i) refers to the moment of the speech, meaning "I like this dress".

I have another example from my childhood. In the soccer stadium "José Maria de Campos Maia" of my city, Mirassol, in a match of the local team "Mirassol Futebol Clube", since the two teams tied the game, the winner was decided in the penalties. I remember Mirassol's fans all shouting when an adversary player was about to kick:

(ii) – Errou! Errou! Errou! Errou! ...
Failed! Failed! Failed! Failed!
'(I hope you) get it wrong! Get it wrong! Get it wrong!'

The adversary player had not kicked yet and Mirassol's fans all shouted (ii). Another example to illustrate the use of the preterit for the moment of the speech, in this particular context to curse at the opponent team.

- (49) *Spanish* (Silva 2001: 33)
- a. Yo **ya** sé español. (Spanish)
I already know Spanish
 - b. Yo sé español **ya**. (Spanish)
I know Spanish already
 - c. ?Yo sé **ya** español. (Spanish)
I know already Spanish

As far as Italian is concerned, Cinque (1999: 152) had already mentioned that, “In the unmarked case, finite verbs in Italian precede *mica* and all adverbs following *mica* (*già, più, ancora, sempre, appena, subito, brevemente, quasi, completamente, bene, presto*), while preceding or following all higher adverbs (*rapidamente, spesso, di nuovo, di solito, stupidamente, forse, obbligatoriamente, volentieri, necessariamente, ora, probabilmente, evidentemente, fortunatamente, francamente*).”⁹⁷ Thus, though not obligatory, movement of V past ‘lower adverbs’ is the unmarked choice in Northern Italian. This is confirmed by the data in (50a,b). Postverbal *già* is preferred to preverbal *già*.

- (50) *Italian* (Silva 2001: 33)
- a. Io so **già** l’italiano.
I know already Italian
 - b. Io **già** so l’italiano.
I already know Italian

From the data on the position of the T_{Anterior} adverb “already” relative to the V, one could say that V moves less in BP than in Spanish (given the “?” judgment reported for (49c)), EP and Italian. The relative position of the $\text{Adv}_{T_{\text{Anterior}}P}$, *già* ‘already’, with respect to the V seems to be what distinguishes BP and Italian as far as optional movement of the lexical V is concerned.⁹⁸

Conclusively, it seems that the limitations on the raising of V in BP are to be linked to the nature of T in this language, which, according to Ambar (2008) and Cyrino (2011), is not rich.

⁹⁷ But see Cinque (1999: 31 and note 80 of chapter 1).

⁹⁸ The relative position of the lexical V to *già* ‘already’, in BP, and also the relative position of auxiliaries to *già* in this language can give us interesting pieces of evidence for the idea that auxiliaries, in this language, should enter the derivation in the lower zone of the IP, specifically to the right of $T_{\text{Anterior}}^{\circ}$ (this one

5. VP-ellipsis: A Way to Diagnose V-to-I in Portuguese

Both Brazilian and European Portuguese have VP ellipsis (Matos & Cyrino 2001, Cyrino & Matos 2002, Cyrino 2011). As defined in Cyrino & Matos (2002), VP ellipsis is a silent category selected by an overt verbal element in INFL. As in English, the elided VP can be licensed by an auxiliary verb or copula *ser* ‘be’, as these elements occupy dedicated positions in the IP. Besides that, since Brazilian and European Portuguese have V-to-I raising, the V raised to the IP can also license the elided VP. Thus, VP-ellipsis can also be a way to diagnose V-to-I movement in the languages which have this type of predicate ellipsis.

After V-to-I movement, the V leaves a copy within the *v*P which gets deleted. The elliptical construction arises in those cases where VP-adjuncts and V-complements are also unpronounced. An example of VP-ellipsis in Portuguese is given in (51). (52) is the derivation proposed by Cyrino & Matos (2002) for (51):

- (51) A Ana não leva o computador para as aulas, porque os amigos também não levam [-].
The Ana not brings the computer to the classes, because the friends too not bring [-].
‘Ana does not bring the computer to the classes because her friends do not either.’
(Cyrino & Matos 2002: 180)
- (52) porque os amigos também não levam_i [_{VP} [_V levam_i] ~~the computer to the classes~~]
(Cyrino & Matos 2002: 181)

There is a “Parallelism Requirement” (Cyrino & Matos 2002, § 2) which applies at LF to ensure that the phrase to be deleted receive an interpretation similar to its antecedent.

The licensing of the elliptical VP obtains under local c-command “ (...) by the chain of the lexically filled functional head with V-features that merges with the elliptical constituent” (Cyrino and Matos 2002: 186, n. 18). Thus, checking is not the crucial licensing factor but local c-command.⁹⁹

included). It will be the main subject of the *Appendix* in chapter 5.

⁹⁹ VP ellipsis (which, among the most described Romance languages, occurs only in BP and EP) should be distinguished from *stripping*, another type of predicate ellipsis, which may occur in French, Spanish and Italian (see the examples in (i, ii)). Portuguese also has *stripping*, as a strategy for predicate ellipsis, as seen by the examples in (iv), which correlate with the VP ellipsis examples in (iii,a,b). All these examples were gathered from Cyrino & Matos (2002).

Now, being VP-ellipsis a reliable diagnostics for verb movement (at least in Portuguese and

-
- (i) a. Luis no habla ingles, pero yo sí [-]. (Spanish)
 Luis not speaks English, but I yes [-].
 ‘Luis does not speak English but I do’
 b. Susana leyó Guerra y Paz pero María no [-].
 ‘Susana reads War and Peace but Maria does not’
- (ii) a. John était critique, mais Mary non. (French)
 John was criticised but Mary not
 b. Marion boit du rhum, et Raquel aussi.
 Marion drinks rum, and Raquel too.
- (iii)a. A Ana já tinha lido o livro à irmã mas a Paula não tinha [-]. (VP-ellipsis)
 The Ana already had read the book to-the sister but the Paula not had [-].
 ‘Ana had already read the book to her sister but Paula had not’
 b. O João é simpático para todas as pessoas e a Ana também é [-]. (VP-ellipsis)
 The João is nice for all the people and the Ana too is
 ‘João is nice to everybody and Ana is, too’
- (iv)a. A Ana já tinha lido o livro à irmã mas a Paula não [-]. (‘Stripping’)
 The Ana already had read the book to-the sister but the Paula not [-].
 ‘Ana had already read the book to her sister but not Paula’
 b. O João é simpático para todas as pessoas e a Ana também [-]. (‘Stripping’)
 The João is nice for all the people and the Ana too
 ‘João is nice to everybody and Ana too’

VP ellipsis and stripping should however be kept as two distinct types of predicate ellipsis since the former always implies the presence of a DP subject (overt or covert), while stripping admits other constituents as the remnant of the ellipsis (see (iva,b)). Besides this, as Matos & Cyrino (2001) and Cyrino & Matos (2002) pointed out, ellipsis may occur in islands contexts whereas stripping cannot (cfr. (v) versus (vi)).

- (v) Ela só vai visitar os amigos se a Ana também for [-]. (VP-ellipsis)
 She only go.Indicative.3sg visit the friends if Ana too is [-].
 ‘She will visit her friends only if Ana will, too.’
- (vi)a. *Ela só vai visitar os amigos se a Ana também [-]. (Stripping)
 She just go.Indicative.3sg visit the friends if the Ana too[-].
 b. *O João não vai ao cinema hoje mas perguntou quem sim [-].
 The João not goes to the movies but (he) asked who yes [-].
 c. *Tendré que hacerlo yo porque Susana no [-].
 will_have that to do I because Susana not [-].

VP ellipsis should also be distinguished from null object constructions. Since Portuguese has V-to-I, if the VP has only one object and no adjunct, VP ellipsis may be confused with null object constructions. Cyrino and Matos distinguish these two constructions on the basis that in VP ellipsis all the complements and adjuncts of V get elided. Thus, (vii) is ambiguous between a VP ellipsis or a null object interpretation, whereas (viii) is undoubtedly an instance of null object, given that the adjunct gets pronounced.

- (vii) O João leu esse livro e a Ana também leu [-].
 The João read this book and the Ana too read[-].
 ‘João read that book and Ana did too/João read that book and Ana read it too.’
- (viii) Ela trouxe o computador para a Universidade e ele trouxe [-] para o escritório.
 She brought the computer to the university and he brought [-] to the office
 ‘She brought the computer to the university and he brought it to the office’.

English, which exhibit this type of predicate ellipsis), one should expect differences between the two varieties of Portuguese as far as the licensing and interpretation of the elliptical VP is concerned, since, judging from Modesto (2000)—see the previous section—, V raises more in EP than in BP. This prediction is indeed borne out. As shown in Matos & Cyrino (2001), Cyrino & Matos (2002) and Cyrino (2011), the position that the lexical verb occupies in INFL is involved in the interpretation of VP-ellipsis, as we noticed. This is shown in (53) and (54-56) below. Cyrino (2011) assumes that V raises to $T_{(1)}$ in EP but to $Asp(T_2)$ in BP. In terms of Cartography, this amounts to saying that V moves past $T_{Anterior}$ in EP but not in BP. If V plus auxiliaries are taken to form a complex head which occupies the highest T in EP, as suggested in Cyrino & Matos (2002), the fact that only the data in (53) allows the VP-ellipsis interpretation in EP is thus explained. The focusing adverb *também* ‘also’ asymmetrically c-commands the whole verbal sequence only in (53).

- (53) Ela tem lido livros às crianças e ele também tem lido [VP-].
 She has read books to-the children and he too has read
 ‘She has read books to the children and he has, too.’

In (54) and (56), the VP-ellipsis interpretation is lost in EP and the only possible reading seems to be the null object interpretation for the gap (see (c) of (54) and the interpretation reported for (56)). The focusing adverb *também* ‘also’ does not asymmetrically c-command the whole verbal sequence and the VP-ellipsis interpretation is not available. This is not the case for BP. Since the V raises only up to $T_{Anterior}$, *também*, the focusing adverb, can attract (in Kayne’s 1998 sense) constituents of the verbal sequence starting from the bottom. The V will be in a lower position from where it will be possible to license the elided VP. Thus, (53), (54) and (55) are possible in BP.

- (54) a. Ela tem lido livros às crianças e ele tem também lido[-]
 She has read books to-the children and he has too read
 b. BP: [-] = $[_{VP} [_{V} t] \text{ the books to the children}]$
 c. PE: [-] = i. ?? $[_{VP} [_{V} t] \text{ the books to the children}]$
 ii. ok $[_{V} t] [-]$
- (55) a. Ele está mandando as cartas aos clientes e ela está também mandando [-] (BP)
 He is sending the letters to the costumers and she is too sending
 ‘He is sending the letters to the costumers and she is too.’
 b. BP: [-] = $[_{VP} [_{V} t] \text{ the letters to the costumers}]$

- (56) a. #Ele está a mandar as cartas aos clientes e ela está também a mandar [-] (EP)
 He is to send the letters to the costumers and she is too to send
 b. PE: [-] = i. ??_{[VP [V t]]} the letters to the costumers
 ii. ? _[V t] [-]

We have shown, based on Matos & Cyrino (2001), Cyrino & Matos (2002) and Cyrino (2011), that VP-ellipsis can be a diagnostics for V-raising in the languages which exhibit this phenomenon. English does not have V-to-I (or V raises very little along the lowest adverbs of the Cinque hierarchy). As such, the lexical V does not license an elliptical VP. Portuguese has V-to-I, so the V in I can license the elided constituent.¹⁰⁰

Remember from § 2.1 that, in its movement upwards, the VP must pied-pipe some of the lowest adverbs, namely, Asp_{Frequentative(II)} *com frequência* ‘frequently’, Asp_{Repetitive(II)} *de novo* ‘again’, Asp_{Inceptive(II)} *do nada* ‘out of nowhere’ and Asp_{Celerative(II)} *cedo* ‘early’. If the VP obligatorily pied-pipes these adverbs in the *whose-picture* type of pied-piping, we expect that they be part of the elided chunk, in the second element of the coordination, if they are present in the first element of the coordination. This is due to the fact that, according to Cyrino & Matos (2002), the elliptical construction arises when both VP-adjuncts and V-complements get unpronounced. The data in (57-58) shows that this is indeed the case. The adverbs *com frequência* ‘frequently’ (Asp_{Frequentative(II)}), in (57), *de novo* ‘again’ (Asp_{Repetitive(II)}), in (58), *do nada* ‘out of nowhere’ (Asp_{Inceptive(II)}), in (59) and *cedo* ‘early’ (Asp_{Celerative(II)}), in (60) are all recovered by the elliptical VP. This is the preferential reading in BP and EP, though the gap can also be interpreted as a null object. I present below the data on BP, by stating the interpretation of the elided constituent. I do the same for some of the corresponding sentences in EP.¹⁰¹

- (57) a. O Mané come banana com frequência e a Mara também come [-]. (BP)
 b. O Manel come bananas com frequência e a Mara também come [-]. (EP)
 The Mané/Manel eats banana with frequency and the Mara too eats [-].
 (i) ‘Mané/Manel eats banana frequently and Mara does too [-].’ (VP-ellipsis: preferential reading in BP and EP)
 (ii) Null object (possible, but not preferential in both BP and EP).
 (58) a. O Mané limpou a casa de novo e a Mara também limpou [-]. (BP)
 b. O Manel limpou a casa de novo e a Mara também limpou [-]. (EP)
 The Mané/Manel cleaned the house again and the Mara too cleaned
 (i) ‘Mané/Manel did the housework again and Mara did too [-].’ (VP-ellipsis: preferential reading in both BP and EP)

¹⁰⁰ On the fact that Italian has V-to-I movement (Belletti 1990, Cinque 1999, Ledgeway and Lombardi 2005) but does not have the VP-ellipsis phenomenon, see Matos & Cyrino (2001).

¹⁰¹ Many thanks to Gabriela Matos for her judgments (and interpretation) of the EP data.

- (ii) Null object (possible, but not preferential in both EP and BP)
- (59) O Mané abandonou o curso do nada e a Mara também abandonou [-]. (BP)
 The Mané gave up the course out of nowhere and Mara too gave up [-].
 ‘Mané gave up the course out of nowhere and Mara did too [-].’
- (60) a. O Mané acorda cedo todas as manhãs e a Mara também acorda [-]. (BP)
 b. O Manel acorda cedo todas as manhãs e a Mara também acorda [-]. (EP)
 The Mané/Manel wakes up early all the mornings and the Mara too wakes up [-].
 (VP-ellipsis)

The elliptical interpretation also arises in those cases where pied-piping, though preferred, is not obligatory:

- (61) a. O Mané limpou o banheiro cuidadosamente e a Mara também limpou [-]. (BP)
 b. O Manel limpou a casa de banho cuidadosamente e a Mara também limpou [-] (EP)
 The Mané cleaned the toilet carefully and the Mara too cleaned [-]
 (i) VP-ellipsis: ‘Mané cleaned the toilet carefully and Mara did too [-].’ (BP and EP)
 (ii) Null object: BP and EP
- (62) O Mané limpou o banheiro em vão e a Mara também limpou [-].
 The Mané cleaned the toilet in vain and the Mara too cleaned [-]
 (i) ‘Mané cleaned the toilet in vain and Mara did too [-].’ (VP-ellipsis)
 (ii) Null object
- (63) O Mané trabalha ainda nas Casas Bahia e a Mara também trabalha.
 The Mané works still at-the Casas Bahia (Store) and the Mara too works
 (i) ‘Mané still works at Casas Bahia Store and Mara does too [-].’ (VP-ellipsis)
 (ii) Null object
- (64) O Mané não trabalha mais nas Casas Bahia e a Mara também não trabalha.
 The Mané not works anylonger at-the Casas Bahia (Store) and the Mara too not works
 (i) ‘Mané does not works at Casas Bahia Store any longer and Mara doesn’t too [-].’
 (VP-ellipsis)
 (ii) Null object

In these examples, the VP ellipsis interpretation is possible but no longer preferential in BP. Varying from the sentences in (57-60), in (61-64) there is no preferential reading for the gap: both VP-ellipsis or a null object interpretation can be associated with it. It is interesting to observe that the adverbs appearing in (57-60), where the gap is preferentially interpreted as VP-ellipsis, are essentially those that, in §2.1, are argued to be obligatorily pied-piped by the V. Thus, in BP, all adverbs which are found to the right of *já* ‘already’ (Γ_{Anterior}) can be part of the elided VP-chunk in the second element of the coordination if they are present in the first element. In terms of Cartographic representations, the elided constituent could correspond to the portion of the extended projection of V which is c-commanded by the Verbal element

raised to (in the case of the lexical V) or root-merged in (in the case of auxiliaries—see the *Appendix* in chapter 5) T_{Anterior} or any functional head lower than this (in a way which resembles Harwood & Aelbrecht’s 2012 analysis of VP ellipsis in English—where everything lower than $\text{Asp}_{\text{Progressive}}\text{P}$ can be elided).

I will go back to VP-ellipsis in Chapter 5, § 5. In that section, I will argue that it can help us to decide on two alternative derivations which involve the appearance of higher adverbs to the right of V (in which one would call their ‘focusing use’). The very fact that the adverb in the first element of the coordination can only receive a wide-scope reading, i.e. it takes under its scope the (whole) IP and not the sole object to its left, will be taken as evidence for the analysis proposed in chapter 5. The higher adverb cannot be recovered in the second element (in both BP and EP), thus favoring a null object interpretation for the gap. These facts will favor the analysis I propose in chapter 5 for higher adverbs, namely, the generalization of Kayne’s 1998 treatment of *only* to all adverbs (as introduced in chapter 3). The (higher) adverb is merged in a position which is inaccessible for V raising. Hence, the adverb—despite surfacing to the right of V, by means of remnant-movement of V past it—fails to be part of the elliptical constituent.

6. Conclusions

In this chapter, we noticed that lower adverbs *are* reliable diagnostics for verbal raising. They occupy left-edge positions in the ‘lower zone’ of the clause which makes it possible to detect the presence or absence of verb movement to INFL. We also noticed that the lowest lower adverbs, namely, $\text{Asp}_{\text{Frequentative(II)}}$ (*frequentemente* ‘frequently’), $\text{Asp}_{\text{Repetitive(II)}}$ (*de novo* ‘again’) and $\text{Asp}_{\text{Celerative(II)}}$ (*cedo* ‘early’) must be pied-piped by the VP together with the complement of V. From Voice to $\text{Asp}_{\text{Completive(I)}}$, the adverb is pied-piped in the unmarked case. Alternatively, the adverb may appear between the V and its complement. Since the adverb in this case is focalized (Gonzaga 1997), I suggest that the adverb moves to [Spec,FocP] of Belletti’s (2001, 2004) low periphery. We also noted that V movement, from $\text{Asp}_{\text{SingCompletive(I)P}}$ to T_{Anterior} is ‘optional’, i.e. V may or may not raise. The V necessarily stops in T_{Anterior} or even lower, since it cannot move past *já* ‘already’.

This form of analyzing the facts would provide an answer to question “(i)”, raised in § 1.,

namely, “How should verbal movement be approached?”.

In section 4., I suggested that the fact that V does not raise past *já* ‘already’, in BP, is due to the weakening of Tense in BP (Cyrino 2011). European Portuguese, having a rich tense system does not preclude the raising of V past *já* ‘already’ (§ 4). The approach put forward in section 4 partially answers the question “(ii)”, asked in section 1, namely, “How could the issue of cross-linguistic variation be accounted for?” Cross-linguistic variation, in the Cartography framework, is to be linked to Merge operations, i.e. external Merge (what is merged with morphophonological material and what gets unpronounced (Kayne 2005)) and internal Merge (the height, in the hierarchies, that displacements target (in BP V cannot raise past *já* ‘already’, whereas in EP it can)).

In section 5, it was shown, based on Matos & Cyrino (2001) and on Cyrino & Matos (2002), that VP-ellipsis can be taken as a diagnostics for V-raising in the languages that exhibit this type of predicate ellipsis.

Of course, it is still necessary to investigate the movement of different verbal forms among the IP-related functional projections, an issue which, though important, has not been completed thus far and still deserves an in-depth investigation. The appendix which follows is an attempt to derive the different values of *sempre* in Portuguese (BP and EP) from a cartographic representation of the IP structure. The different readings have to be associated with the position where *sempre* is merged in the derivational history.

Appendix 2: On the uses of *sempre* in Portuguese¹⁰²

In section 2 of this chapter, I did not discuss the distribution nor the interpretation of the adverb *sempre* in Brazilian and European Portuguese. Here I will tentatively present a sketch of how a Cartographic analysis would account for the distinct values of this adverb in both Brazilian and European Portuguese.

1. *Sempre* in European Portuguese (EP)

There are (at least) three (main) interpretations available for the adverb *sempre* in the clause, as noticed by many linguists working with Portuguese (Gonçalves 1997; Lopes 1998, 2006; Brito 2001; Galves 2001; Ambar, Gonzaga & Negrão 2004; Ambar 2008; Ambar et al. 2009; Negrão, Ambar and Gonzaga, f.c.; Fiéis 2010; a.o.):

(i) *the confirmatory reading* (*sempre* = ‘really’, ‘indeed’, ‘after all’): in this reading, *sempre* quantifies over points of view (Lopes 1998, Ambar 2008). It reinforces the truth of the proposition, by expressing the speaker’s degree of confidence about what they are uttering in the propositional content. It corresponds to English *really* or *indeed* (Ambar et al. 2004).

- (1) a. O João *sempre* vai/foi a Paris de comboio. (*vai*: [+ present]; *foi*: [+ past])
The J. ‘really/indeed’ goes/went to Paris by train.
‘João really/indeed goes/went to Paris by train.’
(Ambar, Gonzaga & Negrão 2004: 2)
- b. A: – As nossas expectativas sobre o vencedor confirmaram-se?
Our expectations about the winner were-confirmed-CL
B: – Sim, a Patrícia *sempre* ganhou o prémio. (A.C. Macário Lopes, p.c.)
Yes, the Patrícia really won the prize.
(‘A: - Have they confirmed our expectations about the winner?
B: -Yes! Patrícia really won the prize.’)

¹⁰² I have not included this “Appendix” as a section of chapter 4 for a couple of reasons. Here, I am doing comparative work, discussing the data on both Brazilian and European Portuguese to understand the microparametric variation regarding the uses of *sempre* in these two varieties of Portuguese. Of course, I have also tried to include data from other Romance languages and even from English in chapters 4, 5, but not to the same extent I will do here.

(ii) *temporal/aspectual interpretation* (*sempre* = ‘always’): in this use *sempre* universally quantifies over events (whenever it appears post-verbally in EP or pre-verbally if the V is in the past tense).

- (2) a. O João comprou *sempre* livros na FNAC.
 the J. bought always books at FNAC.
 ‘J. always bought books at FNAC.’ (Ambar, Gonzaga & Negrão 2004: 10)
- b. A: - Quando o J. vai a Paris, vai de avião!
 When the J. goes to Paris, he-goes by plane.
 B: - Não! O João vai sempre de comboio.
 No! The J. goes always by train.
 (‘A: Whenever J. goes to Paris, he goes by plane./B: No! J. always goes by train.’)

(iii) *the ‘speech-act’/‘pragmatic or discursive’ reading* (*sempre* ≡ ‘honestly’/‘really’): the adverb marks the illocutionary force of the sentence where it appears (see Lopes 1998).

- (3) *Sempre* quero ver se tens coragem para isso!
 Really want.PRES.1SG. see.INF if have.PRE.2SG courage to this
 ‘I do want to see if you are bold enough to do that’
- (4) *Sempre* me saíste um aldrabão! (Lopes 1998: 7)
 really CL.DAT.1SG left.PRES.2SG. a bullshitter
 ‘You are a real bullshitter’

2. *Sempre* in BP

Only the temporal/aspectual value (cfr. (ii) above) is available for *sempre* in BP, independently of its position relative to the V. Nonetheless, the pre-verbal position is preferred (Galves 2001; Fiéis 2010) (data gathered from Ambar et al. 2004: 10).

- (5) O João compra/comprou sempre livros na FNAC. (BP marked)
 the J. buys/bought always books at FNAC
 ‘J. always buys/bought books at FNAC’
- (6) O João sempre compra/bought livros na FNAC. (BP preferred)
 the John always buys/bought books at FNAC

As far as the aspectual meaning of *sempre* is concerned, there are different interpretations associated with the position of this adverb with respect to the predicate (within one and the same variety of Portuguese). There are also differences among these two varieties regarding the position associated with each interpretation.

3. Structural factors and the interpretation of *sempre*

The three main readings available for *sempre* in EP (namely, the temporal/aspectual, the confirmative and the speech-act readings) are dependent on two structural factors (cfr. Ambar, Gonzaga & Negrão 2004, Fiéis 2010; a.o.), namely:

(i) the position of *sempre* relative to the V (cfr. (7) and (8) from EP, cited in Gonzaga 1997: 152-153).

- (7) a. O João está sempre em casa. (nunca sai)
 the J. is always at home (never left)
 'J. is always at home, he never leaves.'
- b. O João diz sempre a verdade. (nunca mente)
 J. tells always the truth (never tells-lies)
 'J. always tells the truth, he never tells lies.'
- c. O João lê sempre o jornal. (nunca vê o telejornal).
 The J. reads always the newspaper (never watches the telenews)
 'J. always reads the newspaper, he never watches the telenews'
- (8) a. O João sempre está em casa. (afinal não saiu)
 the J. really is at home (indeed not left)
 'J. is indeed at home.'
- b. O João sempre diz a verdade (afinal não mente)
 the J. really tells the truth (indeed not tells-lies)
 'J. indeed tells the truth.'
- c. O João sempre lê o jornal. (afinal lê o jornal)
 J. really reads the newspaper (indeed reads the newspaper)
 'J. indeed reads the newspaper.'

In EP, the pre-verbal position (cfr. (8)) favors the confirmatory/assertive interpretation of *sempre* (= 'indeed', 'after all'). The post-verbal position on the other hand favors the temporal/aspectual reading (= 'always').

(ii) the morphological tense of the clause: in EP, the temporal/aspectual reading in pre-verbal position is only available in Past clauses. For some speakers (Ambar et al. 2004; Ana C.M.Lopes (p.c.)), it is only possible if, in addition to T-Past, *sempre* is focalized (cf. Ambar et al. 2004; Negrão et al. (fc.); a.o.).

(9) *European Portuguese*

- a. */??O João *sempre* compra livros na FNAC.
the John always buys books at FNAC (cf. Ambar et al. 2004) (Ca; Lo¹⁰³)
- a'. */??O João *SEMPRE* compra livros na FNAC.
the John ALWAYS buys books at FNAC (*sempre* has focus) (Ca; Lo)
- a.'' O J. compra *SEMPRE* livros na FNAC. (Lo)
- b. (*)O João *sempre* comprou livros na FNAC. (*Lo; OK Ca)
the J. always bought books at FNAC.
- b'. O João *SEMPRE* comprou livros na FNAC. (Lo, Ca)
the J. always bought books at FNAC. (***sempre* has focus**) (Ambar et al. 2004)

4. The nature of the object

Gonzaga (1997) and Fiéis (2010) also mention another relevant factor for the interpretation of *sempre* in EP sentences, namely the nature of the object (if [specific]/[-specific]) (Fiéis 2010: 77 and references cited there).

In (10a), the object is [+specific]. Thus, *sempre* receives a confirmatory interpretation, meaning ‘after all’. In (10b), the fact that the object is [-specific] induces the aspectual interpretation of *sempre* ‘always’.

- (10) a. O João *sempre* construiu a casa. (EP)
The J. after all build-IND.PAST.3SG the house
‘J. built the house after all.’ (Fiéis 2010: 77)
- b. O João *sempre* construiu casas (EP)
the J. always build-IND.PAST.3SG houses
‘J. always built houses.’

¹⁰³ I gave the sentences in (9) to other EP speakers, Ana Castro (Ca) and Ana C. M. Lopes (Lo). I put the abbreviations in parenthesis to show which speaker agrees with the judgment of the correspondent sentence.

However, as noticed by Brito (2001: 67), in post-verbal position this connection is not so strong, since it is possible to have temporal/aspectual *sempre* with specific DPs in EP, such as proper nouns, in Past Tense clauses:

- (11) c. Eu sempre encontrei o Luís no café às 9 horas.
 'I always found Luis at the café at 9 a.m.' (Brito 2001: 67)

These cross-linguistic differences (BP/EP) have been argued to derive from aspects of the structure of the clause (V-movement and the licensing of null subjects) (cfr. Brito 2001; Ambar, Gonzaga & Negrão 2004; Ambar 2007; Negrão et al. f.c.). (See Fiéis 2010 for a criticism of these analyses).

5. Temporal/aspectual *sempre* in BP/EP

Remember, from section 2.2 and 4 of chapter 4, that the V moves no higher than T_{Anterior} in BP. Thus, it makes sense if the unmarked reading for *sempre* is the one where it appears pre-verbally in BP (cfr. (13)). In EP, since the V preferably moves past *sempre* (whose position, in terms of fine-grained representations, will be defined below), the default reading for *temporal/aspectual sempre* is the one where the V is found to the left of *sempre*. Sentence (12), from Ambar et al. (2004: 10), illustrates this.

- (12) a. O João compra *sempre* livros na FNAC. (EP preferred; BP non-preferred)
 the J. buys always books at FNAC
 'J. always buys books at FNAC'
 b. O João comprou *sempre* livros na FNAC. (EP preferred; BP non-preferred)
 the J. bought always books at FNAC.
- (13)¹⁰⁴ a. O João *sempre* compra livros na FNAC. (BP preferred, */??EP)
 the John always buys books at FNAC
 b. O João *sempre* comprou livros na FNAC. (EP *sempre* has focus; BP preferred)
 the J. always bought books at FNAC.

¹⁰⁴ Cfr. the data given in (9). Pre-verbal *sempre* in the temporal/aspectual reading is only possible if the tense of the clause is the Past. Ana C. M. Lopes (p.c.) told me that pre-verbal *sempre* is not available in the present even if *sempre* is focalized. Ana Castro does not accept the sentence in the present either.

The table below summarizes the distribution of temporal-aspectual *sempre* in BP and EP.

Table: Temporal *sempre* ('always') in BP and EP

	Pre-verbal	Post-verbal
BP	<i>Default</i>	Marked
EP	*Present/ ^{OK} Past	<i>Default</i>

One might wonder if there is any difference in interpretation for temporal-aspectual *sempre* if preceding or following the V in the grammatical cases (i.e., in all cases in BP—see the table above—and in the post-verbal position (with all tenses) or the pre-verbal position in the past, in EP. Ambar et al. (2004) show that there are some. This is the topic of the next section.

5.1. Temporal/aspectual reading of ‘sempre’ (correlation of events and pattern of behavior)

5.1.1 Pre-verbal *sempre*

Both in EP and BP, in *past clauses*, *sempre* “conveys a reading expressing a universal quantification over the argument of the predicate (...)” (Ambar et al. 2004: 3) .

- (14) a. O João *sempre* bebeu. (EP, BP)
 the J. always drank. (Ambar et al. 2004: 3)
 a'. = “In all the events of drinking that took place in his life, John drank in them”

Present tense clauses having pre-verbal *sempre* allow this universally quantified reading only in BP, but not in EP:

- (15) O João *sempre* compra livros na FNAC. (BP preferred, */??EP)
 the John always buys books at FNAC (Ambar et al. 2004)
- (16) O João *sempre* bebe. (*EP, BP)
 the J. always drinks.

Moreover, as Ambar et al. (2004: 4) pointed out, pre-verbal *sempre* (in both present and past sentences) in BP favors a ‘correlation of events’ reading:

- (17) O João sempre compra/comprou livros na FNAC.
 the J. always buys/bought book at FNAC
 = ‘Whenever João buys/bought books, he does/did it at FNAC’ (Ambar et al. 2004: 4)
- (18) (A friend of mine was talking to me about her Chemistry professor. She accepted (18a’) as a paraphrase for her (18a)):
 a. Eu sempre encaro ele... (BP)
 I always stare he.ACC
 ‘I always stare at him’
 a’. Sempre que rola de eu ver ele, eu encaro.
 Always that it turns to me to-see he.ACC, I stare (at him)
 ‘Whenever I see him, I stare at him’
- (19) a. A Ana sempre anda de carro.
 The Ana always goes by car
 ‘Ana always goes by car’
 = ‘If she has to move from one place to another/get around, she takes the car.’

5.1.2 Post-verbal (aspectual/temporal) *sempre*

In EP, post-verbal *sempre* (both in present or past clauses) enhances a correlation of events interpretation (Lopes 1998, Ambar et al. 2004: 4):

- (20) O J. bebe/bebeu sempre vinho às refeições. (EP)
 the J. drinks/drank always wine at every meal
 = ‘For all the events of John having a meal there is an event of him having wine.’

The absence of lexical material explicitly referring to another event which *sempre* could establish a correlation with gives rise to ungrammatical results, unless a special intonation is given to it.

- (21) O João ?bebe/?bebeu sempre. (EP)
 the J. drinks/drank always
 ‘J. always drinks/drank’
- (22) O João bebeu sempre! (EP)

J. drank always (= his whole life!)

According to Lopes (1998: 6), prosody is important to promote the focal constituent when two events are co-related by *sempre*. Thus, in (23),

- (23) A Ana vai sempre à praia com o João. (EP; cf. Lopes 1998: 6)
The A. goes always to-the beach with the J.
'Ana always goes to the beach with João'

if *à praia* is focalized, (23) can be paraphrased as in (23'a). If the focal stress falls over *com o João* 'with João', (23'b) is the paraphrase for this correlation of events:

- (23') a. Sempre que a Ana sai com o João, vai com ele à praia.
'When Ana goes out with J., they go to the beach.'
b. Sempre que a Ana vai à praia, é com o João que vai.
'When/If Ana goes to the beach, she goes with João.'

As Lopes (1998) points out, even if one of the events is not explicit (but can be inferred), there is a correlation of events for post-verbal *sempre* in EP:

- (24) A Ana anda sempre de carro. (EP)
the A. goes always by car
'Ana always gets around/moves from one place to another by car.'
- (25) O Paulo está sempre a queixar-se. (EP)
The P. is always complaining.
'Paulo is always complaining.'
- (24') a. Sempre que tem de se deslocar, a Ana recorre ao carro. (EP)
'If/when Ana has to get around/move from one place to another, she turns to the car.'
- (25') a. Sempre que o Paulo fala, exprime uma queixa. (EP)
'Whenever Paulo speaks, he complains about something.' (Lopes 1998: 6)

In BP, the post-verbal position favors the "pattern of behavior" (Ambar et al. 2004: 4) reading, i.e., *sempre* is associated with a continuous/iterative reading:

- (26) O João compra/comprou sempre livros na FNAC. (BP, Ambar et al. 2004: 4)
 the J. buys/bought always books at FNAC
 = 'J. buys books regularly at FNAC'
- (27) A Ana anda sempre de carro.
 The A. moves regularly by car
 'Ana gets around by car regularly'

The next section provides additional evidence to assume two distinct positions for temporal/aspectual *sempre*.

5.2. Additional evidence for the two aspectual/temporal readings

As we saw above, the preverbal position of *sempre* favors the correlation of event reading in BP. The postverbal position favors the pattern of behavior/iterative reading in this language. Ambar et al. (2004: 5) provides additional evidence to associating the interpretation of *sempre* with its position relative to V. This is illustrated in (28), below.

(28a) is grammatical since post-verbal *sempre* introduces a pattern of behavior reading, i.e., an iterative reading. The marginality of (28b) is due to the fact that preverbal *sempre* would imply a correlation of events reading, but there is only one event. Preverbal *sempre* in (28c) enhances a correlation of events which does not entail that he ran very often.

- (28) a. Neste ano, o João correu sempre. (BP) (Ambar et al. 2004)
 this year the J. ran always
 = 'John exercised himself with regularity during the year'
- b. ?? Neste ano, o João sempre correu. (BP)
 this year, the J. always ran
- c. Neste ano, o João sempre correu duas milhas. (BP)
 this year, the J. always ran two miles
 'whenever J. ran this year, he ran two miles'

There is more evidence for the correlation of events reading in EP in post-verbal position and for the two readings in BP. Arguments introduced by a definite determiner cause ungrammaticality because they force a single punctual reading and interpretation of *sempre*:

(29) EP and BP (Ambar et al. 2004:5)

- a. *O João comeu/come sempre o bolo. (EP, BP)
the J. eats/ate always the cake
(post-verbal: pattern of behavior in BP; correlation of events in EP)
- b. O João come/comeu sempre bolos. (EP, BP)
the J. eats/ate always cakes (iterative reading in BP; correlation of events in EP)
- c. * O João sempre come/comeu o bolo. (EP, BP)
the J. always eats/ate the cake
- d. O J. sempre comeu/come bolos. (EP*Present/BP)
the J. always eats/ate cakes

In due time, we will still see how these readings can be captured by a Cartographic representation of the clausal structure.

6. The confirmatory *sempre* in EP

EP (but not BP, as we have noted in the beginning of this appendix) can have a confirmatory reading for *sempre* whenever it appears to the left of the V (present or past) (cfr. (1b), repeated below):

- (1) b. A: – As nossas expectativas sobre o vencedor confirmaram-se? (EP)
Our expectations about the winner were-confirmed-CL
B: – Sim, a Patrícia *sempre* ganhou o prêmio. (A.C.M.Lopes, p.c.)
Yes, the Patrícia indeed won the prize.
(A: - Have they confirmed our expectations about the winner?
B: -Yes! Patrícia indeed won the prize.)

In this use, *sempre* confirms what the speaker is saying in the propositional content.

7. Speech Act ('pragmatic') *sempre* (only in EP)

In this *speech act* (or 'pragmatic') use, *sempre* places the relation speaker/hearer with respect to what the speaker utters in the propositional content. (30) and (31) illustrate this.

- (30) Sempre quero ver se tens coragem para isso!

- Really I-want to-see if you-are-bold to do that
 ‘Really, I want to see if you are bold enough to do that’
 (31) Sempre me saíste um aldrabão! (Lopes 1998: 7)
 really to me you-left a bullshitter
 ‘You really are a bullshitter’

From what has been shown, two (main) differences between the grammars of EP and BP, as far as the placement and interpretation of *sempre* is concerned, are exhibited:

- First, EP allows the *confirmatory* reading of *sempre* (cfr. (1)); BP does not ((1) is ungrammatical for the confirmatory interpretation in BP);
- Second, as far as the default order for the temporal/aspectual *sempre* ‘always’ is concerned,
 - ✓ pre-verbal *sempre* ‘always’ is the default order in BP, independently of the morphological tense of the clause (cf. (13a,b) and (32)). Once again, BP does not allow the *confirmative* reading (see 33):

- (32) a. O João sempre vai para Paris de trem (Ambar et al. 2004: 3)
 the J. always goes to Paris by train (BP)
 ‘J. always goes to Paris by train.’
 b. O João sempre foi para Paris de trem. (BP)
 the J. always went to Paris by train.
 (33) O João *sempre* vai/foi para Paris de trem. (BP) (Ambar, Gonzaga & Negrão 2004: 2)
 The J. ‘always’/ *‘really/indeed’ goes/went to Paris by train (BP)
 ‘J. always/ *really/indeed goes/went to Paris by train.’

- ✓ EP: the preferred order for the *temporal/aspectual sempre* is the post-verbal position (cfr. (12a,b) and (34):

- (34) a. O João vai sempre a Paris de comboio. (EP)
 the J. goes always to Paris by train
 ‘J. always goes to Paris by train.’
 b. O João foi sempre para Paris de trem. (EP) (Ambar et al. 2004: 3)
 The J. went always to Paris by train.

- ✓ pre-verbal *sempre* in the present with a temporal/aspectual reading is rejected for most EP speakers (Ambar et al. 2004: 3)—independently of being focused or not (A.C.M.Lopes; A. Castro, p.c.). Other works in the literature also report it as ungrammatical (see Fiéis 2010):

(35) */?? O João sempre vai a Paris de comboio. (EP)¹⁰⁵ (cfr. with (1))
 the J. always goes to Paris by train
 'J. always goes to Paris by train.'

8. *Sempre* in the literature

Brito (2001), Ambar et al (2009), Ambar (2008), Negrão, Gonzaga & Ambar (forthcoming) derive these cross-linguistic differences regarding the two main different semantic values of *sempre* (modal (confirmative and speech-act) and aspectual/temporal) by turning to differences in the structure of the clause, namely, the landing site for V-movement and the licensing of null subjects.

In Brito's (2001) analysis, EP clause would have more adjunction sites (two adjunction sites, namely, TP and VP) for the adverb *sempre*. That could explain the availability of the two readings. In its temporal/aspectual use, *sempre* would adjoin to VP in EP and BP, when it appears post-verbally, or even to TP, in its confirmatory use, in EP and the pre-verbal temporal/aspectual reading of both EP and BP. Brito assumes the following (early) Minimalist structure for the clause: [CP [AgrSP [TP [vP [VP]]]]].

Ambar et al. (2004), Ambar (2008), Negrão et al. (f.c.); Ambar et al. (2009) consider *sempre* a head, which enters the derivation in T_{Object}[°] (a tense-related functional projection associated with the licensing of objects—see fig. 1 below). V moves to T_{Subject}[°] in both varieties of Portuguese. *Sempre* would have to raise to Dist[°], to check the universal quantification reading. In the derivation of an EP sentence involving confirmatory *sempre*, V[°] would raise to Agr[°], a head above T_{Subject}[°], followed by the raising of *sempre* which would adjoin to Agr[°] and further to Assertive[°] pied-piping the V. Since BP does not have long V-movement (Galves 1993,

¹⁰⁵ Brito (2001) considers (i) as grammatical in her EP:

(i) Eu sempre encontro o Luís no café.
 "I always find Luís at the café" (Brito 2001: 66)

1994; Ambar 2008; Ambar et al. 2009), i.e. movement to Agr^o, as the V stops in T^o in this language (see Galves 1993, 1994), *sempre* does not pied-pipe the V, and the confirmatory reading is not available in BP.

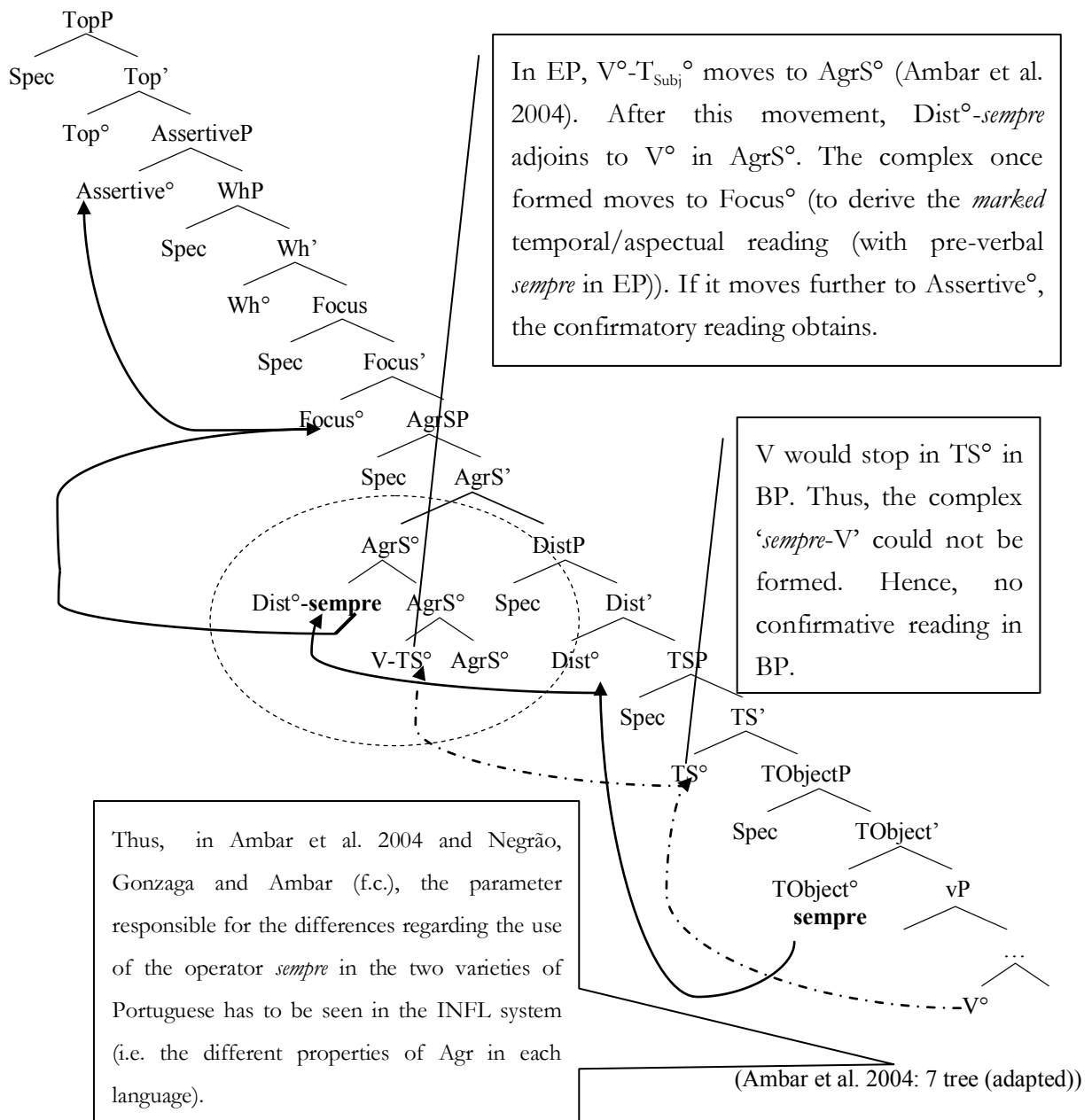


Fig. 1: The structure of the Clause in Portuguese in Ambar et al. (2004)

Though their account provides an interesting explanation for the complete absence of the confirmatory use of *sempre* in BP, by providing syntactic arguments, an important question should be asked: *Why is sempre considered a head?* I will return to this issue below.

Negrão, Ambar & Gonzaga (f.c.) (i.e., Ambar et al. 2004 revisited) assume the following

- (38) a. *Ele *sempre* ontem foi a Paris (Negrão et al., fc, p. 1)
 He always yesterday went to Paris
 b. Ele *sempre* lhe disse isso
 he always him.CL said that

However, the head status of *sempre* is dubious. One should wonder if both *sempre* (i.e., the ‘modal’ and the ‘aspectual/temporal’)¹⁰⁶ have the same categorial status (head or XP).

There is a very interesting suggestion made by the reviewer of Ambar et al. (2004: 7, fn. 5), according to whom there would be two lexical entries for *sempre* in EP, given the fact that, besides the semantic difference (one is modal; the other, aspectual/temporal), there seems to be a syntactic difference (one being a phrase (the temporal/aspectual *sempre*, given that it accepts modification by *quase/nem* (Ambar et al. 2004: 7, fn. 5), the other (the modal *sempre*) a head (since it does not accept modification)). Given this, it would be interesting to explore some properties distinguishing adverbial heads and adverbial XPs (mainly based on Castro & Costa 2002) to decide if Ambar et al.’s proposal should be assumed. This will be conducted in the next subsection.

Another analysis of the different uses of *sempre* in EP is provided by Lopes (1998, 2006). Her semantic/pragmatic analysis considers post-verbal *sempre* an adverb of quantification. In pre-verbal position, two related values arise for *sempre*, as a ‘discourse marker’ (in her terms). One of them is the *assertive value*, the other a *pragmatic* one, the former corresponding to the *attitudinal* adjuncts of Greenbaum (1969), the latter to *style disjuncts* (speech-act AdvPs, in Cinque (1999)). As Lopes mentions, there is always a universal quantification reading associated with *sempre*, independent of its meaning.

Last but not least, Fiéis (2010) discusses Medieval Portuguese data to suggest that the variation regarding the uses of *sempre* in BP and EP should not be attributed to structural properties of the clause, like V-movement or the license of null subjects. In Medieval Portuguese, the variation between V-Adv and Adv-V does not depend on the tense of the clause. As in BP, *sempre* is always temporal/aspectual in Medieval Portuguese, as she proposes. However, Medieval Portuguese has long V-movement and null subjects. Thus, it behaves like EP with respect to these two formal properties. If Brito and Ambar et al.’s

¹⁰⁶ In fact, there would be at least four distinct semantic values for *sempre*, namely, two ‘aspectual’ *sempre* (scope over the event, scope over the process) and two ‘modal’ *sempre* (an assertive and a speech act one). But here I am reducing the four values to two, namely, temporal/aspectual and modal values.

analyses were accurate, Fiéis argues, Medieval Portuguese would be expected to have the two readings as in EP, but it behaves like BP, contrary to facts.

8.1 *Sempre*: a head or a phrase?

Let us now provide some tests available in the literature to decide if *sempre* is a head, as suggested in Ambar et al. (2004) and Negrão et al. (fc.), or an XP. From Castro & Costa's (2002) work (which is Cardinaletti & Starke's 1994 revisited), *aspectual/temporal* 'sempre' is a phrase:

1) Aspectual/temporal *sempre* accepts modification by *quase* 'almost':

- (39) O João compra quase sempre livros na FNAC
The J. buys almost always books at-the FNAC
'J. almost always buys books at FNAC'
- (40) a. O João QUASE SEMPRE constrói casas com terraço. (*quase sempre* has focus)
The J. ALMOST ALWAYS builds houses with balcony
'J. almost always builds houses with a balcony'
- b. O João constrói casas quase sempre com terraço.
c. O João constrói casas com terraço quase sempre.
d. O João nem sempre constrói casas com terraço.
The J. not always builds houses with a balcony
'J. not always builds houses with a balcony'

2) Aspectual/temporal *sempre* can be focalized:

- (9) b'. O João SEMPRE comprou livros na FNAC. (Ana Lopes, Ana Castro (p.c.))
the J. always bought books at FNAC. (***sempre* has focus**) (Ambar et al. 2004)

3) Aspectual/temporal *sempre* can be coordinated:

- (41) a. O José compra sempre e pacientemente os livros na FNAC.

- The J. buys always and patiently the books at-the FNAC
 'J. always and patiently buys the books at FNAC' (Ana Castro, p.c.)
- b. João comprou *sempre e regularmente* livros na FNAC.
 J. bought *always* and *regularly* books at-the FNAC
 'J. always and regularly bought books at FNAC' (Pilar Barbosa, p.c.)

Thus, by following Cardinaletti & Starke's (1994) tests (see Costa & Castro 2002), aspectual/temporal *sempre* ought to be considered an XP (a 'strong' category) in EP,¹⁰⁷ given the three properties mentioned above.

As far as *modal/confirmatory sempre* in EP is concerned, things get a little bit complicated:

1) Confirmatory *sempre* cannot be modified:

- (42) *O João quase sempre construiu a casa
 The J. almost indeed built the house.
 'J. 'almost indeed' built the house.'
- (43) *O J. nem sempre construiu a casa.
 The J. not indeed built the house
 'J. 'not indeed' built the house.'

As Ana Castro told me (p.c.), this modification changes the meaning of *sempre* which becomes aspectual/temporal. However, in (42, 43), as she reminded me, there is some aspectual incompatibility. By changing the V form and the nature of the object, the aspectual reading arises naturally (see (40a-c)).

2) Confirmatory *sempre* does not seem to accept coordination:

- (44) a. ???/*O João sempre e efetivamente construiu a casa. (Ana Castro, p.c.)
 The J. indeed and effectively built the house
 'J. indeed and effectively built the house'
- b. *O João *evidentemente e sempre* vai/foi a Paris de comboio. (Pilar Barbosa, p.c.)
 J. *evidently* and *indeed* goes/went to Paris by train

¹⁰⁷ I share the same judgments for these three tests in my BP. Therefore, *temporal/aspectual* 'sempre' is also

3) Confirmatory *sempre* cannot be contrastively focused:

- (45) *O João sempre construiu a casa, não provavelmente.
The J. indeed built the house, not probably
'John really built the house, not probably'
- (46) *O João SEMPRE construiu a casa!
the J. INDEED built the house!
'J. INDEED builds the house!'

Hence, based on Castro & Costa's (2002) which is Cardinaletti & Starke (1994) revisited, one would suggest that confirmative *sempre* in EP would be a deficient form, which, in Castro & Costa's typology, is considered an X°.

All things considered, there would be two ways of analyzing this formative in EP: either it is an adverbial X° entering the derivation as such in the terminal node of [Spec,Mod_{Certainty}P] (see below), or it is the head of a modal projection. If the last option is to be favored, intervention effects with modals, restructuring verbs, etc. are expected, given the Head Movement Constraint (Travis 1984) or whatever would follow from that.

Let us have a look at other tests available in the literature to decide on the XP/X° status of *sempre* in EP. One test would come from the syntax of reduplication in EP. According to Martins (2007), reduplication of V resulting in emphatic affirmation (in monoclauses) is a consequence of the combination of V°-movement to "Σ" and (subsequent) movement to C, keeping the two V copies phonetically realized.

In European Portuguese, emphatic affirmation can be syntactically expressed through verb reduplication.

- (47) [A] a. O João não comprou o carro, pois não? (European Portuguese)
the J. not bought the car, POIS [= confirmative word] NEG
'John didn't buy the car, did he?'
- [B] b. Comprou, comprou.
bought, bought
'Yes, he DID.'
- (48) [A] a. O João não comprou o carro.

a strong category in this language.

- the J. not bought the car
 ‘John did not buy the car.’
- [B] b. O João comprou o carro, comprou.
 the J. bought the car, bought
 ‘John did buy the car.’ (Martins 2007)

Martins assumes Castro and Costa’s (2002) analysis, mentioned above, according to which some adverbs are weak forms (thus X° , in Castro & Costa’s typology). One of such X° adverbials is the temporal/aspectual *já* (‘already’). Its presence blocks (emphatic) V reduplication, as shown in (49c).

- (49) [A] a. O João ainda não saiu, pois não?
 the J. yet not left, *POIS NEG*
 ‘John hasn’t left yet, has he?’
- [B] b. Saiu, saiu.
 left left
 ‘Yes, he HAS.’
- c. *Já saiu, saiu.
 already left left
 ‘Yes, he HAS.’
- d. Já saiu, já.
 already left already

Remember that EP has V-to-T movement (cf. Ambar 1989; Brito 2001; Costa 2004a,b; Costa and Galves 2002; Ambar et al. 2007). Thus, the ungrammaticality of (49c) can be accounted for if one assumes that the adverbial head *já* blocks V movement beyond T: “thus the verb cannot reach the higher functional heads Σ and C, then undergo morphological reanalysis with C and be spelled-out twice.” (Martins 2007) The author assumes that *já* head-moves to C (lexicalizing $C_{[+emph]}$) and undergoes morphological reanalysis with it, given that the V cannot skip *já* to do that (49c is ungrammatical) as a consequence of the ‘Head Movement Constraint’.

Independent of the implementations of the analysis—i.e. if one assumes head movement as a possibility made available by UG—what is interesting for our propose is the *complete exclusion* of (at least post-verbal) *sempre* as an X° , given that “preverbal adverbs that are *not heads* do not block verb movement beyond T and so are compatible with emphatic verb reduplication” (Martins 2007, emphasis mine). In (50b), the adverb *sempre* does not block T-to- Σ -to-C, since

it is not an X° (the same observation being valid for (51b) with the AdvP *cedo* ‘early’). Differently from X° adverbials like *já*, the adverbs *sempre* and *cedo* cannot be reduplicated to convey emphatic disagreement (see (50c) and (51c)).

- (50) [A] a. O João nem sempre apoiou a Maria.
the J. NEG always supported M.
‘John hasn’t always supported Mary.’
[B] b. O João sempre apoiou a Maria, apoiou.
the J. always supported Mary supported
‘Of course John has always supported Mary.’
c. *O João sempre apoiou a Maria, sempre.
the J. always supported Mary always
‘Of course John has always supported Mary.’
- (51) [A] a. O João não perdeu logo a paciência com a Maria.
‘John didn’t lose his patience with Mary shortly.’
[B] b. O João cedo perdeu a paciência com a Maria, perdeu.
the J. early lost the patience with the M. lost
‘John did soon lose his patience with Mary.’
c. *O João cedo perdeu a paciência com a Maria, cedo.
the J. early lost the patience with the M. early
‘John did soon lose his patience with Mary.’

From the ‘emphatic reduplication’ test in EP, aspectual *sempre* could not be considered a head. As for the confirmatory *sempre*, it could not be tested since higher evidential/epistemic adverbs cannot appear in sentences with emphatic reduplication of V (Martins 2007).¹⁰⁸

Another test which would help us to decide on the head/phrasal nature of *sempre* may come from Costa & Castro’s (2002) observation that weak forms can undergo ‘phonetic reduction’. In colloquial EP, both the ‘modal’ and the ‘aspectual/temporal’ forms of *sempre* can be phonetically reduced (*sempre* > *semp*), apparently independent of the context (pre- or post-verbal) and the value (modal or aspectual) (Ana Castro, p.c.).

- (53) O João “semp” vai a Paris na passagem do ano? (EP)
The J. indeed goes to Paris at-the New Year Eve?
‘J. indeed goes to Paris at the New Year Eve’
- (54) O João vai “semp” a Paris na passagem do ano. (EP)

¹⁰⁸ It cannot be tested in BP, since this language lacks V-to-(Σ -to-)C movement (Miyoto 2001; Martins 2007; Ambar et al. 2007), which is a necessary condition (Martins 2007) for reduplication of V (for emphatic purposes).

The J. goes always to Paris at-the New Year Eve
'J. always goes to Paris at the New Year Eve'

Both forms can be phonetically reduced to “/semp/”.¹⁰⁹

Another test is the extraction in the context of V-to-C in EP. Negrão et al. (f.c.) observe that in EP ‘confirmative’ structures, a constituent can be extracted from the IP to the left periphery provided that there is no Verb movement to C and the canonical SVO order is maintained, through another strategy, namely, the ‘*é que* strategy’ (55a). If V-to-C applies (55b), extraction is banned:

- (55) O João *sempre* vai a Paris
The J. indeed goes to Paris
(55) a. Onde é que o João *sempre* vai?
Where is that the J. indeed goes?
'Where J. indeed goes to?'
b. *Onde vai o João *sempre*?
Where goes J. *indeed*?

Their explanation for the ungrammaticality of (55b) is that *sempre*+V forms a complex. Hence, V cannot move to C°, leaving *sempre* behind.

Castro & Costa (2002) points out that AdvPs behaving as X° can be moved together with the V when it raises to C in wh-interrogatives in EP:

- (56) a. O que já tinham tu feito? (from Castro & Costa 2002)
What already have.2.S.PRES you done
'What had you already done?'
b. Com quem lá tinham tu ido?
With whom there have.2.S.PRES you gone
'Who have you gone there with?'

However, this possibility is not available for XPs:

¹⁰⁹ I fail to accept this phonological reduction for *aspectual sempre* in my BP. Thus, it is undoubtedly an XP in BP.

- (57) a. *O que ontem tinhas tu feito?
 What yesterday have.2.S.PRES you done
 ‘What have you done yesterday?’
 b. *Com quem provavelmente tinhas tu ido?
 With whom probably have.2.S.PRES you done
 ‘Who have you probably gone with?’

Consequently, following Castro & Costa’s (2002) line of reasoning, were *sempre* (modal and/or aspectual) a head, we should expect that the V, on its movement to C°, pied-piped it, contrary to facts:

- (58) a. *Onde sempre vai/foi o João? ((EP) Ana Castro, p.c.) (Confirmatory *sempre*¹¹⁰)
 Where indeed go.PRES/go.PAST the J.
 ‘Where does/did J. indeed go?’
 b. *Onde sempre foi o João? ((EP) Ana Castro, p.c.) (Aspectual *sempre*)
 where always go.PAST the J.
 ‘Where did J. always go?’

Thus, from the V-to-C in *wh*-interrogatives test, both (‘modal’ and ‘aspectual’) *sempre* would have properties of an XP, since they are not sensitive to V°-movement (i.e. they do not form a complex head with the V, and, as a result, they do not move to C° in *wh*-interrogatives).

Last but not least, another test used by Castro and Costa (2002) to distinguish adverbs that behave as heads from AdvPs behaving as XP is the possibility opened for X° adverbials to be the answer for yes/no interrogatives:

- (59) A: - Já tinhas lido o livro? (EP)
 already have.2.S.PRES read the book
 ‘Have you already read the book?’

¹¹⁰ Ambar (2008: 160) accepts (i),

- (i) Aonde *sempre* vai o João?
 Where really/indeed goes DET João
 (‘Where does João really go?’)

provided that “it is associated with an echo-flavour intonation” (*aonde* is stressed), which, in her view, is an indication of the movement of the *wh*-phrase to her AssertiveP.

B: - Já.
 Already.
 ‘Yes, I have’

Castro & Costa (2002: 108) proposes that being the answer to yes/no interrogatives is a property of heads, “given the behavior of answers which do not repeat all the elements of a given question.” In (60a,b), found below, only heads (clitics in this case) can be repeated in the answer (see 60a) if it does not repeat all the elements of the question (cf. 60b):

- (60) a. A: - Já o viste com óculos?
 already CL.ACC.2S.MASC see.2S.PAST with glasses
 ‘Have you already seen him with glasses?’
 B: - Já o vi, já.
 Already him.CL, already.
 ‘Yes, I have’
 b. A: - Já viste o João com óculos?
 Already see.2S.PAST the J. with glasses
 ‘Have you already seen him with glasses?’
 B: *- Já vi o João já
 Already seen the J. already
 ‘Yes, I have’

As Castro & Costa continues, weak adverbs (see (61a)) behave like clitics:

- (61) a. A: - Já lá foste com a Maria?
 Already there go.2S.PAST with the Maria
 ‘Have you already been there with Maria?’
 B: - Já.
 Already.
 ‘Yes, I have’
 B: - Já lá fui, já.
 Already there go.2S.PAST already
 ‘Yes, I have’
 b. A: - Já foste ali com a Maria?
 Already go.2S.PAST there with the Maria
 ‘Have you already been there with Maria?’
 B: *- Já fui ali, já.
 Already go.2S.PAST there already
 ‘Yes, I have’

Now, if *sempre* is a head, it can be an answer to yes/no interrogatives. As far as confirmative *sempre* is concerned, it should not be a head by this test (see (62B)). Aspectual *sempre*, on the other hand, should be (63B).

- (62) A: - Sempre constróis a casa?
 - Indeed build.2.S.PRES the house
 B: - */??? Sempre.
 - Indeed
 (A: ‘Are you really building the house?/B: Really’)
- (63) A: - Chove sempre no Porto?
 rain.3.S.PRES always in-the Porto
 B: - Sempre.
 Always
 (‘A: -Does it always rain in Porto?/ B: -Always’)

This fourth test would suggest that modal *sempre* is an XP whereas aspectual/temporal *sempre* is an X°.

I will tentatively suggest that *aspectual/temporal sempre* is a strong form (XP) (it fits well with Cardinaletti & Starke’s tests (in EP and BP)), even if it would behave as deficient forms in EP with respect to the test of phonological reduction (they can be phonologically reduced) and the test of ‘answer to yes/no Question’.

Modal *sempre* in EP should be assumed either as a (deficient) X°—in Castro & Costa’s (2002) typology, according to whom Cardinaletti & Starke’s typology for deficient forms should also consider, as X°s, some adverbials like *já, lá, etc.*), given the three first tests (coordination, focalization and modification)—either as a deficient XP (since it cannot be fronted with V in wh-interrogatives (V-to-T-to-C movement), nor can be an answer for a yes/no interrogative). Thus, the suggestion is to consider the highest *sempre* as a ‘deficient’ XP.

Of course, under the Bare-Phrase Theory (Chomsky 1995) these differences are irrelevant. Its only importance here is to better understand if *sempre* merges as an adverbial head or as a phrase. Hence, if *sempre* is an XP or a ‘deficient XP’, the suggestion seems to be that it should enter the derivation as a phrase, namely, in Spec-like positions, not as a head. For this reason,

Ambar et al. (2004) analysis is not assumed here.

In the next section, I will present my own analysis for *sempre*, which assumes Cinque's (1999) representation of the clausal IP.

9. Towards a Cartographic analysis of *sempre*

The four different readings of *sempre* (two aspectual, two modal) can be accounted for by assuming *four* distinct positions of Merger for the same lexical item (*sempre*) (or, in Chomsky's 2001 terms, four distinct s-selectional heads) which would select the AdvP from the lexical array to be merged in the Specifier matching its semantics).

It would be interesting to ask how this formative, *sempre*, which is not a single category in current EP (EP has the Speech Act *sempre*, the Epistemic *sempre* and two temporal/aspectual *sempre* (event and process)), comes to be grammaticalized into these four semantic-values. I will not attempt to answer this question here, which would be material for further research. Fiéis (2010) seems to be a first approximation to this.

These three/four different uses are related to each other (see Lopes 1998 who suggests that there is a process of quantification in all of them). That should not be surprising under a Cinquean analysis of adverbs. Cinque (1999, 2004) discusses a number of examples where one and the same lexical item can be merged in different functional projections. According to Cinque, in these uses, there is a core meaning for each one of these distinct uses of the same formative, in spite of its specialization in each single functional projection (see section 3 of chapter 4 and section 4 of chapter 5). Hence, the proposal here is to extend Cinque's (1999) idea that the different semantic values would be derived by the Merger of the same lexical item in *different* syntactic positions.

9.1 On deriving the different readings in EP and the aspectual/temporal readings in BP

Cinque (1999: 207, fn. 53) suggests that, like the other quantificational AdvPs, *sempre* can also be generated in a higher position (see section 2 and 3 of chapter 4 and section 4 of the next chapter), quantifying over the event. In this use, *sempre* would precede *ancora*:

- (65) *Italian*(Cinque 1999: 207, fn. 53)
 Quando lo vai a svegliare, Gianni è sempre ancora addormentato.
 ‘When you go and wake him up, G. is always still sleepy.’

This higher position (quantification over the event) should be located, Cinque suggests, in a Specifier position between $\text{Asp}_{\text{Habitual}}\text{P}$ and $\text{Asp}_{\text{Frequentative(I)}}\text{P}$ (see (67)):

- (66) *Italian*(Cinque 1999: 207,fn.53)
 a. Gianni vede di solito sempre raramente i suoi parenti.
 ‘G. usually always rarely sees his relatives.’
 b. *Gianni vede sempre di solito raramente i suoi parenti.
 c. *Gianni vede di solito raramente sempre i suoi parenti.
- (67) $\text{Asp}_{\text{Habitual}} > ?(\text{X}) > \text{Asp}_{\text{Delayed}} > ?(\text{X}) > \text{Asp}_{\text{Pre-dispositional}} > ?(\text{X}) \text{ Asp}_{\text{Repetitive(I)}} > ?(\text{X}) > \text{Asp}_{\text{Frequentative(I)}}$

It seems that this position should be the one between $\text{Asp}_{\text{Repetitive(I)}}$ and $\text{Asp}_{\text{Frequentative(I)}}$, given the following BP data:

- (68) a. Novamente o João sempre está esquecendo os livros.
 Again the J. always is forgetting the books.
 ‘J. again is always forgetting the books.’
 b. *Sempre o João novamente está esquecendo os livros.
 Always the J. again is forgetting the books
- (69) a. O João novamente está sempre esquecendo os livros.
 The J. again is always forgetting the books
 ‘J. again is always forgetting the books.’

- b. *O J. sempre está novamente esquecendoos livros.
 The J. always is again forgetting the books

Thus, (67) should be replaced by (67’):

(67’) $Asp_{Habitual} > Asp_{Delayed} > Asp_{Predispositional} > Asp_{Repetitive(I)} > \mathbf{Asp(?)ContinuousP(Event)}$
 $> Asp_{Frequentative(I)}$

Assuming the Cinque (1999) hierarchy, the Tense of the clause is given derivationally. Cinque adopts Vikner’s (1985) system, whose algorithm needs 3 axes of binary relations to derive the (attested) Tenses. Vikner’s theory can be captured by associating each axis with a syntactic FP in the clause (Giorgi & Pianesi 1997; Cinque, 1999). Remember that in Cinque, the T-related functional projections are $T_{Anterior}P$, $T_{Future}P$ and $T_{Past}P$. Thus, to derive, for instance, the Past Simple, the default values are assigned to $T_{Anterior}P$ and $T_{Future}P$ and the marked features to $T_{Past}P$.

Cinque’s (1999) initial idea about the derivation of the Present Tense could be maintained, namely, that “it results ‘compositionally’, when the time points related by $T_{(Anterior)}$ (E and R₂), $T_{(Future)}$ (R₂ and R₁), and $T_{(Past)}$ (R₁ and S) coincide (i.e., have the ‘default’ values). (...)” (Cinque 1999: 88).

The assumption of three T axes in the derivation (*à la* Vikner 1985—see Cinque 1999: 106) seems to be an adequate option. As we noticed, *confirmatory sempre* can co-occur with any Tense. Temporal/aspectual *sempre*, in preverbal position, can only appear in Past clauses. This should follow directly from the Cinque hierarchy coupled with Vikner’s (1985) system. In the case of *confirmatory sempre* in EP, the adverb c-commands all the three T axes. Thus, before the Merge of *sempre*, the three T axes will move together as a chunk to the specifier of the probing-head associated with *confirmatory sempre* (see chapter 3).

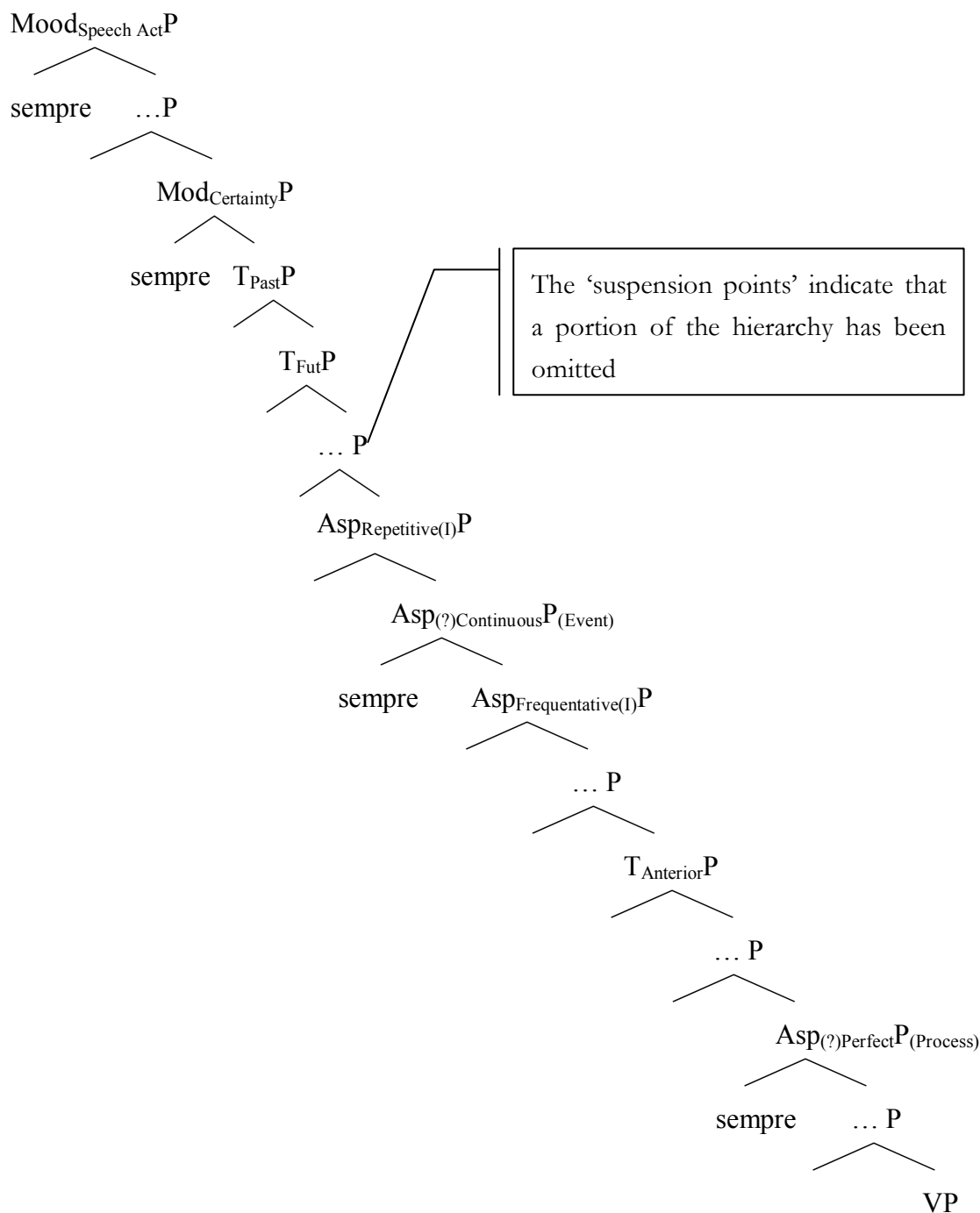


Fig. 2 Cinque’s IP space and the Spec positions where ‘sempre’ can be merged in Portuguese

Aspectual sempre, in pre-verbal position, can only appear in Past clauses. I will argue below that this follows directly from the assumption of the Cinque hierarchy coupled with Vikner’s 1985 system, in that the three T axes (namely T_{Past}° , T_{Fut}° and $T_{Anterior}^{\circ}$) must form, in EP (where T is rich (Ambar 2008, Cyrino 2011)) what I call ‘a continuous path’, i.e. their sequence cannot be disrupted by the movement of the chunk containing *sempre*_(Event) + VP.

10. *Sempre* in European Portuguese

10.1 The aspectual/temporal interpretation

The default order, i.e. the post-verbal position of *sempre* (cf. (2), repeated below; see also (7a-c), (12a,b), (20), (23-24)),

- (2) a. O João comprou *sempre* livros na FNAC.
the J. bought always books at FNAC.
'J. always bought books at FNAC.' (Ambar, Gonzaga & Negrão 2004: 10)

can be obtained in EP through the obligatory raising of V to the left of *completamente* 'completely' (Asp_{Sing}Completive(I)P) (cfr. Costa 2004a). EP seems to have long V-movement (Modesto 2000; Brito 2001; Ambar et al. 2009; Martins 2007), i.e. movement of V to a functional head higher than "T" (if one assumes the clausal skeleton to be [_{AgrP} [_{TP} [_{VP}...]]], V would target Agr^o in EP (but see Costa & Galves 2002)). Remember, from section 4 of chapter 4 that we suggested that V raises past T_{Anterior} in EP. There is a *preference* for the movement of V past *sempre* to derive the aspectual/temporal reading in EP (Brito 2001; Ambar et al. 2004; Negrão et al. f.c.; Fiéis 2010).

Also, remember that we are assuming that adverbs are assigned scope in a way parallel to Kayne's (1998) treatment of *only*. Thus, to get (2a) above, we have to assume that the chunk *comprou livros na FNAC* 'bought books at FNAC' raises (see (d) in (2') below) to the specifier of the probing head (see (2'c)) associated with *sempre* and is followed by the Merge of this adverb (2'e). Instead of remnant-moving the subject past *sempre* in the sequence, since V must raise to a higher position in the lower zone of the IP in EP, it left-branch-extracts out of the chunk *comprou livros na FNAC*, raises past *sempre* (see (f) below) and then remnant movement applies (2'g).

(2') The derivation of (2a)

(a) ... [SubjP O João [AspP [VP comprou [T_{AnteriorP} ... [... [livros na FNAC ...]]]]]] →

(b) Merge of the probing head associated with *sempre* (K_1°):

... [K₁' K₁[°] [SubjP O João [AspP [VP comprou [T_{AnteriorP} ... [... [livros na FNAC ...]]]]]]]] →

(d) raising of AspP to [Spec, K₁]:

... [K₁P [AspP [VP comprou [T_{AnteriorP} ... [... [livros na FNAC ...]]]]]] [K₁' K₁[°] [SubjP O João t_i]]] →

(e) merge of *sempre*:

... [AspContinuous(I)P *sempre* [K₁P [AspP [VP comprou [T_{AnteriorP} ... [... [livros na FNAC ...]]]]]] [K₁' K₁[°] [SubjP O João t_i]]]]] →

(f) raising of VP to Asp_{Repetitive(I)P}¹¹¹ past *sempre*:

... [AspRepetitive(I)P [VP comprou]_j [AspContinuous(I)P *sempre* [K₁P [AspP t_j [T_{AnteriorP} ... [... [livros na FNAC ...]]]]]] [K₁' K₁[°] [SubjP O João t_i]]]]] →

(g) Merge of W₁[°] and remnant movement to its Spec:

... [W₁P [SubjP O João t_i]_k W₁[°] [AspRepetitive(I)P [VP comprou]_j [AspContinuous(I)P *sempre* [K₁P [AspP t_j [T_{AnteriorP} ... [... [livros na FNAC ...]]]]]] [K₁' K₁[°] t_k]]]]] →

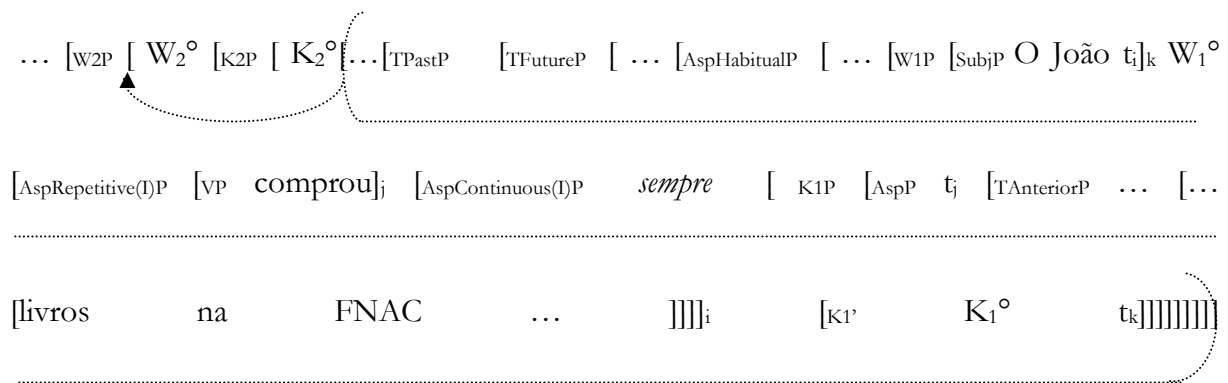
Temporal/aspectual post-verbal *sempre* induces a correlation of events reading. Hence, in EP, the VP moves to the left of the *sempre*_(Event) (here, conjectured as the Spec of Asp_{Continuous(I)P}, a position in the ‘lower portion’¹¹² (i.e., the zone where lower AdvPs are merged) of the IP (to the right of Asp_{HabitualP})), deriving the correlation of events reading. To obtain this reading,

¹¹¹ This movement is not surprising. V moves more in EP than in BP (see § 4 of chapter 4), though in both varieties—the same is valid for Romance, in general, and English as well (see chapter 5)—V cannot raise past the adverb merged on the left-edge of Asp_{HabitualP}, namely, *usually*, and all the other adverbs above it (i.e., ‘higher’ adverbs or ‘sentential’ adverbs).

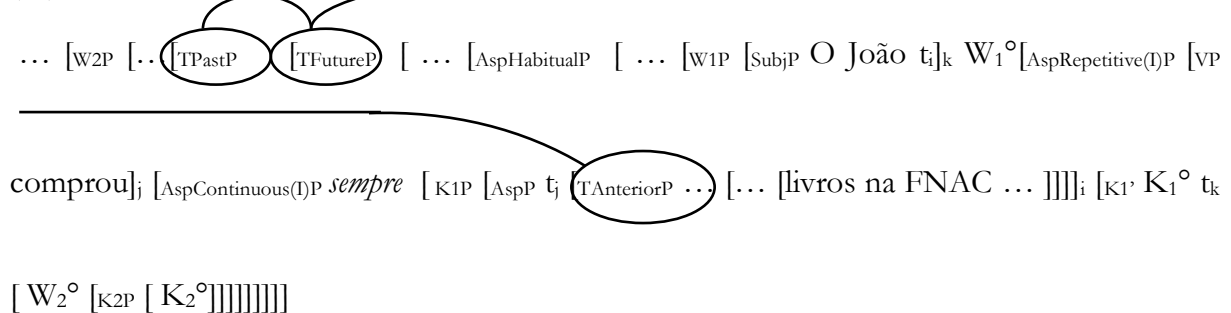
¹¹² Not to be confused with Asp_{Continuous(II)P} (or Asp_{PerfectP} (Cinque 1999)), the lowest position where *sempre* can be merged and which is associated with the ‘pattern of behavior’ interpretation for *sempre*, or the ‘quantification over the process’ reading.

we noticed in (2') above that the VP raises to a Spec position to the left of [Spec,AspContinuous(I)P], after moving to the spec of the probing head associated with *sempre* (see the steps (2'e,f,g)). The tense of the clause does not matter here, since the VP, being to the left of the AdvP *sempre*_(Event), can also raise pied-piping it within a larger chunk (on its way to check the relevant features upwards). Seen from this perspective, the three Viknerian axes (T_{Past}, T_{Future} and T_{Anterior}) will be moved together within a large chunk containing the V and *sempre* (see 2'h). Thus, there will not be any discontinuity among them: it is possible to draw a (continuous) line from T_{Anterior}P to T_{Future}P and from T_{Future}P to T_{Past}P (2'i).

(2'h)

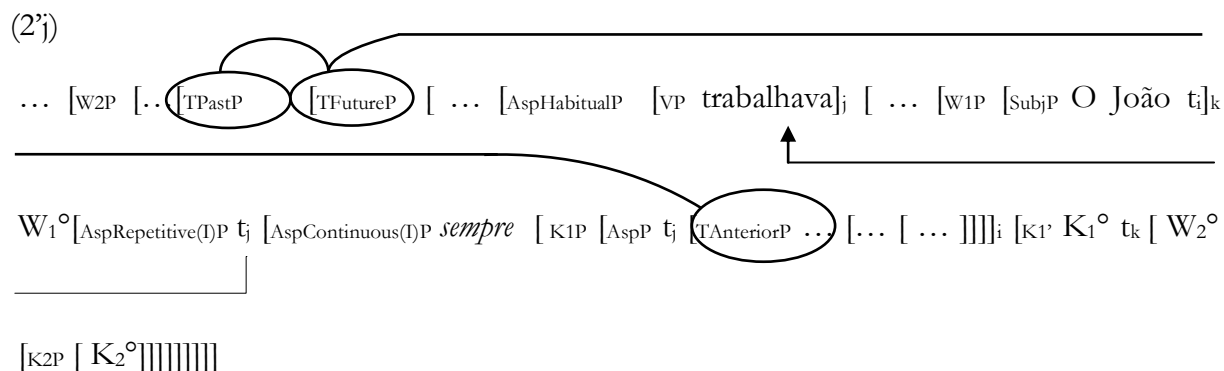


(2'i)



Even the aspectual/temporal reading in the Imperfect (“O João trabalhava sempre...” (‘J. always used to work’)) will be possible (in EP), since what moves to [Spec,AspHabitualP] to check the features of that projection is the VP, as in the previous derivation (2'i). V(P) movement in Romance is possible only past ‘lower adverbs’. Thus, the movement of the VP to [Spec,AspHabitualP] is possible in that it does not crossover the position where habitual AdvPs (*geralmente*, *normalmente* ‘generally’, ‘usually’) are merged, which is in the left-edge of

Asp_{Habitual}, i.e. the specifier of the upper Asp_{Habitual}-shell. Again, in this case, as well, there is no discontinuity among the three Viknerean T axis (which, I conjecture, seems to be a necessary condition in EP, though not in BP, where T is weak—see below).



As far as the pre-verbal aspectual/temporal use of *sempre* is concerned, remember that it is only possible, in EP, if V is in the past tense. Hence, those speakers who accept (9b), repeated below, with no focus on *sempre*, will have the derivation suggested in (9'b) below.

(9)b. O João *sempre* comprou livros na FNAC.
 the J. always bought books at FNAC.

(9b) is derived by moving the V up to an FP to the right of *sempre*_{Event}. After that, the chunk under the scope of *sempre*, i.e., *comprou livros na FNAC*, raises to the Spec of the probing head associated with *sempre* (see 9'b(b,c) below). *Sempre* merges next (9'b(d)).

(9'b) *The derivation of (9b)*

(a) ... [SubjP O João [AspP [VP comprou [TAnteriorP ... [... [livros na FNAC ...]]]]]] →

(b) Merger of the probing head associated with *sempre* (K₁[°]):

...[K1' K1° [SubjP O João [AspP [VP comprou [TAnteriorP ... [... [livros na FNAC ...]]]]]]] →

(c) raising of AspP to [Spec, K₁]:

... [K1P [AspP [VP comprou [T^{Anterior}P ... [... [livros na FNAC ...]]]]]_i [K1' K1° [SubjP O João t_i]]]] →

(d) Merger of *sempre*:

... [AspContinuous(IP) *sempre* [K1P [AspP [VP comprou [T^{Anterior}P ... [... [livros na FNAC ...]]]]]_i [K1' K1° [SubjP O João t_i]]]] →

(e) Merger of W₁° and remnant movement to its Spec:

... [W1P [SubjP O João t_i]_k W1° ... [AspContinuous(IP) *sempre* [K1P [AspP [VP comprou [T^{Anterior}P ... [... [livros na FNAC ...]]]]]_i [K1' K1° t_k]]]] →

I assume that the movement of this chunk is necessary because T is rich in EP (Ambar 2008, Cyrino 2011). Thus, it has to have its features licensed. I propose that the way to achieve this is through overt movements. Since the V cannot move alone to [Spec, T_{Past}], as this FP sits in the higher zone of the clause—where V raising is no longer possible (see chapters 1 and 5)—, I suggest that V moves pied-piping the chunk “T_{Past}-*sempre*_(Event)-V-object-PP” in the *pictures-of-whom* mode (see (9’b (f)), below) to get the features of T_{Past}P licensed. Therefore, this movement is obligatory whenever the strong features are merged in the highest T° (see Roberts 2010 for a different implementation of the idea). Since [+specific] objects are scrambled in EP (Costa 2004b)¹¹³, only [- specific] objects can appear with pre-verbal temporal *sempre*.

(9’b(f))

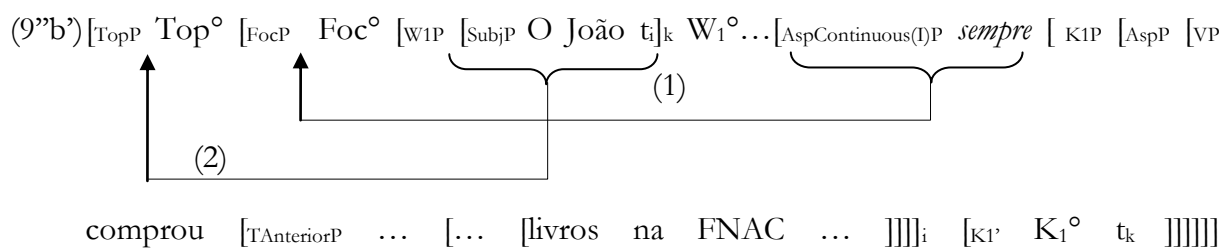
... [W2P [W2° [K2P [K2° [... [TPastP [TFutureP [... [AspHabitualP [... [W1P [SubjP O João t_i]_k W1° ... [AspContinuous(IP) *sempre* [K1P [AspP [VP comprou [T^{Anterior}P ... [... [livros na FNAC ...]]]]]_i [K1' K1° t_k]]]]]]]]]]]] →

¹¹³ Though the author’s claim is that scrambling is available to derive the VOS order in EP.

For those speakers to whom *pre-verbal* temporal/aspectual *sempre* must bear focus in EP (e.g. Ambar et al.; Ana C.M. Lopes (p.c.)) or may have it as an additional possibility (A. Castro, p.c.), (9b’; 10b; 11c; 13b; 14b) would be derived from (9’b), above. The difference is that in (9b’), *sempre* bears a [+focus] feature. As such, it moves to the left periphery. Thus, the derivation of (9b’) resembles the one proposed for (9b) with an additional step: raising of *sempre* to the left periphery.

(9’b). O João *SEMPRE* comprou livros na FNAC.
 the J. always bought books at FNAC. (***sempre* has focus**) (Ambar et al. 2004)

Taking (9’b(a-e)) to be common to the derivation of both (9b) and (9b’), movement of *sempre* to [Spec,FocusP] followed by raising of *O João* to [Spec,Top] would conclude the derivation of (9b’) (cfr. (9’’b’) below).



Remember, from § 4 of chapter 4, that I am assuming Cyrino (2011) and Ambar (2008), according to whom T is weak in BP, but rich in EP, though morphologically marked in both. In Cyrino’s system, the V in BP does not move to the highest T in the clause, but to a lower Asp Projection, which she identifies as T₂ (based on Giorgi and Pianesi 1997). In Cartographic terms, T₂/Asp would correspond to Cinque’s (1999) T_{Anterior} (see chapter 2, §2.2; § 4).

Now, remember, from chapter 1, that V cannot raise past higher adverbs (see chapter 5 for a detailed discussion). Given this, only movement of a chunk containing the V should be possible in the higher zone (i.e. the zone of the IP where higher adverbs are merged).

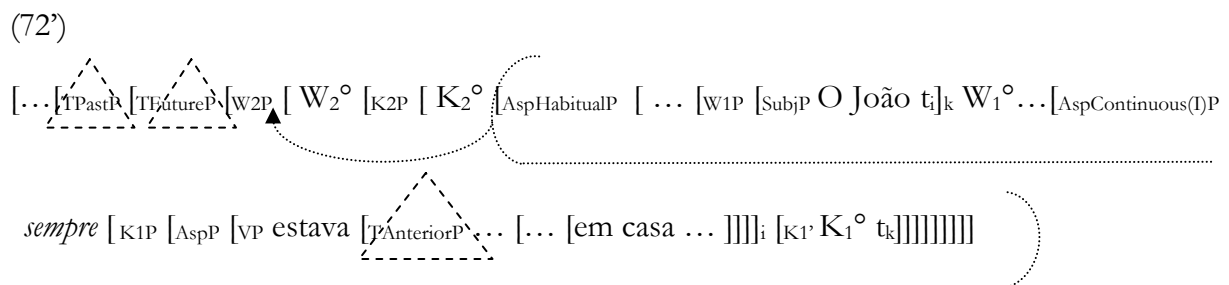
At this point, one additional assumption should be made. Since T is rich in EP, movement (of a chunk) triggered by (one of the three) T° is possible iff it is morphologically marked, whereas in BP, movement of a chunk to the Spec of TP (either T_{PastP} or T_{FutureP}) is always

possible, independent of the presence/absence of morphological marking on the lexical V. This explains why in EP the temporal/aspectual reading of *pre-verbal sempre* is only possible in past clauses. Besides this, in past clauses the three axes of T makes a ‘continuous path’ (i.e., it is possible to draw a line connecting the three T axes with no interruption (see (2’), above)) within the chunk containing *sempre*-V, which raises to [Spec,K₁] to check the marked features of T_{Past}. This does not happen to T_{Present} which is derived with no movement.

That this seems to be the correct way to approach the data is noticed by the fact that when the verb is in the imperfect, for instance, only the confirmative reading obtains with *sempre* occurring before the verb, as in (72). (Gonzaga 1997: 164; Fiéis 2010)

- (72) *O João sempre estava em casa.* (EP) (OK confirmatory; *aspectual)
 The John after.all be-IND.IPF.3SG at home.
 ‘John was at home after all.’ (Gonzaga 1997: 164)

How could one explain the impossible temporal/aspectual interpretation for *sempre* in (72)? A possible reason for the ungrammaticality of the temporal/aspectual reading of (72) is that the three T axes (namely T_{Past}[°], T_{Fut}[°] and T_{Anterior}[°]) fail to form a continuous pattern. This continuity has been disrupted by the movement of the chunk containing *sempre*_(Event) + VP to [Spec,Asp_{Habit}P] to check the marked features of that head. While it would be possible to draw a line from T_{Future} to T_{Past} it would not be possible to connect this line with T_{Anterior}, which is pied-piped by the V to [Spec,W₂].



10.2 The confirmative reading of *sempre* in EP

Remember that *sempre* can also assert the true value of the propositional content, meaning

indeed, after all (cfr. (1a,b) above. Sentence (1b) is repeated below).

- (1)b. A: – As nossas expectativas sobre o vencedor confirmaram-se?
The our expectations about the winner were-confirmed-CL
B: – Sim, a Patrícia sempre ganhou o prémio. (A.C.M.Lopes, p.c.)
Yes, the Patrícia indeed won the prize.
(‘A: - Have they confirmed our expectations about the winner?
B: -Yes! Patrícia indeed won the prize.’)

Since this *sempre* has an assertive-like value, it would be suggested that one more FP should be identified in the Cinque (1999) Universal Hierarchy, where confirmatory *sempre*_(confirmatory) would be merged.

The first question to ask is what is the semantic contribution of *sempre* and other assertive-like adverbs? Pragmatically speaking, “[t]he reason for using these AdvPs at a particular point in the discourse is that the speaker comes into awareness that there is a ‘fracturing of the common ground’ between the speaker and the hearing. (...) [An adverb like English] [*surely*] is thus triggered as a mark of self-validation (...). In other words, the speaker wants to prove that he/she is correct in his/her assumptions” (Simon-Vandenberg & Aijmer 2007: 76). This observation extends to *sempre* as well.

Syntactically speaking, there should be a dedicated Spec for these adverbials. One could suggest that *sempre*, *certamente*, *realmente*, *mesmo* (which correspond all to ‘indeed’, ‘after all’, ‘really’, etc.) would be members of the same class, i.e. would be merged in the same Specifier. I do not believe that this is the correct analysis for one reason. While (confirmatory) *sempre* cannot appear sentence-finally (be it de-accented (73) or not (74)), *realmente*, an adverb of certainty, can (be it de-accented (cfr. (75)) or not (cfr. (76))). The fact that it is not de-accented sentence-finally in (76) suggests that it is merged in a very low position in the IP, possibly on the left-edge of the *v*P-phase (see chapter 3, section 4). *Mesmo*, a confirmatory adverb, can also appear sentence-finally in EP without being de-accented (77), which suggests again that there would be two positions for confirmatory adverbs in the clause (a higher, filled by *sempre* in EP), a lower, filled by *realmente*, *mesmo* ‘indeed, really’, *certamente* ‘surely’, in Portuguese, and *sicuramente* ‘surely’ in Italian (see chapter 3, § 4).

(73) *O Manuel mentiu/mente, *sempre*.

- The Manuel told-lies/tells-lies, after all
 ‘Manuel told lies/tells lies, after all’ (Pilar Barbosa, p.c.)
- (74) *O Manuel mente sempre.
 The Manuel tells-lies after all
 ‘Manuel tells lies, after all’ (Pilar Barbosa, p.c.)
- (75) O Manuel mente, realmente.
 The Manuel tells-lies really
 ‘Manuel tells lies, really’ (Pilar Barbosa, p.c.)
- (76) O Manuel mente realmente.
 The Manuel tells-lies really
 ‘Manuel tells lies really’ (Pilar Barbosa, p.c.)
- (77) O João saíu/chorou/trabalha *mesmo*. (Ambar 2008: 164)
 The J. left/cried/works MESMO
 ‘J. does left/cried/works’

Thus, one should assume a higher modal projection ($\text{Mod}_{\text{AssertiveP}}$ (see Ambar 2008)) whose Spec would be the place where confirmatory *sempre* would enter the derivation. I propose that this is a higher position, given the impossibility of *sempre* sentence-finally, as opposed to other adverbs of certainty (*realmente*, *mesmo*, *certamente*, etc.), which, instead, are allowed sentence-finally.

Though judgments are quite delicate, it seems that AssertiveP should be placed below $\text{Mod}_{\text{EpistemicP}}$. That this seems to be the case is suggested by the following EP data (P. Barbosa, p.c.¹¹⁴):

- (78) a. #Provavelmente, o José sempre foi/vai a Paris de comboio.
 Probably the J. indeed goes/went to Paris by train
 ‘Probably, J. indeed goes/went to Paris by train.’
- b. *O José sempre provavelmente vai/foi a Paris de comboio.
 The J. indeed probably goes/went to Paris by train
- b?. *O José sempre vai/foi a Paris provavelmente de comboio.
 The J. indeed goes/went to P. probably by train
- (79) a. (#)Provavelmente, o Manel sempre construiu a casa.
 Probably the Manel indeed built the house
 ‘Probably, Manel indeed built the house.’
- b. *O Manel sempre construiu provavelmente a casa.
 The M. indeed built probably the house

¹¹⁴ Pilar Barbosa (p.c.) told me that *sempre*_(confirmatory) and *provavelmente* ‘probably’ do not go well with in the same sentence since they are not semantically compatible. However, the ‘a’ order is less degraded (cfr. “#”).

In this assertive use, pre-verbal *sempre* c-commands $T_{\text{Past}}P$, even in Present clauses (cfr. 1a). It automatically follows without any additional stipulation. *Sempre*_(confirmatory) c-commands T_{Past}° , the highest T-related FP in the Cinque hierarchy. Thus, it always takes scope over the three T axis. In Cinque (1999), T Present would be derived by the assignment of the default features to each one of the three axes. This explains why in EP the confirmatory reading can obtain independently of the T of the clause (see fig. 3 below).

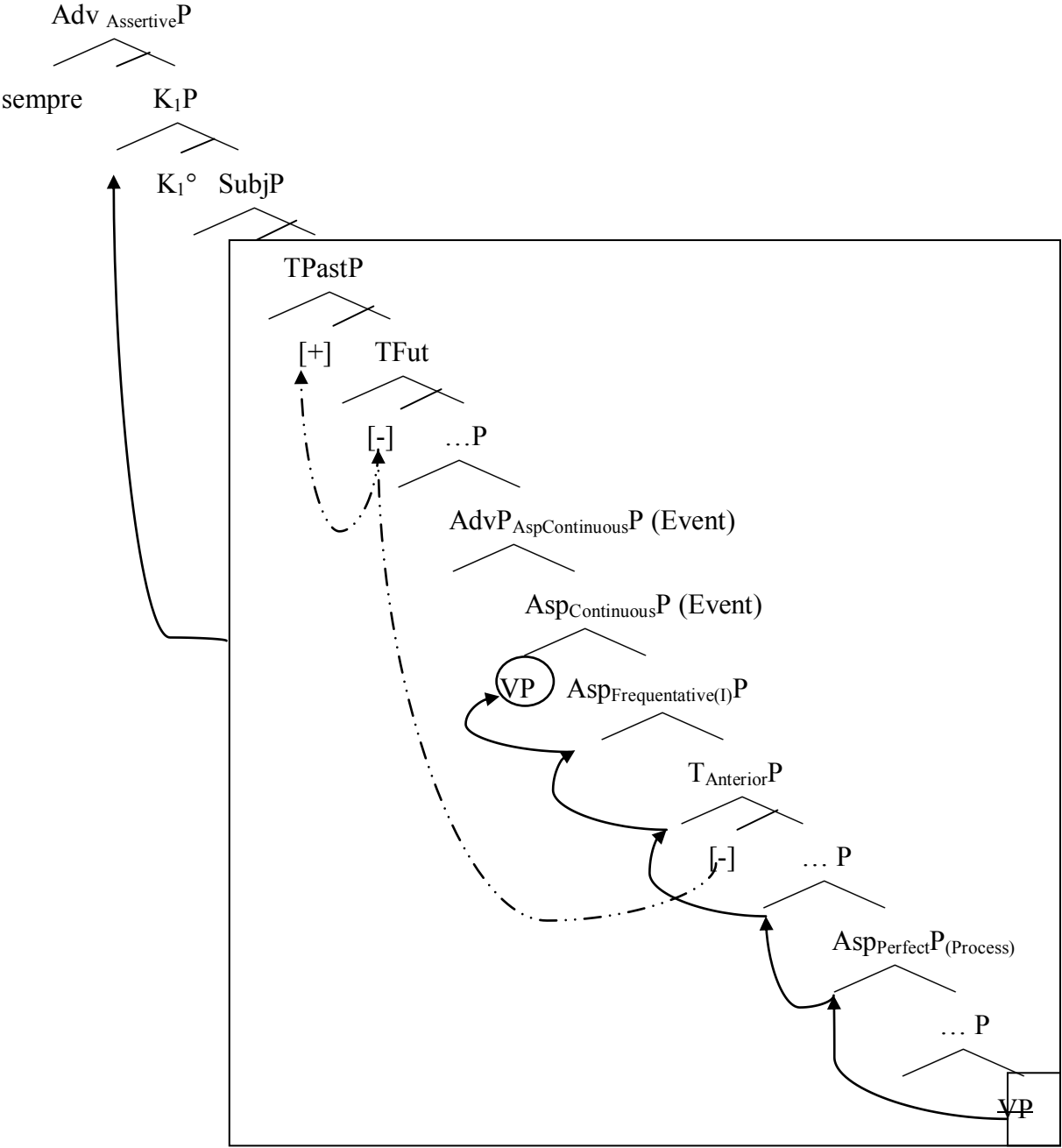


Fig. 3: The Confirmatory Reading

10.3. The *Speech Act* reading in EP

Sentences (3,4), from EP, repeated below, illustrate the ‘speech act’ or ‘pragmatic’ use of *sempre*.

- (3) *Sempre* quero ver se tens coragem para isso!
Really want.PRES.1SG. see.INF if have.PRE.2SG courage to this
‘I do want to see if you are bold enough to do that’
- (4) *Sempre* me saíste um aldrabão! (Lopes 1998: 7)
really CL.DAT.1SG left.PRES.2SG. a bullshitter
‘You are a real bullshitter’

In this use, the speaker is not modifying the propositional content, but the relation with the addressee. Given its similarities, in meaning, with speech-act adverbs like *honestly*, *sincerely*, *really*, it would be treated as a Mood_{SpeechAct} adverb, in terms of the Cinque hierarchy. Lopes (1998) explicitly suggests that in this use, they behave as ‘style disjuncts’, in terms of Quirk et al. (1976). Quirk et al. ‘style disjuncts’ are the correspondents of Cinque’s speech act adverbs.

11. *Sempre* in BP (only temporal/aspectual)

11.1 Pre-verbal *sempre*: the correlation of events reading

By following Ambar (2008) and Cyrino’s (2011) premise that BP has a weak T, one could interpret this fact by saying that in this language the features of T are projected in T_{Anterior}. Consequently, the chunk containing the V does not need to raise to check the features of T_{Future} or T_{Past}. Hence, temporal/aspectual preverbal *sempre* is possible in BP in both T_{present} and T_{past} (in the default order, i.e. the pre-verbal position of *sempre*).

Remember from § 4 of chapter 4 that the VP raises more in the lower zone in EP than in BP. In BP, V cannot cross over the position occupied by the Adv_{TanteriorP}, *já* ‘already’, whereas in EP it can. In BP, as we saw in § 2 of chapter 4, the V obligatorily raises to the left of *completamente* ‘completely’ (Adv_{SingCompletive(I)P}) and, consequently, to the left of all AdvPs

following it. Therefore, the derivation of the default order (cfr. (6)—with pre-verbal *sempre*) follows if one assumes that the VP stops in [Spec, T_{Anterior}P] or even lower. *Sempre* merges in the higher Asp_{Continuative}P, i.e. the one related with the event. Of course, before the Merge of *sempre* a probing head associated with it attracts *compra livros na FNAC* to its Spec, followed by remnant movement past *sempre*.

- (6) O João sempre compra/comprou livros na FNAC. (BP preferred)
 the John always buys/bought books at FNAC

In this configuration, the correlation of events emerges, even if one event must be inferred. The highest *sempre* is the AdvP which quantifies over the Event. That two *sempre* must be assumed (the highest quantifying over the event (which in turn includes the lowest); the lowest over the process) is noticed by their possible co-occurrence in the same clause.

- (18') Eu sempre encaro sempre ele ... (BP)
 I always stare always he.ACC
 'I always stare at him regularly'

11.2. Post-verbal *sempre*: the 'pattern of behavior' reading

In this use, the adverb occupies the specifier of the lowest Asp_{Continuative}P (or Asp_{Perfect}P (Cinque 1999)). This is the position generally associated with the quantification over the process. (26-27), repeated below, illustrate this pattern of behavior use of *sempre*.

- (26) O João compra/comprou sempre livros na FNAC. (BP, Ambar et al. 2004: 4)
 the J. buys/bought always books at FNAC
 = 'J. buys books regularly at FNAC'
- (27) A Ana anda sempre de carro.
 The A. moves regularly by car
 'Ana gets around by car regularly'

To get (26-27), it should be assumed that the VP raises to the Spec of the probing head

associated with *sempre*, pied-piping the object plus the adjunct *na FNAC*. Then, the VP left-branch extracts out of the Specifier of the probing head, *sempre* merges in the sequence, and remnant movement puts the subject to the left of the VP. The derivation of these sentences would be similar to the derivation of (2a), given in (2'a), found above. The difference is that in (26-27) we are playing with the lowest $\text{Asp}_{\text{Continuative}}\text{P}$, i.e. $\text{Asp}_{\text{Perfect}}$ or $\text{Asp}_{\text{Continuative(II)P}}$ and not with $\text{Asp}_{\text{Continuative(I)}}$.

An interesting question emerges in the present context: (i) if there are two FPs available for *sempre* in the lower portion of the IP, namely, $\text{Asp}_{\text{Continuative(I)P}}$ (for the event-related use of *sempre*) and $\text{Asp}_{\text{Continuative(II)P}}$ (for the pattern of behavior use), in BP, and (ii) if the V must move to the left of *completamente* but cannot move past *já* ($\text{T}_{\text{Anterior}}\text{P}$), how can we make sure that in the pre-verbal use it is the highest AdvP, namely, the Event *sempre*, that is merged and not the lowest one? Moreover, how can we affirm that in the post-verbal use it is the lowest *sempre* that is merged?

That the lowest *sempre* is at work in the post-verbal use of *sempre* in BP can be noticed by the data given in (18') where the two *sempre* co-occurs. The lowest *sempre* necessarily appears to the right of V. More evidence for this analysis comes from the fact that pre-verbal *sempre* necessarily takes scope over the Event (see the tests proposed in (28-29)), post-verbal *sempre* expresses a pattern of behavior reading. Moreover, V-raising facts can also be of help. As for the pre-verbal reading (the unmarked one), we are only sure that the VP has left the vP and moved at least to the left of *completamente* ($\text{Asp}_{\text{Sing. Completive(I)P}}$). Nothing else may be said conclusively. As for the post-verbal use, it is more marked. *Sempre*_(process) is higher than *completamente*. If the VP is found to the left of *sempre* it suggests that it has (perhaps optionally) moved more than it would have to. That may explain why post-verbal *sempre* engenders a more marked reading.

12. Concluding remarks

A Cartographic approach to the structure of the clause accounts for the four different uses of *sempre* in Portuguese by associating each different (semantic) value with a dedicated position of *merger* in the “IP”-space.

Assuming three T axes in the derivation (*à la* Vikner 1985—see Cinque 1999: 106) seems to

still be an adequate option. A piece of evidence for this statement can be gathered from the EP facts studied here: *confirmatory sempre* takes scope over the three T heads and can co-occur with any Tense. *Aspectual sempre*, in pre-verbal position, can only appear in Past clauses. Cyrino (2011) suggests that T is rich in EP but not in BP (see also Ambar 2008 for a similar conclusion). Our interpretation is that a chunk containing the V can only raise in EP if it has to check a *marked* T-feature. Given that T Present is the result of the assignment of the default features to each T^o, it follows that pre-verbal, aspectual/temporal *sempre* would not be derived in Present Tense clauses in EP.

Ambar et al.'s (2004) values for aspectual/temporal *sempre* (namely, correlation of events and pattern of behavior) can also be accounted for if one assumes (*à la* Cinque) two distinct FPs for these two distinct aspectual values, i.e., the highest taking scope over the event, the lowest over the process. That this seems to actually be the case is suggested by the data in (18'a), where these two distinct (though correlated) values of *sempre* appear in the same sentence.

Chapter 5

Adverbs and the Syntax of Scope-assignment: The Puzzling Distribution of Higher Adverbs (and other (lower/medial) AdvPs)

“Until recently, theoretical treatments of the syntax of focus-sensitive adverbs are generally ignored or avoided by linguists. This is partially due to the obvious fact that adverbial adjuncts themselves have a murky theoretical status, and partially due to the fact most syntactic theories provide no straightforward ways to accommodate association with focus, or even the syntax of focus in general.” (Shu 2011: 18)

*I*n this chapter, I discuss the position of (mainly, but not exclusively) higher adverbs relative to *V* and its arguments, in Romance and English. Given the traditional view that AdvPs are diagnostics for Verb Movement (Emonds 1978, Pollock 1989)—see the previous chapter—the puzzling distribution of higher adverbs would seem to challenge this conclusion. Higher adverbs cannot appear sentence-finally (e.g. in BP, ‘*O José telefonou provavelmente’ (‘J. called probably’)), unless deaccented (‘O José telefonou, provavelmente’ (‘J. called, probably’)). However, they can be found in between the *V* and its complement in BP, Italian and French (e.g. in BP, ‘O José bebeu provavelmente cachaça’ (‘J. drunk probably ‘cachaça.’)). A theory relying solely on *V*-raising would find serious difficulties in trying to account for this paradoxical distribution. Were the putative *V* raising responsible for the grammaticality of the latter sentence, one should expect higher adverbs to appear sentence-finally (with ‘flat intonation’), contrary to facts (see the first example provided above). These data could, it seems, question the validity of the ‘adverbial test’ as diagnostic for *V*-movement. However, as suggested in the previous chapter, lower adverbs are reliable indicators of *V* movement (in Romance and English), given the obligatory raising of *V* past some of the lowest adverbs. Thus, the traditional view should not be completely abandoned. To provide an explanation for the puzzling distribution of higher adverbs, I take Kayne’s (1998) treatment of ‘only’, whose generalization to adverbs (see chapter 3) must comply with the Criterial Freezing (Rizzi 2007, 2004b, 2010) and the Cinque (1999) Hierarchy. In this chapter, Kayne’s theory will be

taken to explain some apparent “failures” in the Cinque hierarchy of adverbs, i.e., some cases of absence of relative order between adverbs from distinct FPs. Some data on the ‘event’ use of some aspectual adverbs which, according to Cinque (1999, 2004), are “generable” in two quantificational zones, will also be brought in to the discussion. It will be suggested that the appearance of some event-related aspectual adverbs to the right of adverbs that they precede in the Cinque hierarchy is a consequence of transformational operations which may invert their order, giving the impression that they either lack any ordering at all or that more functional heads should be assumed to account for their distribution. The main goal of this chapter is to construct a Cartographic approach to the focus-sensitivity property of sentential adverbs. Why do they appear in positions where they are not expected to? The pivotal components of this approach are: the Cinque hierarchy and Kayne’s theory of scope-assignment. The conclusion is that “isomorphic” approaches to adverbial Syntax (e.g. Cinque 1999, Alexiadou 1994, 1997, Laenzlinger 1996, 2002, 2011, the present work, etc.), contrary to Shu’s (2011) evaluation of them, do account for the puzzling syntax of focus-sensitive adverbs.

1. Introduction: The puzzling distribution of ‘higher’ adverbs

In Chapter 1, I pointed out some intriguing facts on the distribution of ‘higher’ adverbs. It was shown that higher adverbs (2), as opposed to ‘lower’ adverbs (1), cannot appear in sentence final position (2a,b) unless they are deaccented (3) (see, e.g., Belletti 1990: 57, 133,fn.43), Cinque 1999: 15, 31; Laenzlinger 2002: 94, 2011, a.o.).

- (1) a. Gianni mente ancora/bene/sempr/e/ecc. (Italian)
 G. tells-lies still/well/etc.
- b. O Zé mente ainda/bem/sempr/e/etc. (BP)
 The Zé tells-lies still/well/always/etc.
 ‘Gianni/Zé still/well/always/etc. tells lies’
- (2) a. *Gianni mente probabilmente/di solito. (Italian)
 G. tells-lies probably/usually
- b. *O João mente provavelmente/normalmente.
 The J. tells-lies probably/usually
 ‘G./J. tells lies probably/usually’
- (3) a. Gianni mente, probabilmente/di solito.
 G. tells lies, probably/usually
- b. O João mente, provavelmente/normalmente. (BP)
 the J. tells lies, probably/usually
 ‘G./J. tells lies, probably/usually’

Though higher adverbs are forbidden sentence-finally (2), they can paradoxically appear to the right of V (see (4), below). If one turns to V movement to explain the appearance of the V to the left of the higher adverb in (4), the ungrammaticality of (2) would remain unaccounted for. Curiously, if the impossibility of V movement past higher adverbs is the reason for the ungrammaticality of (2), the appearance of the adverb to the right of V in (4) should not be due to V raising.

- (4) a. Gianni mangiava probabilmente la pasta. (Italian)
 G. used-to-eat probably the pasta
 ‘It was probably pasta that José used to eat’.
- b. O José comia provavelmente arroz. (BP)
 J. used-to-eat probably rice
 ‘It was probably rice that José used to eat’.

Given this puzzle, such sentences would be problematic for any theory of verb raising which takes AdvPs as diagnostics for this movement. There are at least two ways to get around this problem. The first solution which comes to mind is to refuse the validity of the adverbial test. However, such a refusal would imply denying all the post-Pollockian tradition built upon it. Another solution—the alternative pursued here (which is compatible with Pollock’s initial idea)—would consist in verifying the position a V form could reach, say, in terms of the Cinque hierarchy, and try to discover which syntactic processes would be responsible for this (apparent) paradox (see §2, below).

Another puzzling distributional fact on higher adverbs appears to come from what Zyman (2012) calls “Cinque-noncompliant” orders, i.e. those cases where the order of two (or more) adverbs in the same sentence appear to violate the Cinque hierarchy. From the Cinque hierarchy, repeated below in (5), evidential adverbs (e.g. *allegedly*) should precede epistemic AdvPs (e.g. *probably*) (cfr. (6)).

<p>(5) The Universal Hierarchy of Functional Projections for the IP domain <i>[frankly Mood_{SpeechAct} > [luckily Mood_{Evaluative} > [allegedly Mood_{Evidential} > [probably Mod_{Epistemic} > [once T_{Past} > [then T_{Future} > [perhaps Mood_{Irrealis} > [necessarily</i></p>

Mod_{Necessity} > [**possibly** **Mod**_{possibility} > [**usually** **Asp**_{Habitual} > [**finally** **Asp**_{Delayed} >¹¹⁵
 [tententially **Asp**_{Predispositional} > [again **Asp**_{Repetitive(I)} > [often **Asp**_{Frequentative(I)} > [willingly **Mod**_{Volition} >
 [quickly **Asp**_{Celerative(I)} > [already **T**_{Anterior} > [no longer **Asp**_{Terminative} > [still **Asp**_{Continuative} > [always
Asp_{Continuous} > [just **Asp**_{Retrospective} > [soon **Asp**_{Proximate} > [briefly **Asp**_{Durative} > [(?)
Asp_{Generic/Progressive} > [almost **Asp**_{Prospective} > [suddenly **Asp**_{Inceptive} > [obligatorily **Mod**_{Obligation} > [in
 vain **Asp**_{Frustrative} > [(?) **Asp**_{Conative} > [completely **Asp**_{SgCompleative(I)} > [tutto **Asp**_{PlCompleative} > [well **Voice**
 > [early **Asp**_{Celerative(II)} > [? **Asp**_{Inceptive(II)} > [again **Asp**_{Repetitive(II)} > [often **Asp**_{Frequentative(II)} > ...
 (Cinque 1999: 106, modified in Cinque 2006)

- (6) a. Kevin allegedly will probably give up.
 b. *Kevin probably will allegedly give up. (Zyman 2012: 30)

Sentence (7) would thus be a potential counter-example to the Cinque hierarchy, given that in speaker B's turn the epistemic adverb surfaces to the left of the evidential adverb *allegedly*. (7) illustrates what Zyman (2012) calls "Cinque-noncompliant" orders.

- (7) A: - Why did the police look into Amanda's case?
 B: - She probably had allegedly been tortured. (Zyman 2012: 29)

While also an adverb like *clearly* (evidential) seemingly has to precede *probably* (epistemic),

- (8) a. Clearly John probably will quickly learn French perfectly.
 b. *Probably John clearly will quickly learn French perfectly.

(Bowers 1993: 607, cited in Cinque 1999: 33 & Zyman 2012: 29)

Zyman (2012) points out that the reverse order, given in (9), is also possible. Once again, this is another case of 'Cinque-noncompliant' order:

- (9) A: -Why did the police help Linda?
 B: - She probably had clearly been drinking. (Zyman 2012: 29)

¹¹⁵ The boldfaced adverbs and their semantic labels correspond to those projections found in the higher portion of the IP which could be associated with Higher Adverbs. Normal font refers to the lower zone of the clause and the adverbs merged there are referred to as 'lower adverbs'.

Put together, (7) and (9) would also add another problem to our list of ‘distributional puzzles’ on the syntax of higher adverbs,¹¹⁶ namely: what is the validity of the Universal Hierarchy of Functional Projections for the IP? These data would also bring to light the issue concerning the validity of adverbs as diagnostics for verb movement. For these reasons, an explanation to the puzzling data presented thus far should be provided before taking whatever adverb as a diagnostic for V raising.

Before proposing an analysis for the puzzling distributional facts presented so far, I would like to introduce sentence (10), given below, to check if the scope of the higher adverb in this sentence is the same as in (4), given above.

- (10) a. Gianni probabilmente mangiava la pasta. (*Italian*)
 G. probably used-to-eat the pasta
 ‘G. probably used to eat pasta’
 b. O João provavelmente comia massa. (BP)
 The J. probably used-to-eat pasta (= a)
- (11) It is probable that Gianni/João used to eat pasta.
 (12) It is probably pasta that Gianni/João used to eat.

The two interpretations available in (10), as shown by the paraphrases provided in (11-12), would suggest that when the higher adverb surfaces to the left of V, i.e. in its “default position” (Zyman 2012: 96),¹¹⁷ it can take under its scope everything following it, say, the

¹¹⁶ Costa (2008: 15) observes that it would be difficult to establish a one-to-one relation between adjunction site and interpretation, on the basis of the following (European) Portuguese data:

- (i) A Maria canta lindamente (VP scope)
 Maria sings beautifully
 (ii) Supostamente, a Maria cantou. (sentence scope)
 Arguably, Mary sang.
 (iii) A Maria cantou provavelmente para o patrão. (sentence scope)
 Maria sang probably for her boss.
 (iv) Francamente, eu tenho fome. (speaker-orientation)
 Frankly, I am hungry.

In (ii-iv), the adverb would adjoin to IP, and its meaning is clearly different in each sentence. Hence, for a theory assuming that predicate-adverbs adjoin to VP and sentential adverbs to IP, Costa’s observation is a valid one. Under a Cartographic lens, there exists no single ‘adjunction site’ for higher adverbs. The very fact that there is a universal hierarchy for them—each one occupying a distinct projection—would suggest that Logical Form would interpret the outputs already given by Narrow Syntax.

¹¹⁷ This surface position to the left of V would undoubtedly be a clear example of Merger of the modal adverb in a specific, dedicated projection in the Cinque hierarchy. In (10), this position is [Spec,Adv_{Epistemic}P].

propositional content (cfr. paraphrase (11)), and/or one of the constituents found to its left (see (12), which suggests that the adverb takes the DP-complement under its scope), as already observed, for instance, by Ernst (2007: 1025, § 2.3), Longobardi (1992, n. 25), Tesconi Neto (2012), Guglielmo Cinque (p.c.), a.o. I will apply the ‘lie test’, see below, which helps us to pinpoint the portion of the sentence which is under the scope of the adverb.

As far as (4) is concerned, repeated below for convenience, speakers easily accept the narrower scope of the adverb, i.e. its scope over the complement. However, variation among speakers is found concerning the acceptability of a wide scope for the adverb, here understood as scope over the VP (or a larger portion of the IP).¹¹⁸ The ‘lie test’ helps us to identify the part of the sentence which is the focus of the adverb in (4) (cfr. (4a’, a’’; b’, b’’)) and (10) (cfr. (10a’, a’’; b’, b’’)).

- (4) a. Gianni mangiava probabilmente la pasta. (*Italian*)
 G. used-to-eat probably the pasta
 ‘It was probably pasta that José used to eat’
 a’. Gianni mangiava probabilmente la pasta, non la carne. (scope over the DO)
 G. used-to-eat probably pasta, not meat.
 a’’. [Quando sono arrivato,]
 [When I arrived,]
 Gianni mangiava probabilmente la pasta, (?)non beveva il latte (IP scope)^{119,120}

¹¹⁸ As I am going to show in the following, some Italian speakers do not accept the wide-scope reading (i.e., the scope over the proposition) for the higher adverb, if it appears to the right of the V. What is interesting is the fact that, under the right context, wide scope of *provavelmente* ‘probably’ is possible (at least in my) BP. That interspeaker variation would be in question here is suggested by the fact that some European Portuguese speakers surprisingly do not accept the narrow scope of *provavelmente* ‘probably’ in such configuration. For Pilar Barbosa (p.c.), the adverb *provavelmente*, in (i), for instance, can only modify the propositional context:

- (i) O José disse que a Maria leu *provavelmente* o livro.
 J. said that Maria read probably the book

Other speakers of EP would find (i) ambiguous, but the preference would be for the narrow scope reading of the adverb. See also the footnotes 121 and 122 where further data from European Portuguese suggest that the issue of the scope of (higher) adverbs is actually more complex than it seems to be.

¹¹⁹ Here, as mentioned in the text, there would be some variation among speakers regarding the acceptability of the scope over (part of) the IP reading (the ‘wide scope’). G. Cinque (p.c.), for instance, does not accept the scope over the proposition reading for *probably* in (i,ii), see below, under an unmarked intonation. The propositional interpretation is possible for him only under a parenthetical intonation of *probabilmente*:

- (i) [Quando sono arrivato,] *Gianni guardava probabilmente la televisione, non lavava i piatti.
 When I arrived Gianni was-watching probably the television, he wasn’t doing the dishes.
 (ii) [Quando sono arrivato,] *Gianni puliva probabilmente la cucina, non lavava il bagno.
 When I arrived, Gianni was-cleaning probably the kitchen, he wasn’t cleaning the W.C.

See also Belletti (1990: 130, n. 29) and Cinque (1999: 31) who both claim that in this ‘focusing’ use the higher adverb takes under its scope (only) the constituent following it. In Belletti, the adverb (in such contexts) directly adjoins to the XP under its scope. Thus, in (iiia), the adverb adjoins to the extended projection of N. In (iiib), it adjoins to the PP *con molte persone* ‘with many people’. In (iiic), it adjoins to the circumstantial DP *domani* ‘tomorrow’. A similar suggestion is made by Zyman (2012), in terms of his “Direct Attachment” proposal. I will take the strongest position by suggesting that even in this ‘focusing’ use, the higher adverb still complies with the Cinque hierarchy.

- (iii) *Italian* (Belletti 1990: 130, fn. 29)
- a. In vita sua Gianni leggerà *probabilmente* molti racconti d'avventura.
In his life G. will read probably many adventure novels
 - b. Maria discuterà la cosa *probabilmente* con molte persone.
M. will discuss the issue probably with many people
 - c. Gianni partirà *probabilmente* domani
G. will leave probably tomorrow

¹²⁰ As we noticed in chapter 3, § 2, § 3 and § 4, in Kayne's (1998) treatment of *only*, it is the Spec-head relation with this focusing adverb which assigns scope to the Goal (displaced to its Spec). Thus, either the entire chunk/constituent in [Spec, *only*] can be focused or only its subparts. Kayne gives the Italian data in (i), see below, where the scope of *solo* is ambiguous. Given the assumption that it is the Spec-head relation with *only* which is responsible for scope assignment, movement of “*t_{nesso}* dei fiori sul tavolo” (where *t_{nesso}* stands for the trace/unpronounced copy of *nesso*, previously moved) would thus be mandatory for the wide scope interpretation of (i). Thus, some form of excorporation (Roberts 1991)—here, decisively some form of left-branch extraction, given that we do not turn to head-movement (see chapter 2)—should be assumed to account for the wide scope reading of *solo* in (i), see also chapter 3, § 3.

- (i) La segretaria ha messo solo dei fiori sul tuo tavolo (Kayne 1998: 157, fn. 71) (*Italian*)
The secretary has put only some flowers on-the your table

As we noticed in chapter 3, § 6, in our revisited version of Kayne's derivational mechanisms for scope assignment to adverbs and FQs (chapter 6), (i) would be derived by moving the entire chunk “*messo dei fiori sul tuo tavolo*” to the Specifier of a probing head. In this case, left-branch extraction of *nesso* should be assumed, given that the lexical V surfaces to the left of the scope-inducing adverb. Alternatively, the constituent moved to Spec, *only* would be a chunk containing the trace of *nesso* which would reconstruct, thus allowing the wide scope reading. By the way, if only phrasal-movements are allowed by UG, left-branch extraction of the VP should be permitted either from the Spec of a lower projection (see Chapter 2, § 2.2) or from the Specifier of a higher probing head (which precedes the merger of the higher (scope-inducing) adverb). But see the footnotes 90 and 134 where it is explained that these displacements are not instances of extraction, given Kayne's (1994) definition of c-command.

G. Cinque (p.c.) informed me that the wide scope reading of *solo* ‘only’ (in (i)) is readily available for him, if one thinks that when *solo* attracts the goal, the V has already raised out of the VP. Thus, the unpronounced copy/trace of the V will be able to reconstruct in [Spec, *only*] in spite of the fact that it has been incorporated to T°. In the case of higher adverbs (see the examples in the previous footnote), wide scope reading is not available, for him, if the V surfaces to the left of the adverb because V is unable to move past higher adverbs (see sentence (2), provided at the beginning of this chapter). Nonetheless, some speakers (marginally) accept the wide scope reading of the adverb in (i) and (ii) of the previous footnote, nonetheless (Alessandra Giorgi, p.c.; Giuseppe Longobardi, p.c.). One should check under what intonation. Alessandra Giorgi explained to me that those speakers who accept the wide scope interpretation in these cases may perhaps attribute a parenthetical structure to these sentences. If my proposal on extending Kayne's theory of scope to adverbs and FQs is valid, wide scope reading for *probabilmente/provavelmente* ‘probably’ would be possible in the examples given in (i),(ii) of the previous footnote if the constituent attracted to the specifier of the probing head is a chunk containing the trace of the V which would be able to reconstruct in that position.

- b. O José comia provavelmente arroz. (BP)
 J. used-to-eat probably rice
 ‘It was probably rice that José used to eat’.
- b’. O José comia provavelmente arroz, não feijão. (scope over the DO)
 J. used-to-eat probably rice not been(s)
- b’’. O José comia provavelmente arroz, não ficava sem comer (na Quaresma). (IP scope)
 J. used-to-eat probably rice, he didn’t stay without eating during Lent.
 ‘J. used to eat probably rice, he didn’t stay without eating during the Lent period’

Thus, narrow scope of the adverb is always possible in both Italian and Brazilian Portuguese, either if the adverb is found to the right of V (cfr. (4a’; 4b’))¹²¹ or if the adverb precedes the V (cfr. (10a,b), above, and the ‘lie test’ given in (10’b, 10’’b’), below). Still in relation to the post-verbal position of the adverb in (4), an additional possibility would be the scope over the proposition or, say, over (part of) the IP, which seems to be available both in Italian—though not for all speakers (cfr. (4a’’) and its linked footnote; see also Belletti 1990: 130,n. 29 and Cinque 1999: 31)—and in Brazilian Portuguese (see (4b’’)).^{122,123}

¹²¹ This is actually the preferred reading for the adverb when it is found to the right of V, it seems, for the Italian speakers who would also (marginally) accept the wide scope reading (e.g. for Alessandra Giorgi, G. Longobardi and Lara Mantovani, p.c.). This is the *only* acceptable reading, for instance, for G. Cinque. As far as European Portuguese is concerned, see footnotes 116 and 118, above, and 122, below. In my BP, when the adverb is located to the right of the V, the narrow reading is preferred, though the wide scope reading is not excluded.

¹²² The same holds for European Portuguese, judging from João Costa (p.c.). Thus, when the higher adverb appears to the right of the V (see (i) and (ii) below), its scope is ambiguous. Either the constituent following the adverb is under its scope (‘narrow scope’) or the whole propositional content is under the scope of the adverb.

- (i) O José disse que a Maria leu *provavelmente* o livro.
 José said that Maria read probably the book
- (ii) A Maria cantou provavelmente para o patrão. (Costa 2008)
 Mary sang probably to her boss

In spite of this ambiguity, there is a clear preference for the narrow scope reading in (i,ii), as J. Costa (p.c.) points out. Thus, scope of the adverb over *o livro* ‘the book’ (i) and *para o patrão* ‘to the boss’ (ii)—cfr. the test suggested in (i’) and (ii’), which helps us to identify the (narrow) scope of the adverb—is preferred to its scope over the propositional content (cfr. (i’’) and (ii’’) which favors the wide scope reading. Though less natural, it is not excluded in EP).

- (i’) O José disse que a Maria leu provavelmente o livro, não a revista.
 José said that Maria read probably the book, not the magazine.
- (ii’) A Maria cantou provavelmente para o patrão, não para o empregado.
 Mary sang probably to her boss, not to the employee.
- (i’’) O José disse que a Maria leu provavelmente o livro, não limpou a casa.
 José said that Maria read probably the book, she didn’t clean the house.
- (ii’’) A Maria cantou provavelmente para o patrão, não declamou poemas diante de todos.
 Maria sang probably to her boss, she didn’t recite poems in front of everybody.

(10') exemplifies, with the 'lie test', the wide and narrow scope readings for (10), which has already been shown on the basis of the paraphrases given in (11) and (12).

- (10') a. Gianni probabilmente mangiava la pasta, non guardava la televisione. (*Italian*)
 G probably used-to-eat pasta, not watched the TV
 'G. probably used to eat pasta, he didn't use to watch TV' [scope over the proposition]
- b. G. probabilmente mangiava la pasta, non la frutta (*Italian*)
 G. probably used-to-eat the pasta, not the fruit
 'G. probably used to eat pasta, not fruit' [scope over the Direct Object]
- a'. O João provavelmente comia massa, não assistia TV. [scope over the proposition]
 the J. probably used-to-eat pasta not watched TV (= a) (*BP*)
- b'. O João provavelmente comia massa, não fruta [scope over the DO]
 the J. probably used-to-eat pasta not fruit (=b) (*BP*)

Such contrasts can perhaps be better gathered from the data given in (iii) and (iv) below, which are also ambiguous, as far as the scope of the adverb is concerned. Thus, in (iii) and (iv) the adverb may have either narrow scope, i.e. scope over the DP following it (see (iii') and (iv(a)))—and this is the preferred reading in EP (J.Costa, p.c.)—or wide scope, i.e. scope over the VP/IP (cfr. (iii'') and (iv(b))).

- (iii) O José comia provavelmente arroz.
 José used-to-eat probably rice.
- (iii') O José comia provavelmente arroz, não feijão.
 José used-to-eat probably rice, not beans
- (iii'') O José comia provavelmente arroz, não ficava de jejum (durante a Quaresma).
 José used-to-eat probably rice, he didn't stay without eating anything (during the Lent period).
- (iv) O Manel estava a lavar provavelmente os pratos.
 Manel was cleaning probably the plates.
- a. [Quando a Maria chegou em casa,] o Manel estava a lavar provavelmente os pratos, não os talheres.
 When Maria arrived home, Manel was cleaning probably the plates, not the cutlery.
- b. [Quando a Maria chegou em casa,] o Manel estava a lavar provavelmente os pratos, não estava a assistir à televisão.
 When Maria arrived home, Manel was cleaning probably the plates, he wasn't watching TV.

I share the same intuitions for these data in my BP. Though I prefer the narrow scope reading for (i)-(iv), I do not exclude the wide scope reading.

¹²³ That wide scope is possible for a higher adverb surfacing on the right of the V in BP (e.g. in (4b)) would be surprising, given the already known fact that in Italian, V raises to a relatively high position (Belletti 1990, Cinque 1999, Garzonio & Poletto 2011). In Brazilian Portuguese, the V(P) seems to stop in [Spec, T_{Anterior}-P], given its position relative to *já* 'already' (the adverb which Cinque locates in [Spec, T_{Anterior}]) (see chapter 4, § 2.2 and § 4; see also Silva 2001: 33, and Modesto 2000: 27). Cyrino (2011) provides interesting evidence to support the idea that V raises less in BP, based on the use of the synthetic form of the preterit in BP and VP ellipsis (see also Cyrino & Matos 2002). Yet, given that higher adverbs are being treated here on par with other Scope-Inducing Elements, the wide scope reading of *provavelmente* 'probably', even when it is found to the right of the V (example (4)), should not be surprising if one assumes that the V has been attracted together with its complement to the specifier of the assigning-scope probing head.

(10') would show that whenever the scope-inducing element (here, the higher adverb) precedes the V on the surface, it is able to focalize either (part of) the proposition (10a,a'), or the sole object (10'b,b'), thus reminiscent of Chomsky's (1971) treatment of focusing items, according to whom the scope over the proposition entails the possibility of its taking scope over one of its constituents (see also § 5 of chapter 3, on the 'size' of scope).

Having shown the scope possibilities for the adverb, let me consider how each (scope) reading would be achieved. This will help us to understand the apparent paradox introduced at the beginning of this chapter, namely, the fact that, though higher adverbs cannot appear sentence-finally (cfr. (2)), they can surface to the right of the V, whenever they precede the complement (4) (or some other constituent). This will also help us to answer one of the questions raised at the beginning of the chapter: are (higher) adverbs reliable diagnostics for V-movement?

To answer this question, we must turn to Kayne's (1998) scope-assignment theory, as stated in chapter 3. We will notice that focusing adverbs may also appear to the right of the V focalizing its complement. Belletti (1990) and Cinque (1999, § 1.6), for Romance; Laenzlinger (1996: 124, n.1), for French; Costa (2008, fn.3) for European Portuguese, Ilari et al. (1990), Ilari (1992), Castilho & Moraes de Castilho (1992), Castilho (2000: 154ff.), Gasparini-Bastos (2000), Souza (2004: 65), Bezerra de Lima (2006), a.o. for BP, Shu (2011) for Chinese and English, a.o. have already observed that higher/sentential adverbs would also be used as focusing adverbs.¹²⁴ A syntactic explanation of this focusing use of higher adverbs should not ignore the existence of a universal hierarchy for AdvPs (Cinque 1999). Attaching the higher adverb (in its focusing use) to lower constituents would only complicate the whole picture: which evidence could be brought—in spite of the surface order of the adverb—for adjoining a (higher) adverb directly to the constituent that it takes under its scope (in the narrow scope reading)? Does each (higher) adverb have a corresponding functional head specialized for a 'focusing' use?¹²⁵ The answer to these two questions seems to be negative. Thus, there seems to be no escape from the Cinque Hierarchy. Kayne's (1998) theory of scope-assignment will help us to understand the puzzling distribution of higher adverbs.

¹²⁴ Particularly telling is Souza's (2004: 65) contention that, even in the focusing use of *realmente* 'really, indeed', it would (always) target/modify the propositional content, by expressing the speaker's confidence regarding what they are saying in the propositional content.

¹²⁵ Of course, the functional heads merged in the extended projection of V may also modify clausal constituents. See, for instance, the case of the focusing particle *pla* in Catalan (Rigau 2012). But the question one should ask, in this context, is: is there a particle merged in the IP, specialized for focalizing

1.1. The organization of this chapter

In section 2, I discuss the pertinence of the labels ‘higher’ adverbs/‘lower adverbs’ and their relevance to understanding the syntax of V raising and the assignment of scope to adverbs. In section 3, I return to the puzzling data on higher adverbs presented in this *Introduction* to show how the generalization of Kayne’s treatment of *only* to adverbs can help us understand the paradoxes presented in section 1. Kayne’s theory should also be generalized to all adverbs, as proposed in section 4. In particular, it suggests that one does not need to “postulate” a new functional head and, consequently, to “create” a new Specifier position for (some) aspectual adverbs which appear twice in the Cinque hierarchy. Only two positions are necessary, which are justified by means of different scopes. Apparent violations of the Cinque Hierarchy can be seen as a consequence of movement operations, which, in Kayne’s framework, are motivated by scope assignment. What matters from a Cartographic perspective is the “time” when the modifier enters the derivation, i.e. when it is externally-merged. In section 5, I return to VP-ellipsis facts, already discussed in section 5 of chapter 4, to show that they favor a Kaynean analysis of the distributional puzzles presented in this section. Competing analyses would have nothing to say on the possible recovery of lower adjuncts in the elliptical VP (as shown in section 5 of chapter 4) but, instead, on the impossible recovery of higher adverbs modifying VP complements. If V adjuncts can be elided (Matos & Cyrino 2001, Cyrino & Matos 2002), the very fact that higher adverbs are not recovered by the elided VP is strong evidence for the contention that, even in their focusing use, they still comply with the Cinque hierarchy, being merged in (higher) positions. Section 6 provides more evidence for the Kaynean treatment of Cinque’s adverbs, this time by revisiting Longobardi’s (1992) ‘Correspondence Hypothesis’. As briefly mentioned in chapter 3, Kayne extended his approach to the matrix/embedded clause pair to root clauses, to show that the assignment of focus to *only*, *Neg*, etc. is achieved by means of overt movements. Thus, if the generalization of Kayne’s treatment of *only* to all adverbs is accurate, one should expect to find the same constraints observed by Longobardi (1992) with respect to the assignment of focus to *only* with higher adverbs, for instance. I show that the assignment of scope is sensitive to island constraints like the Complex NP-constraint. Finally, in section 8, it will be shown how higher adverbs interact with the raising of V and auxiliaries

only clausal constituents and not the whole proposition?

in BP. In section 9, I present a brief conclusion alongside those issues which still remain equivocal. The *Appendix* addresses the question regarding the merger of auxiliaries in a Cinquean-like system.

2. Do we really need the label “sentence adverbs”?

Until now, I have at times used the pre-theoretical label “higher adverbs” as a synonym for “sentential adverbs”. The use of higher adverbs and sentential adverbs as synonym would make sense in pre-Cartographic/non-Cartographic works, which assume a minimal structure for the clause as in Chomsky (1986), having, at most, two or three functional projections, namely, CP, IP/TP, and *v*P (Chomsky 1995, 2001). Sentential adverbs would adjoin to IP, whereas VP-adverbs would adjoin to VP, in line with Jackendoff’s (1972) influential analysis of adverbs. In the wake of Jackendoff, Costa (2004: 716ff.) suggests that there are fundamentally two domains for adverbs attachment, namely IP and VP. Thus, Jackendoff’s initial idea has stood the test of time and is still used in mainstream Minimalism. However, as Costa (2008) observes (see also footnote 116 above), one and the same sentence may be ambiguous in meaning (cfr. (13), below) and the domain of modification of the adverb can either be the sentence (cfr. the paraphrase given in (13a)), or just one of its constituents (in the case of (13), the PP to its right (see (13b))).

- (13) A Maria cantou provavelmente para o patrão. (*European Portuguese*, Costa 2008)
 Maria sang probably for her boss
a. It is probable that Maria sang for her boss.
b. It is probably for her boss that Maria sang.

In this sense, Castilho & Moraes de Castilho’s (1992) terminology “sentence adverbs” and “adverbs of constituents” would be more appropriate as it at least has the advantage of discriminating the scope/focus of the adverb.

With the increasing of the number of functional categories in the clausal domain (Rizzi 1997, Cinque 1999 and subsequent work), the use of the labels *sentence adverbs/IP adverbs* and *VP-adverbs* would no longer be useful, as the “IP zone”, for instance, is actually a complex space

made of almost 40 functional projections. More crucial is the fact that some “sentence adverbs” actually exhibit syntactic behavior of lower/VP adverbs or of adverbs of constituents, as we will illustrate. The conclusion is that one should reevaluate this terminology.

A complicating issue is the fact that some lower AdvPs may come to occupy some information structure positions in the left periphery (see Rizzi 2001b, 2004a; Laenzlinger 2000, 2002, 2011; Cinque 2004).

- (14) Rapidamente, i tecnici hanno risolto ____ il problema. (*Italian* – Rizzi 2001b: 102)
 ‘Rapidly, the technicians have resolved the problem.’

In this case, it is clear that they are not ‘higher adverbs’, once their appearance in the higher position of the CP-area is the result of internal merge.

Back to sentence (4) presented above,

- (4) a. Gianni mangiava probabilmente la pasta. (*Italian*)
 G. used-to-eat probably the pasta
 ‘It was probably pasta that José used to eat’.
 b. O José comia provavelmente arroz.
 J. used-to-eat probably rice
 ‘It was probably rice that José used to eat’.

at first sight, it seems that pursuing the strict parallel higher AdvPs/higher zone, lower AdvPs/lower zone is untenable. Although the wide-scope reading is available in Portuguese (see (4b)) and for some speakers of Italian (see (4a) (and footnotes 118, 119 and 120, above), narrow focus of *probabilmente/provavelmente* is the most natural reading for both (4a) and (4b). The same observation holds for the example (13), as shown above.

Consequently, any attempt to associate sentence adverbs with adverbs which merge in high positions in the structure would become problematic. It seems to me that Cinque (1999, 2004) remains agnostic on this parallel (higher adverbs – scope over the IP; lower adverbs – VP-scope), if there is one. The motivation provided in Cinque to classify an AdvP as higher

or lower is strictly syntactic. Cinque takes the raising of the active past participle¹²⁶ in Italian as the deciding factor (cfr. Cinque 1999: 4ff.). Thus, active past participle movement would be limited to the (functional) heads found to the right of the lowest ‘higher’ adverb, namely, *solitamente* ‘usually’ (habitual adverb). In this view, higher adverbs would be the ones that would resist active past participial movement past them.

However, the contention that higher adverbs cannot be crossed-over by the active past participle could be apparently denied on the basis of data like (15), from Nilsen (2004):

(15) *Italian* (Nilsen 2004: 842)

- a. Due incendi che non hanno *avuto fortunatamente* conseguenze rilevanti si sono sviluppati
 Two fires that not have had fortunately consequences relevant SI are developed
- b. le analisi hanno dato fortunatamente esito negativo.
 The analyses have-3PL had fortunately output negative

As Nilsen points out, it should be the case that the past-participle would have raised past relatively higher adverbs. Yet, the correct approach to (15) would however not involve raising of the past participle past the higher adverb. (Remember that (2), given above, and again repeated below, is ungrammatical). Rather, it would involve attraction of the constituent surfacing to the right of the higher adverb (to the Spec of a probing head), merge of the higher adverb and remnant movement past it, along the lines of Kayne’s (1998) revisited analysis of *only* (chapter 3, § 6). Since the remnant contains the active past participle, it again gives us the impression that the participle has (head-)moved past the higher adverb. Thus, Nilsen’s objections to the existence of a syntactic hierarchy of adverbs do not hold water.

I believe that there is a way to keep with the ‘division’ of the Cinque hierarchy in two zones which can informally be called “lower zone” and “higher zone”—without turning to (active) past participial movement which may prove misleading, at least with transitive verbs. One could suggest that the best diagnostics for the identification of higher adverbs would be provided by sentences like (1-2), repeated below.

- (1) a. Gianni mente ancora/bene/sempr/e/ecc. (*Italian*)
 G. tells-lies still/well/etc.

¹²⁶ Cinque (1999) assumes Pollock’s (1989) analysis of V raising in terms of head-movement (see, specifically, Cinque 1999, chapter 2).

- b. O Zé mente ainda/bem/sempré/etc. (BP)
 The Zé tells-lies still/well/always/etc.
 ‘Gianni/Zé still/well/always/etc. tells lies’
- (2) a. *Gianni mente provavelmente/di solito.
 G. tells-lies probably/usually
- b. *O João mente provavelmente/geralmente.
 The J. tells-lies probably/usually
 ‘G./J. tells lies probably/usually’

The V in (1-2) is an intransitive one. Since it lacks a complement, it clearly shows which adverbs can be crossed over by the lexical V.¹²⁷ In this sense, only lower adverbs can. The fact that *mesmo* ‘indeed’, *certamente* ‘surely’, *realmente* ‘really’ can appear sentence-finally (cfr. chapter 3, section 4) is an indication that these adverbs enter the derivation in the lower portion of the clause.

As a result, the appearance of ‘higher adverbs’ to the left of the lexical V (e.g. in (4), (13) and (15)) to directly focalize a constituent of the sentence should be taken to suggest that the term “sentence adverb” is not appropriate on syntactic/semantic grounds, and that a more neutral label (e.g. higher adverb) should be used instead, as in Cinque (1999). The appearance of the higher adverb in (4, 13 and 15) is not the result of adjunction, lowering, or having a lower projection for higher adverbs in the lower portion of the clause (as we will see in the following sections). Thus, a more reductionist approach is called for. Following the analysis I proposed in chapter 3, I suggest that the appearance of higher adverbs to the right of V is solely the result of movements which have the effect of leaving only the focus of the adverb in its c-command domain.

In summary, on the basis of an essentially syntactic diagnostics, namely, the possibility of V raising past an intransitive adverb, one can decide whether an adverb is merged in the higher portion or in the lower portion of the IP.¹²⁸

3. Higher adverbs at play: back to some puzzling distributional facts

¹²⁷ Obviously, this test can be useful also with active past participles, whenever the V is intransitive.

¹²⁸ On the characterization higher vs. lower AdvPs/IP or sentence adverbs vs. VP-adverbs see, a.o., Jackendoff (1972), Thomason and Stalnaker (1973), Bellert (1977), Casteleiro (1982), Ilari et al. (1990), Kato & Castilho (1991), Castilho & Moraes de Castilho (1992), Lonzi (1991), Hengeveld (1997), Ramat & Ricca (1998), Ernst (2002), Laenzlinger 2011. See also Shu (2011, chapter 2) on the scope of “sentential adverbs”.

In Chapter 3, specially in § 4, we have shown how the theory on scope-assignment assumed here, namely Kayne (1998), could be extended to the domain of adverbial modification. Given the phrasal nature of adverbs and the conjecture that UG would only allow phrasal-movements, Kayne's derivations have been slightly modified to be compatible with these empirical and theoretical facts. It is time to reaccess the puzzling distributional data on higher adverbs provided at the beginning of this chapter. We should ask if treating (higher) adverbs as scope-inducing elements, *à la* Kayne (1998), would help us to understand why higher adverbs have such a paradoxical distribution.

Starting with (1-2), it was shown that higher adverbs, as opposed to lower adverbs (1), cannot appear sentence-finally (2), in Romance and English, unless de-accented (3):

- (1) a. Gianni mente ancora/bene/sempr/e/ecc. (*Italian*)
 G. tells-lies still/well/etc.
 b. O Zé mente ainda/bem/sempr/e/etc. (*Brazilian Portuguese*)
 The Zé tells-lies still/well/always/etc.
 'Gianni/Zé still/well/always/etc. tells lies'
- (2) a. *Gianni mente probabilmente/di solito.
 G. tells-lies probably/usually
 b. *O João mente provavelmente/geralmente.¹²⁹
 The J. tells-lies probably/usually
 'G./J. tells lies probably/usually'
- (3) a. Gianni mente, probabilmente/di solito.
 G. tells lies, probably/usually
 b. O João mente, provavelmente.
 the J. tells lies, probably
 'G./J. tells lies, probably'

It was also noted that higher adverbs could appear (in Italian and (Brazilian and European Portuguese) between the V and its complement:¹³⁰

- (4) a. Gianni mangiava probabilmente la pasta. (*Italian*)
 G. used-to-eat probably the pasta
 'It was probably pasta that José used to eat'.
 b. O José comia provavelmente arroz. (*BP*)
 J. used-to-eat probably rice
 'It was probably rice that José used to eat'.

¹²⁹ Here, one should take the highest habitual adverb, i.e., the one modifying the event, not the process.

¹³⁰ See also sentences (13) and (15) of section 2.

If one attempts to explain the data in (4) on the basis of verb movement, they would conclude that AdvPs are not reliable diagnostics.¹³¹

Sentences (2-3) show that higher adverbs cannot appear sentence-finally, unless de-accented. These data thus suggest that movement of the lexical V is quite restricted even in Italian (where V is said to raise to a high position (cfr. Belletti 1990)). Therefore, V raising could not be the correct approach to explain the data given in (4).

As already discussed in section 1, (4a,b) are ambiguous both in Italian (but see the footnotes 118-121) and in Brazilian Portuguese—the same is valid for European Portuguese (see the footnotes 116, 118, 121 and 122). There is nonetheless a clear preference for (what we called) the ‘narrow scope’ of *probabilmente/provavelmente* ‘probably’ over the ‘wide scope reading’. ‘Narrow scope’ would correspond, in the present context, to the focusing use of this higher adverb, i.e. its use as modifier of the verbal complement. In Castilho & Moraes de Castilho (1992), the adverb in this case is called “adverb of constituent”. ‘Wide scope’ refers here to the scope of the adverbial over the propositional content/IP.

Given Kayne’s (1998) theory of scope assignment, according to which the Spec/head relation of an assigning-scope head and a constituent moved to its Spec is responsible for scope assignment, one could explain the data given in (4). This way to approach the data is useful to keep with the idea that adverbs have a rigidly fixed order in a universal hierarchy of functional projections. Thus, Shu’s (2011) criticisms to Cinque’s “isomorphic” approach do not hold up, if the proposal I am advancing here is on the right track.

Thus, to derive the narrow scope reading of *probabilmente/provavelmente* ‘probably’ in (4), one could assume that the complement of V would raise to the Spec of a probing head. Then, the epistemic (focusing) adverb merges in the Spec of the next head, i.e. in its position of merger, according to the Cinque hierarchy. Remnant movement would place the subject plus the V to the left, giving the impression that the V has been (head or phrasal-) moved (by itself) past the higher adverb, contrary to the facts (see (2)). The derivation is sketched below—with its

¹³¹ Or worse, they would have to assume a proliferation of heads to license different portions of the clause which would come to be under the scope of *provavelmente/probabilmente* ‘probably’ (i.e., a higher *probably*, a lower *probably*, and so on—see, e.g., Ernst’s (2007) and Nilsen’s (2004) objections to the “Location-in-Spec” approach, to whom the only way to account for these data, by retaining the Cinque hierarchy, is by multiplying the number of licensing-heads (a higher and a lower). However, there would be no independent motivation for such a proliferation of heads coming, for example, from the syntax of functional heads. Alternatively, one could suggest that the adverb would, in these cases, be lowered from its higher position, adjoining to its modiffee, again a problematic process under current understandings of the Syntax theory.

English gloss:

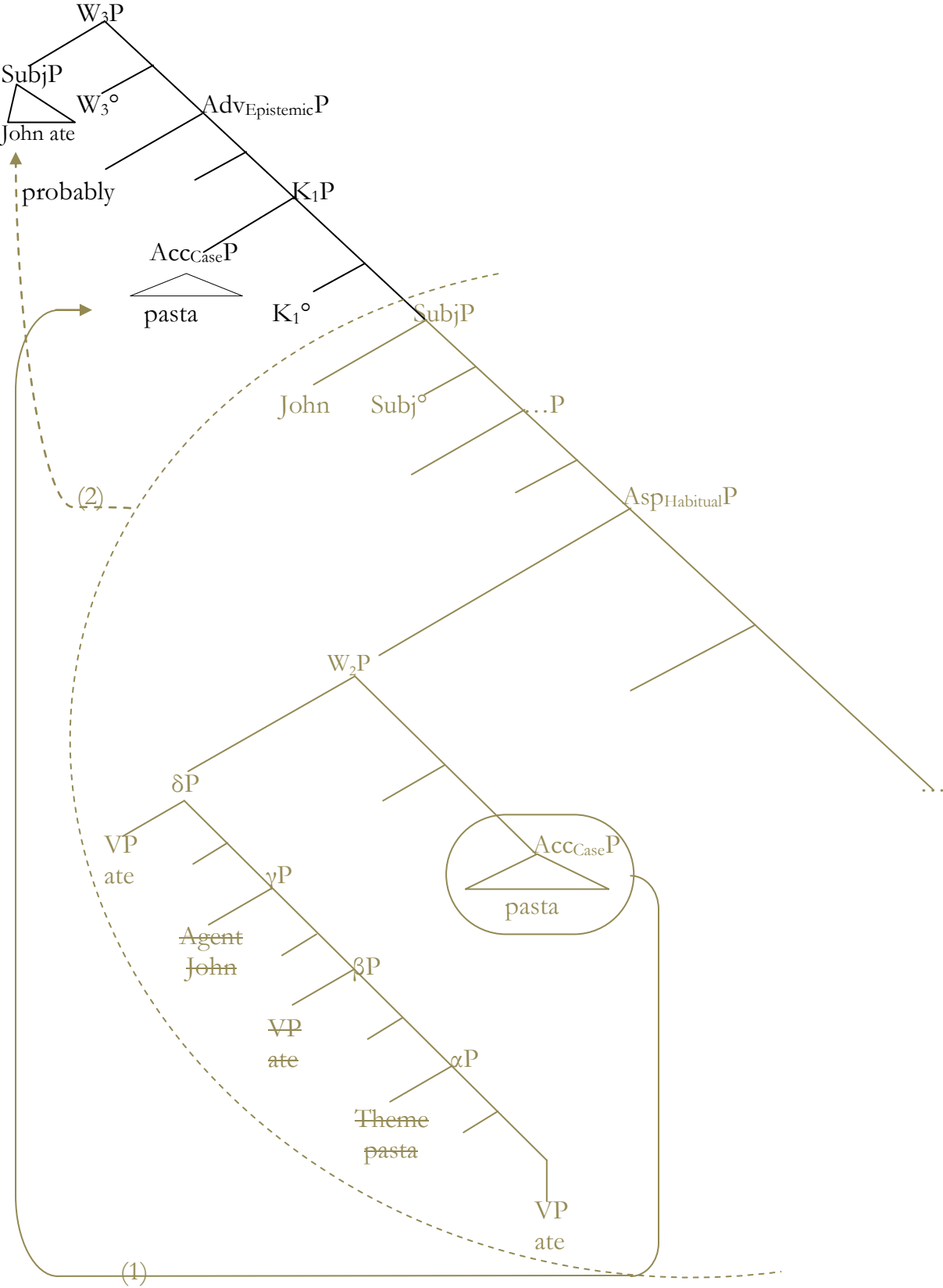


Fig. 5.1: On deriving the narrow scope reading of (4)¹³² (↑)

Some alternatives exist for this derivation, which attempt to retain the idea underlying the Cinque hierarchy. I will discuss them below. First, I will attempt to show how the wide-scope reading, i.e. the one in which the adverb has scope over the proposition, could be derived for (4), repeated below.

- (4) a. Gianni mangiava probabilmente la pasta. (IT)
 G. used-to-eat probably the pasta
 ‘It was probably pasta that José used to eat’.
- b. O José comia provavelmente arroz. (BP)
 J. used-to-eat probably rice
 ‘It was probably rice that José used to eat’.

To get this reading,¹³³ the (relevant part of the) IP should move to the specifier of the

¹³² I have only provided the relevant steps for this derivation. Of course, it would start with the merger of V (projecting the VP). Then, the arguments would necessarily merge to the left of the VP, in dedicated Spec positions, in accordance with Cinque’s ‘left-right asymmetry’ (chapter 2, § 5 and 6). Remember that each time an argument is merged, the VP moves to the Spec of a head merged to the immediate left. It can be seen, in tree 5.1, that the constituent labeled “δP” hosts the VP, in its Spec. The order in which the elements enter the derivation can also be seen in this figure: first the VP, then the direct object, then movement of the VP, then the agent-DP, followed by movement of the VP again. δP occupies [Spec,W₂P]. In the present context, W₂P should be understood as the Specifier of a silent preposition related to Nominative Case. As noted in chapter 2, we are assuming Kayne’s (2000, 2005) theory of case assignment (see Cinque 2006, chapter 6). Thus, after the merger of the arguments, the Theme-DP raises to the Spec of an (accusative) case-assigning head. Then, a silent preposition merges in the next head, followed by remnant movement to its Spec (i.e. [Spec,W₁P], not represented in this derivation). The next constituent to check case is the agent-DP. After its movement to [Spec,NominativeP], the remnant, i.e. W₂P (which contains the verb and its complement) raises to [Spec, W₁P]. Until now, we have the order: VP – Complement – Subject. Since the VP has to raise to the Spec of Asp_{Habitual}P, I assume that the Subject is extracted from the VP-Complement-Subject chunk. No violation of Relativized Minimality is induced given that the theme-DP is no longer alone, but is within the chunk from which the subject has been extracted. W₂P (i.e. VP plus complement) raises to [Spec,Asp_{Habitual}P]. Finally, one could assume that the subject raises to the Spec of [SubjP], for example, to check its criterial features. Observe that Rizzi’s (2004) SubjP would intersperse with Cinque’s IP-related FPs (see Cinque 1999, chapter 5).

¹³³ Remember that (4a”) and (4b”), provided at the beginning of this chapter, would ‘translate’ this wide-scope reading:

- (4) a”. [Quando sono arrivato,]
 [When I arrived,]
 Gianni mangiava probabilmente la pasta, (?)non beveva il latte (IP scope)
 G. was eating probably pasta, he wasn’t drinking milk
- b”. O José comia provavelmente arroz, não ficava sem comer (na Quaresma). (IP scope)
 J. used-to-eat probably rice, he didn’t stay without eating during Lent.

probing/criterial head associated with *probabilmente/provavelmente* ‘probably’. In spite of the fact that the wide-scope reading is available in (4a,b), the verb surfaces to the left of the adverb in (4). To get this surface order (by still keeping with the contention that UG would allow only phrasal-movements), extraction of a left-branch must be assumed,¹³⁴ either after the raising of the chunk containing the “V” to the Spec of that probing head or even before (thus allowing the V to be under the scope of *probabilmente/provavelmente* through reconstruction). From the representation of the previous sentence, it should be clear that the VP stands in a left-branch, i.e. in [Spec,δP]. δP is also in a left-branch. Thus, there is no apparent way to avoid left-branch extraction in this case.¹³⁵ The question is: which derivation should be preferred/correct, the one whose chunk moved to the probing head contains the *trace* of the VP (already displaced) or the one whose chunk actually contains the VP (not its unpronounced copy), which is displaced after the merger of *probably*?

I would like to take the data given in (2)—and repeated again below, for convenience—on the prohibition of higher adverbs sentence-finally to suggest that the correct option should be the one which takes the chunk containing the trace of V to be moved to the specifier of the probing head associated with *probably*. The V will reconstruct in the Spec of that probing head and thus will be under the scope of *probably*. The motivation for this choice is simple. As

As mentioned there, some (Italian) speakers do not accept (4) (e.g. Guglielmo Cinque). Others accept it (marginally) (G. Longobardi, A. Giorgi, p.c.). I accept their correspondents in BP, but not at the same level of acceptability of the narrow-scope reading. J. Costa has the same impression for European Portuguese.

¹³⁴ Although I will be (informally) referring to the extraction of the V(P) out of a larger chunk as ‘left-branch extraction’ of the VP, one should observe that under Kayne’s (1994) theory such a displacement **technically is not an extraction** from YP and Asp (see (i-ii) below), because it is not contained within either one, given May’s (1985) and Chomsky’s (1986) distinction between *segment* and *category* and the definition of *c-command* proposed in Kayne (1994: 16), which adopts such a distinction. Remember that Kayne restricts the definition of c-command to categories (“X c-commands Y iff X and Y are categories and X excludes Y and every category that dominates X dominates Y” – Kayne (1994: 16)). Also see Cinque (2013: 13, fn. 36).

- (i) [T_{AnteriorP} [AspP [XP [VP *comia* [ObjP *arroz* [~~VP~~ *comia*]]]]]
- (ii) [T_{AnteriorP} [AspP [YP [XP [VP *comia* [ObjP *arroz* [~~VP~~ *comia*]]]]]
- (iii) [T_{AnteriorP} [AspP [YP [XP [VP *comia* [ObjP *arroz* [~~VP~~ *comia*]]] [~~XP~~ [~~VP~~ *comia* [~~ObjP~~ *arroz* [~~VP~~ *comia*]]]]] [~~XP~~ [~~VP~~ *comia* [~~ObjP~~ *arroz* [~~VP~~ *comia*]]]]]
- (iv) [T_{AnteriorP} [VP *comia* [AspP [VP *comia* [YP [XP [~~VP~~ *comia* [ObjP *arroz* [~~VP~~ *comia*]]] [~~XP~~ [~~VP~~ *comia* [~~ObjP~~ *arroz* [~~VP~~ *comia*]]]]]]] [~~XP~~ [~~VP~~ *comia* [~~ObjP~~ *arroz* [~~VP~~ *comia*]]]]]

¹³⁵ Once W₂P is moved to the specifier of the probing head associated with the epistemic adverb, i.e., merged before it, sub-extraction of the complement out of the Spec of this probing head, followed by merger of the adverb would not solve the problem, since the remnant would fail to contain the “VP”, which would still have to be pushed up, followed by a further movement of the remnant to derive the correct order. It would be even more difficult to find an explanation for this derivation.

suggested by (2), the V(P) cannot move past higher adverbs. Thus, any attempt to derive (4) on the basis of left-branch extracting the VP out of the spec of the probing head would be misleading.¹³⁶

- (2) a. *Gianni mente probabilmente/di solito. (*Italian*)
 G. tells-lies probably/usually
 b. *O João mente provavelmente/usually. (*BP*)
 The J. tells-lies probably/usually
 ‘G./J. tells lies probably/usually’

Now, the question is: are there independent arguments for the extraction of the VP out of a left-branch? The data given in (16) would confirm this prediction. The topicalized V appears to have been left-branch extracted:

- (16) Messo, non aveva solo dei fiori sul tavolo, aveva anche addobbato tutta la stanza.
 put NEG had only of flowers on-the table, had also decorate all the room
 ‘Put, (s)he hadn’t only (put) some flowers on the table, (s)he had also decorate all the room.’ (*Italian* – G. Cinque, p.c.)

That the topicalized V has not been directly merged in the left-periphery but, instead, is the result of movement is shown by (17). Topicalization of VP is sensitive to the Complex NP island, suggesting that, in (16), it obtains transformationally:

- (17) *Messo, ho incontrato il ragazzo [che non aveva dei fiori sul tavolo].
 Put, I’ve met the boy who hadn’t some flowers on the table

Judging from Bastos (2001), BP also has the phenomenon of V(P) topicalization (see (18)).

¹³⁶ The English data given below (from Ernst 1991: 754; see also Cinque 1999: 87) would actually suggest that left-branch extraction should be assumed under a theory only allowing phrasal movements.

- (i) John must probably give his money back by tomorrow.

The root modal is under the scope of *probably*, in spite of its surface position. If scope should be assigned transformationally (Kayne 1998), the only way to get the fact that *probably* outscopes *must* in (i) is by assuming that the chunk *must give his money back by tomorrow* moves to the specifier of the probing head associated with *probably*. Then, *probably* merges in the sequence, *must* is “left-branch extracted” and remnant movement places “John” to the left.

For what concerns us here, namely the topicalization of the sole V,¹³⁷ it would involve movement of V to the left periphery, given its sensitivity to islands (see (19)):¹³⁸

- (18) a. *Emprestar, o João emprestou a caneta para a Maria.*
 Lend.INF, the João lent the pen to Mary.
 ‘As for lending, João has lent a pen to Maria.’
 b. *Vender, o João vendeu a casa.*
 Sell.INF, the João sold the house
 ‘As for selling, João sold the house.’ (Bastos 2001: 12)
- (19) a. **Emprestar, eu conheço o aluno que emprestou a caneta para a Maria*
 Lend.INF, I know the student that lent the pen to the Maria
 (não para o Pedro)
 (not to Pedro)
 ‘As for lending, I know the student who lent the pen to Maria not to Pedro.’
 b. **Vender, eu tenho um amigo que vendeu a casa (não um apartamento).*
 Sell.INF, I have a friend that sold a house (not an apartment)
 ‘As for selling, I have a friend who sold a house not an apartment.’
 (Bastos 2001: 13)

Let us return to the derivation of (4), repeated below. If the claim that the V has pied-piped its complement in the course of the derivation (see chapter 4, sections 2.1 and 2.2; and the derivation of the narrow reading of (4), in figure 5.1, shown above) is correct, the V is undoubtedly located in a left-branch. Thus, as we have seen in the previous discussion, the only way to obtain the wide-scope reading of *probabilmente/provavelmente* in (4) is by moving a chunk containing the trace of the V and its complement. The only way to get this chunk, from previous steps, is by left-branch-extracting the V(P) at some point of the derivational history (by independent reasons related to V-raising). It was also shown that Italian and BP both have topicalization of V. Hence, we have independent evidence for the contention that the V(P) can be left-branch extracted or ‘displaced’ (but see the fn. 90 and 134). Accordingly, we can eventually proceed with the derivation of the wide-scope reading of the adverb in (4).

- (4) a. Gianni mangiava probabilmente la pasta. (*Italian*)

¹³⁷ See Bastos (2001: 15ff.) on the other two types, which involve topicalization of V plus a complement. If the complement is a bare NP, topicalization of VP involves base-generation of the VP in the left-periphery, given its insensitivity to islands.

¹³⁸ This type of topicalization is possible in configurations not involving islands, suggesting that it is indeed the result of movement (cp. (i) with (19) in the text):

- (i) *Emprestar, o Pedro disse que o João emprestou um livro para a Maria.* (Bastos 2001: 12)
 As for lending, Pedro said that João lent a book to Maria

- G. used-to-eat probably the pasta
 ‘It was probably pasta that José used to eat’.
- b. O José comia provavelmente arroz. (BP)
 J. used-to-eat probably rice
 ‘It was probably rice that José used to eat’.

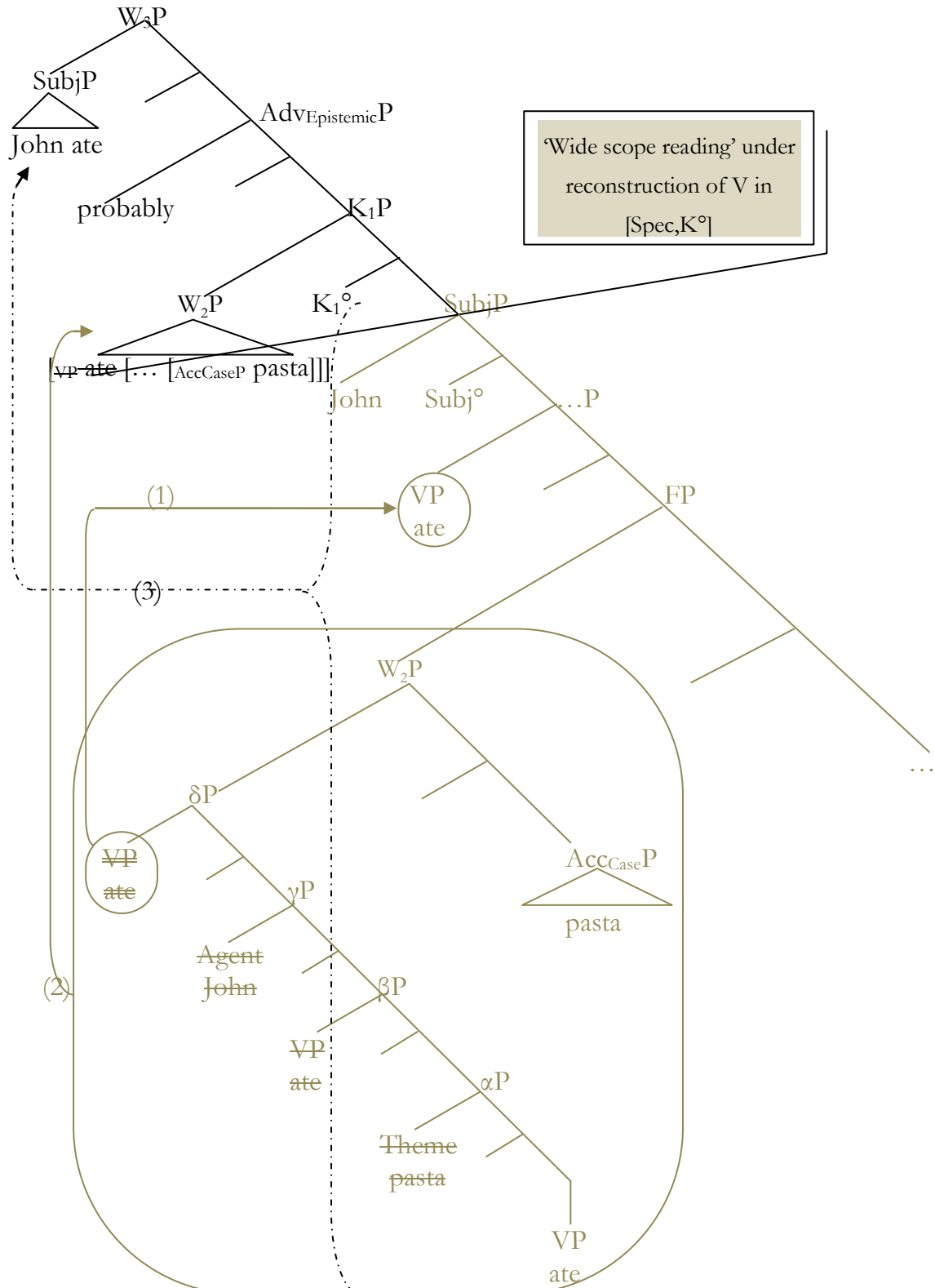


Fig. 5.2: The derivation of the Wide Scope reading for the AdvP in (4): English gloss

The scope over the proposition (wide-scope reading) of *probabilmente/provavelmente* in (4) should involve movement of the chunk containing the trace of V to the spec of the probing head associated with *probabilmente/provavelmente* ‘probably’ (see “(2)” in fig. 5.2 above). Next, the epistemic adverb merges to the left, followed by remnant movement above it (step “(3)”).

Two important observations should be noted. First, wide-scope reading is obtained through reconstruction of the V within the spec of the probing head. Second, the appearance of the V to the left of the higher adverb is *not* the result of V-movement past the higher adverb. The correct approach to (2), found above, suggests that the V(P) *cannot* move past higher adverbs. It can only move if it is within a chunk. In this case, since we only have V and no auxiliary, we have the impression that V has head or phrasal-moved on its own to the left of the AdvP.

Having shown how the wide scope reading of the adverb is derived in (4), let us return to the narrow scope case, to show how alternative approaches (which still attempt to preserve the Cinque hierarchy) would derive it. I will also suggest that, in spite of deriving the narrow scope reading, these alternative proposals would encounter great difficulties to explain the possible wide-scope reading of (4).

Zyman (2012: 73ff.) presents an analysis in terms of “Direct Attachment”, where the direct attaching adverb would ‘adjoin’ to a ‘non-spinal’ constituent. To apply Zyman’s direct attachment analysis to obtain the narrow scope reading of the epistemic adverb, one should ‘direct attach’ *probabilmente/provavelmente* ‘probably’ to the DP-complement in (4). Zyman’s *Direct Attachment* seems to be a reinvocation of the traditional adjunction analysis, thus, problematic under the Antisymmetric (Kayne 1994) view, which proposes one specifier/adjunct per head.

Let us provide a brief overview of Zyman’s ‘Direct Attachment’ proposal. He presents the following Italian data, from Cinque (1999), where an adverb A, higher in the Cinque hierarchy than another adverb B, surfaces to the right of B. In Zyman’s English, the correspondent translations are also grammatical (cfr. Zyman 2012: 73).

- (20) a. Lo avrà già detto [probabilmente a tutti]. (Italian)
 it(DO) will.have already said probably to everyone
 ‘He will have already said that probably to everybody.’
 b. Non legge più romanzi [forse proprio per questo].
 not reads more (Adv)novels perhaps just because.of this

‘He no longer reads novels perhaps precisely for this reason.’
((20a,b) from Cinque 1999:32; Zyman 2012:73)

According to the ‘Direct Attachment Hypothesis’, (20a) and (20b) do not violate the Cinque hierarchy, given the fact that the adverb surfacing to the right (*probabilmente/probably* in (20a); *forse/perhaps* in (20b)) is ‘directly attached’ to the PP *a tutti/to everybody*, (20a), or to the PP *per questo/for this reason*, (20b). Given this direct attachment, there is no violation of the Cinque’s hierarchy, since the two adverbs in each sentence are from different “F-structures” (Zyman 2012: 73): “[...] [T]hese “violations” are illusory, because in each of these sentences, the two adverbs are not part of the same F-structure.”

However, there would be some problems with the ‘Direct Attachment’ analysis. From Zyman’s (2012) work, it is not clear how, when, and where (in the derivational history) adverbs would “directly attach” to ‘non-spinal’ constituents (e.g. APs, PPs, DPs, etc.). A serious issue that a direct-attachment analysis and any competitive attempt to derive the use of adverbs as focalizers of a DP-complement would face regards exactly its interfering with theta-role assignment (Chomsky 1986: 6ff., 16ff.) to DP-arguments. In order to retain a direct-attachment analysis, the direct attacher would have to be late merged in the derivation (see, for instance, what Harwood (2011) does with floating quantifiers—though, as we will see in the following chapter, there is another way to account for the floating quantification facts). Yet, this analysis would actually throw the problem back to the extended projection of V. Alternatively, the direct attacher would merge within the extended projection of N, P, etc. Yet, in this case, it would be necessary to draw a complete map of the extended projection of N, P, etc. and show the position(s) where direct attachers would merge, since one should also expect some hierarchy for AdvPs, if any, in those domains. Merging the direct attacher within the extended projection of the category directly modified by them would exempt Zyman’s direct attachment analysis from the theta-role assignment problem mentioned above.

The very fact that sentences (4a,b) are ambiguous (though not for all speakers) would be, I think, the best argument against competitive analyses (Direct Attachment, free adjunction, addition of an extra low position for the (higher) adverb¹³⁹, etc.). Let us suppose that these alternatives—or, potentially, only one of them, under the critical view that there would only

¹³⁹ This alternative is presented below. In section 5, I provide evidence against these competitive analyses, based on the Syntax of VP-ellipsis in Portuguese.

be one ‘correct analysis’—are/is valid. They should thus make the correct predictions. Thinking of Zyman’s (2012) analysis, it should not only derive the narrow reading of *probabilmente/provavelmente* ‘probably’, in (4) but also (what we have called) the ‘wide scope reading’, where the adverb takes under its scope the propositional content. If the direct attacher is merged within the extended projection of N, P, etc.—so as to satisfy the adjacency condition on theta-role assignment—the wide scope reading of (4) cannot be derived, unless an additional stripping process would extract the adverb out of the nominal expression/PP, etc.

An alternative analysis proposes the creation of a lower functional projection to host the epistemic adverb.¹⁴⁰ This analysis is suggested in Nilsen (2004), as a way for defendants of Cinque’s Cartographic theory to explain, for instance, the appearance of an adverb A to the right of an adverb B (where A precedes B in the Cinque hierarchy).¹⁴¹ The underlying idea would stem from Cinque’s analysis of some time-related/aspectual adverbs which he takes to be generable in two quantificational zones (Cinque 1999, 2004). However, merging the adverb in a lower position would be misleading, since it would fail to explain why *possibly*, in (21), found below, cannot immediately follow sentential negation, as observed by Nilsen (2004):

(21) *This is a fun, free game where you’re not possibly further than a click away from winning \$ 1000 (Nilsen 2004: 833)

(21) is also a problem for Zyman’s direct attachment analysis, which would also apparently have nothing to say on its ungrammaticality. The conclusion is that both the analysis which merges the adverb in a lower position and Zyman’s analysis overgenerate, given their inability to explain (21)(cfr. Nilsen 2004: 840).

¹⁴⁰ Ernst (2007) also suggests that the only way to keep with Cinque’s 1999 premise that each different interpretation should correspond to one distinct position in the tree is by adding an extra head. As I suggest in this chapter (see §4), this is not the only way to account for the surface orders. Transformations are also called for when they are needed in Cartographic works.

¹⁴¹ Though Nilsen mentions this analysis as a possible way to account for the facts under a Cinquean perspective, he does not assume it.

Curiously, as Nilsen points out, (21) is ameliorated if an intervening *always* is placed between sentential negation and *possibly*.

(22) ... where you're not always possibly a click away from winning \$ 1000!

(Nilsen 2003: 833)

Apparently, no obvious answer to the different judgments reported in (21-22) would be provided by the “direct attachment” analysis, nor by the “adding an extra low position” alternative.

Now, let us show how the proposal made here (which extends Kayne’s theory of scope to Cinque adverbs) would not only account for the data in (21-22) but also retain the generalizations drawn by the Cinque hierarchy.

The fact that (21-22) have different judgements is not surprising for a syntactic theory which, besides placing adverbs in Spec positions, realizes that they come in a rigid, fixed order, as is the norm in Cartographic works. (21) is ungrammatical because sentential negation should be generated in a position which is lower than the one occupied by the modal adverb, which is a plausible assumption (Cinque 1999, chapter 5). What makes (22) grammatical is the fact that *possibly* and *Neg* are not in complementary distribution, say, they are not competing for the same “scope”. *Neg* is merged before *possibly*, in accordance with Cinque (1999, chapter 5). *Possibly* is merged after the attraction of *a click away from winning \$ 1000* to the Spec of the probing head associated with it.

The same analysis can be extended to (20a,b), discussed above, and repeated below. (a) could be derived by attracting the PP *a tutti/to everybody* to the Spec of the probing head associated with *probabilmente/probably*, merger of this epistemic adverb and remnant movement to a Spec to the immediate left. The fact that *già/already* is actually part of the remnant explains the apparent violation of the Cinque (1999) hierarchy. Thus, contrary to Zyman’s (2012: 73) analysis, the two adverbs co-occurring in each one of these sentences do belong to the same ‘F-structure’, i.e. both are merged in the extended projection of V.

- (20) a. Lo avrà già detto [probabilmente a tutti]. (Italian)
 it(DO) will.have already said probably to everyone
 ‘He will have already said that probably to everybody.’
 b. Non legge più romanzi [forse proprio per questo].
 not reads more (Adv)novels perhaps just because.of this
 ‘He no longer reads novels perhaps precisely for this reason.’

Also relevant to the present discussion is the data given in (7) and (9), presented at the beginning of this chapter and repeated below. (20), (7) and (9) are also a clue to understand that, in the derivation of (4), discussed before, the appearance of V to the left of the adverb is not the result of V-raising but the result of its raising within a chunk, an instance of remnant movement.¹⁴²

- (7) A: - Why did the police look into Amanda’s case?
 B: - She probably had allegedly been tortured. (Zyman 2012: 29)
 (9) A: -Why did the police help Linda?
 B: - She probably had clearly been drinking. (Zyman 2012: 29)

(7) and (9) only apparently violate the Cinque Hierarchy, given the fact that the adverb surfacing to the right actually precedes, in the hierarchy, the one surfacing to the left. As such, the adverb on the right is merged before the one surfacing on its left. There is no need to assume that the adverb surfacing to the right is ‘directly attached’ to the chunk that it modifies. Both are part of the same ‘F-structure’.

The derivation of B’s turn in (7) could be achieved by first attracting the chunk *had been tortured* to the specifier of the probing/criterial head associated with *probably*. Next, *probably* is merged in the correspondent Spec in the Cinque hierarchy. Subsequently, remnant movement puts *She* to the left of the adverb. Then, *been tortured* is subextracted (see fn. 168) out of [Spec,K₁] and moves to the specifier of the probing head associated with *allegedly*. *Allegedly* merges in the next Spec and the movement of the remnant places *She probably had* to its left, giving the impression that *probably* and *allegedly* are not ordered.

¹⁴² Since the adverb surfacing to the left in (20a,b) and (7-8) is not being moved by itself, there is no violation of any locality constraint.

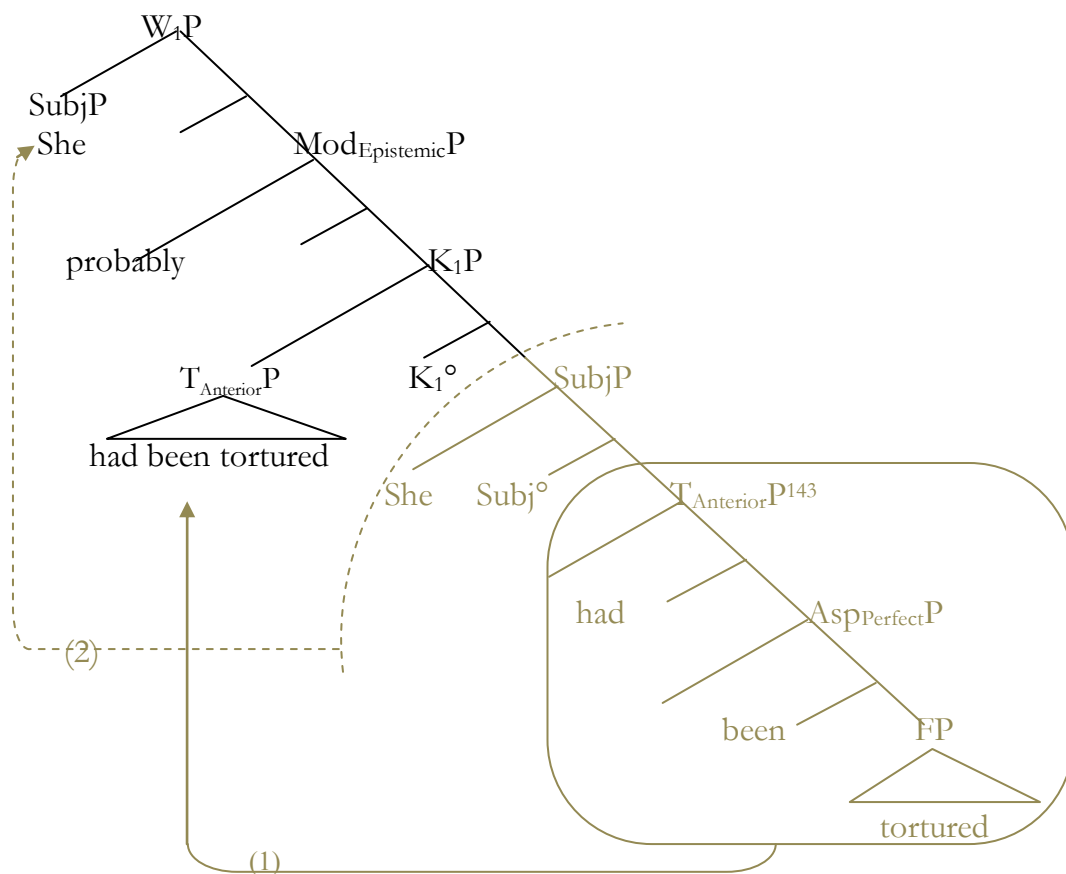


Fig. 5.3: The derivation of B's turn in (7): part I

¹⁴³ This FP to which Spec the VP has raised is necessarily in the lower zone of the IP, since V(P) movement past higher adverbs is forbidden (see (2) in the text). Only movements of chunks containing the V, in these cases, are allowed.

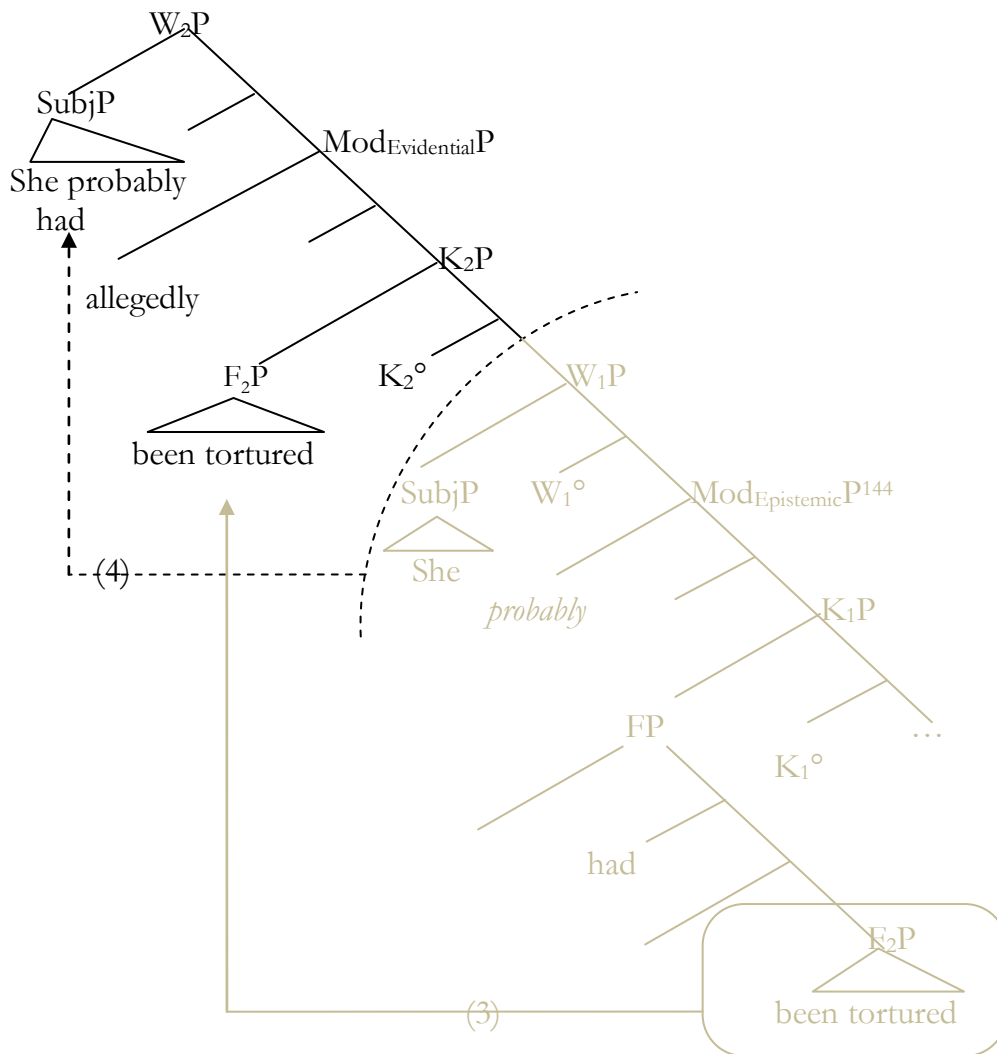


Fig. 5.4: The derivation of B's turn in (7): part II

Speaker B's turn in (9), repeated below, is derived in the same fashion. Remnant movement of *She probably had* to the left of *clearly* (see fig. 5.6) is responsible for the apparent violation of the Cinque hierarchy.

- (9) A: -Why did the police help Linda?
 B: - She probably had clearly been drinking. (Zyman 2012: 29)

¹⁴⁴ This FP to which Spec the VP has raised is necessarily in the lower zone of the IP, since V(P) movement past higher adverbs is forbidden (see (2) in the text). Only movements of chunks containing the V, in these cases, are allowed.

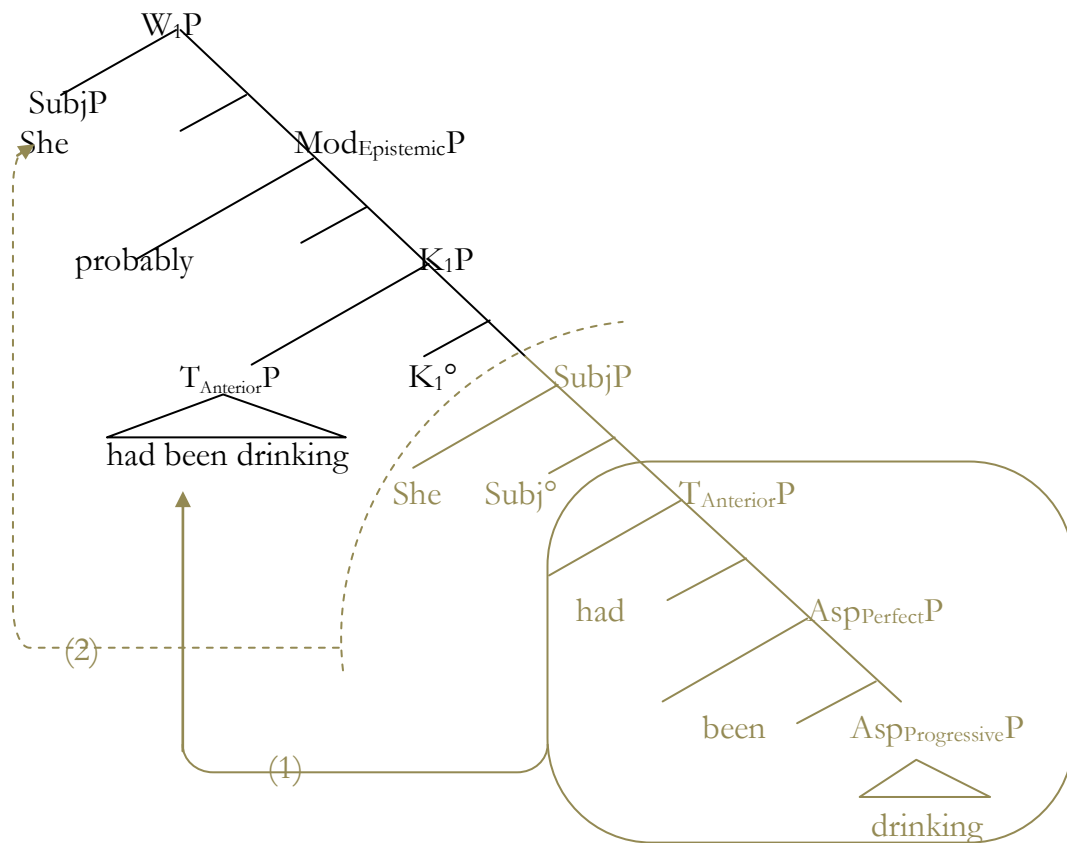
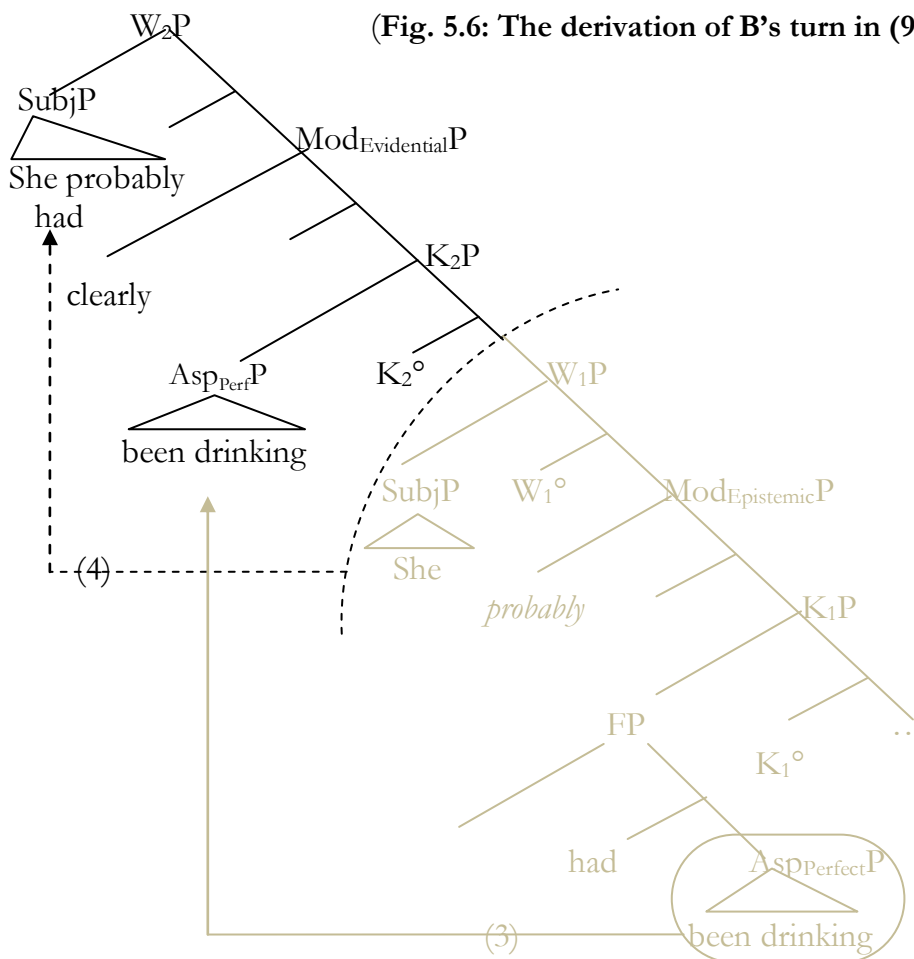


Fig. 5.5: The derivation of B's turn in (9): part I (\uparrow)

(Fig. 5.6: The derivation of B's turn in (9): part II (\downarrow))



Erik Zyman (p.c.) noted that the derivation I propose for this sentence “makes incorrect predictions concerning the sentence’s meaning.” As he mentioned, “[a]ccording to the derivation shown, the sentence is underlain by a structure in which *clearly* outscopes *probably*, in conformity with the Cinque hierarchy. But this predicts that *clearly* should outscope *probably* semantically—in other words, that the sentence should be about it being clear that something was probable. But in fact the opposite is true. In the context given, the sentence conveys something like ‘*Probably* [because it was *clear* [that she had been drinking]].’ (again, with no entailment that she had been drinking). In other words, *probably* outscopes *clearly*, contra the prediction made by the tree in Fig. 8[5.6, ATN].”

I would say that the derivation proposed in fig. 5.5-5.6 does not predict that *clearly* should outscope *probably*, given the assumption of Kayne’s (1998) theory of scope/focus assignment, according to which *scope is assigned by means of movement*. In this sense, *probably* fails to be under the scope of *clearly* since what is attracted to the specifier of the probing head associated with the evidential adverb (*clearly*) is *been drinking* and not *probably had been drinking*. In fact, remnant movement takes place to guarantee that only the constituent under the scope of the scope-inducing/focus-sensitive adverb be in its c-command domain (R. Hinterhölzl, p.c.). Remember Kayne’s premise that “the constituent under the scope of the focusing particle should be in a Spec/head relation with it sometime in the derivation” (1998: 156). Thus, if the generalization of his theory to AdvPs is on the right track, we should conclude that, although *clearly* enters the derivation to the left of *probably*, as predicted by the Cinque hierarchy, the former does not outscope the latter, given that *probably* has never been in the specifier of the probing head associated with *clearly* (and merged before it).

The reader will have realized that all the data discussed in this section have two interrelated goals, namely, (i) to verify if higher adverbs can be taken as reliable diagnostics for V movement and (ii) to provide an explanation for their puzzling distribution. As far as (i) is concerned, the answer is ‘negative’, to the extent that the appearance of a higher adverb to the left of V is not the result of V-movement past them but the result of remnant movement. Since the remnant contains the V, it gives us the impression that the V has raised (on its own) past the lower adverb. We have shown that higher adverbs cannot be found sentence-finally, unless de-accented.¹⁴⁵ It is sufficient, it seems, to suggest that higher adverbs cannot be taken

¹⁴⁵ The fact that higher adverbs can appear sentence-finally, if they are de-accented, provides even more

as diagnostics for V-raising. The investigation of (i) has also proved to be useful in the explanation of the puzzling placement of higher adverbs (ii).

Before concluding this section, I would like to provide additional evidence in support of the analysis proposed here. As we have seen, Zyman (2012) suggests that apparent violations of the Cinque hierarchy (as the ones shown by the examples given in (7) and (9) above) would involve direct attachment of the adverb surfacing to the right to a “non-spinal” constituent. I have thus far presented some problems that a ‘direct attachment’/adjunction analysis would encounter. Yet, there seem to be more. The data in (23), for instance, would be puzzling for a direct attachment or adjunction analysis, but not for our proposal.

(23) *Italian* (G. Cinque, p.c.)

- a. Gianni ha parlato di questo probabilmente sempre di sera.
G. has talked about this probably always at night
‘Gianni has talked about this probably always at night.’
- b. *Gianni ha parlato di questo sempre probabilmente di sera.

Let us suppose that the Direct Attachment analysis makes the correct predictions. Hence, whenever an adverb B which follows an adverb A (in the hierarchy) surfaces to its left in a sentence, it is the result of A being directly attached to a ‘non-spinal’. If this were the correct approach, (b) should be grammatical—for *sempre* ‘always’ belonging to the extended projection of V and *probabilmente* belonging to a different ‘F-structure’ (the one of the PP *di sera*), contrary to facts.¹⁴⁶ Thus, such an analysis has the undesirable consequence of overgenerating.

support to the analysis proposed here. One can think of a derivation which moves the AdvP to the left-periphery (to check, for example, an informational structure feature (focus, topic, or the modifier feature of Rizzi 2004a)), followed by movement of the (whole) IP past the AdvP. For an alternative analysis, see Laenzlinger (2002, 2011).

¹⁴⁶ Defendants of the direct attachment proposal/adjunction theories would argue that (b) is correctly ruled out because *sempre* ‘always’ and *probabilmente* ‘probably’ are, in this case, part of the same “F-structure”. But they would have to provide a theory which explicitly explains how, when and where adverbs are ‘directly attached’ to XPs in a derivation. Furthermore, if *sempre* and *probabilmente* are part of the same F-structure in (23b), a theory should be constructed on the appearance of adverbs within the extended projection of P, in this case. Where would they merge? What would be their position relative to P? Would their relative order mirror the order of adverbs in the extended projection of V?

According to the analysis proposed here, in (23a), *sempre* ‘always’, a lower adverb, is being used as a modifier of *di sera*. Thus, given that *sempre* has a fixed position within the Cinque hierarchy,¹⁴⁷ it cannot freely permute with *probabilmente* ‘probably’, which merges in a higher position. (23a) is possible, given that the movements for the assignment of scope (Kayne 1998) to *sempre* and *probabilmente* comply, both, with the Cinque (1999) hierarchy and the Criterial Freezing (Rizzi 2004, 2010). *Di sera* ‘in the evening’ is attracted to the (probing) head associated with *sempre* ‘always’. After that *sempre* merges in the Spec immediately above (again, in compliance with the Cinque hierarchy). A further movement places the remnant (V) in the next Spec (fig. 5.7). In the sequence, the auxiliary is merged in $T_{\text{Anterior}}^{\circ}$,^{148,149} and, before the merger of *probabilmente* in (the upper) [Spec,EpistemicP],¹⁵⁰ a criterial (probing) head associated with it attracts *sempre di sera* to its Spec (fig. 5.8). Such displacement does not violate Criterial Freezing, since only a subpart of this chunk, namely *di sera*, checked a criterial feature in a previous step of the derivation. Hence, after movement of *sempre di sera* and merger of *probabilmente*, the remnant phrase is placed in the Spec immediately above this adverb, deriving the Spell-Out order.

¹⁴⁷ I assume that, in this sentence, we are dealing with the lowest *sempre*, i.e. the one merged in [Spec,Asp_{Perfect}P] (cfr. Cinque 1999: 96). See the following footnote.

¹⁴⁸ It should be assumed that the auxiliary merges in $T_{\text{Anterior}}^{\circ}$, to check the [+ anterior] features of that head, further moving to T_{Fut} and T_{Past} to check the default features of the former and the marked features of the latter. Of course, given our theoretical assumptions, these movements should necessarily be phrasal-movements. They are not represented here since they are orthogonal to our main concerns. See the *Appendix* of this chapter for more on the subject.

¹⁴⁹ I am glossing over the details of this derivation. The assumption of a strong version of Cinque’s (1999, § 6.1) theory would force us to guarantee that all functional projections would be projected, even those lacking morphological material in the numeration. I assume this strong position (see chapter 2), though, for simplicity, I am not representing each FP in the derivations here. Those FPs which are not overtly realized by means of merging an adverb or a functional head will receive a default feature (Cinque 1999: 128, § 6.1).

¹⁵⁰ Remember that Cinque (2010, 2011) has split each (Cinquean) FP (from his 1999 monograph) in two FPs to account for V(P) raising in SOV languages. The upper Spec would host the adverb. The lower projection would be the one where the functional head would merge. We are following him here, extending the proposal to SVO languages as well. See section 6, chapter 2, for a detailed presentation on this subject.

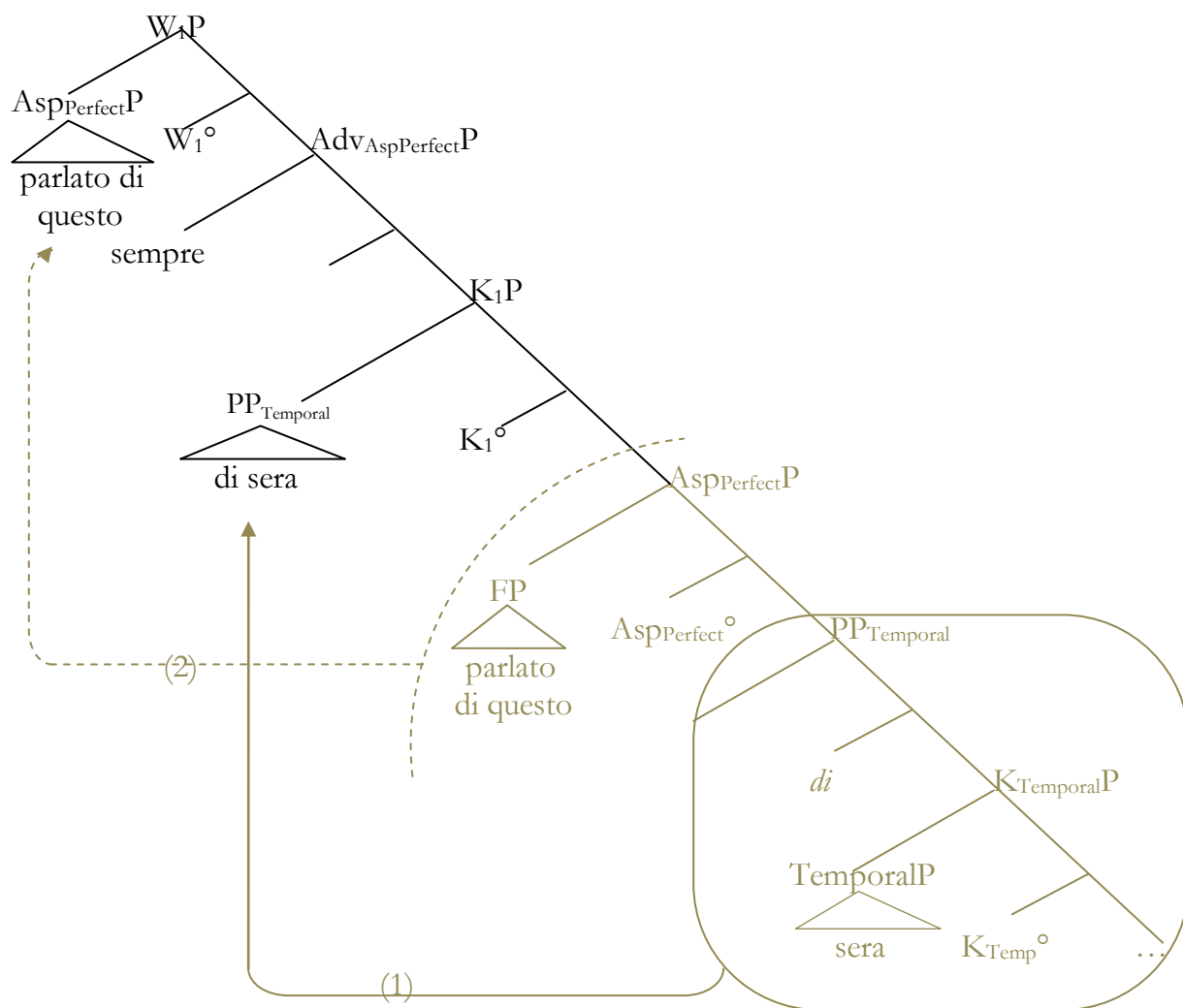


Fig. 5.7: The derivation of (23a): part I

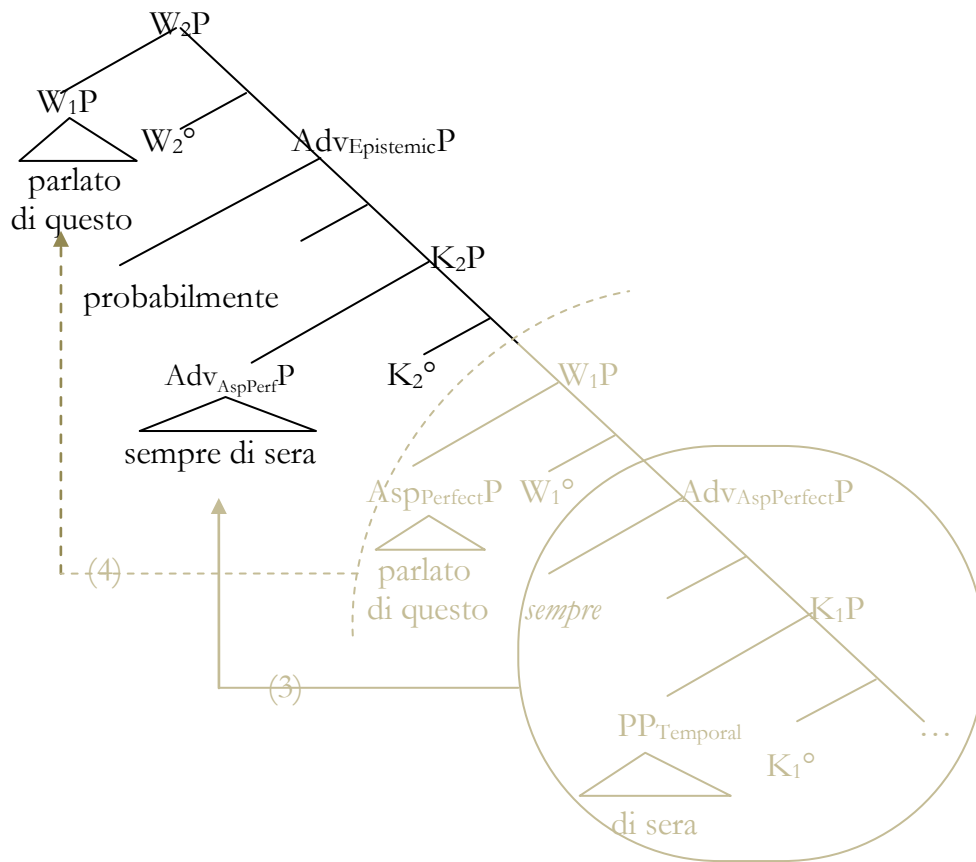


Fig. 5.8: The derivation of (23a): part II

As for the ungrammaticality of (23b), it is ruled out by means of a violation of *Criterion Freezing*. Remember that the assignment of scope (Kayne 1998) to adverbs (Cinque 1999) is constrained by *Criterion Freezing* (Rizzi 2004, 2010). This amounts to saying that the calculus of the scope of an adverb is severely constrained by Narrow Syntax on the basis of a tripartite-integrated system: (i) the Cinque hierarchy; (ii) Kayne's theory of scope assignment and (iii) Rizzi's (2004b, 2007, 2010) *Criterion Freezing*.

Given that *di sera* had already moved to the specifier of the probing(criterial) head associated with *sempre*, it cannot be moved to the specifier of another criterial head associated with another scope-inducing adverb, namely, *probabilmente* (fig. 5.9). The sentence is thus ruled-out.

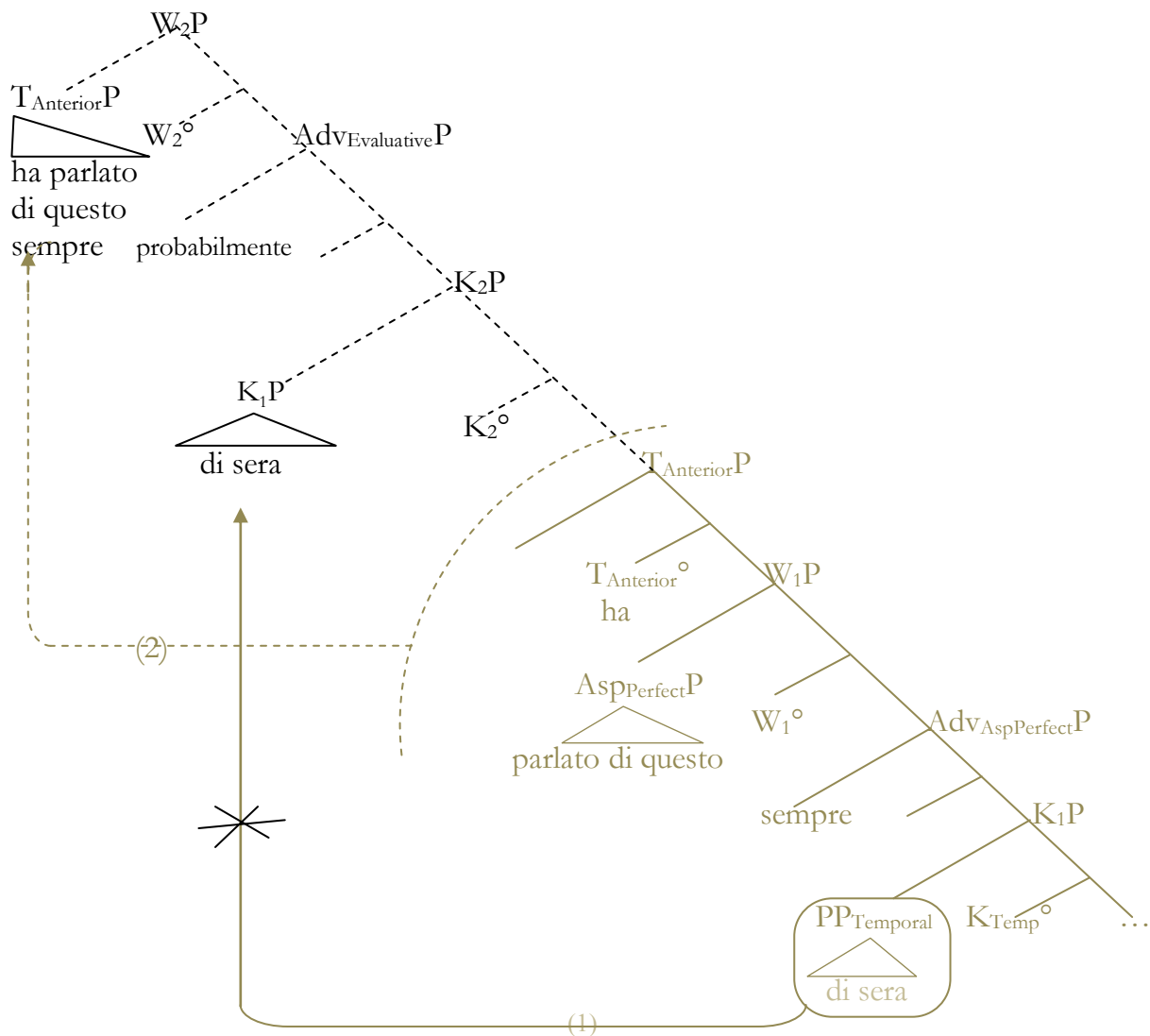


Fig. 5.9: The derivation of (23b)

Data from BP would also confirm this form of analyzing the facts. Only the example in (a) of (24) is possible, since it complies both with the Cinque (1999) hierarchy and Rizzi's (2004b, 2007, 2010) Criterial Freezing. Thus, the adverb can be assigned scope along the lines of Kayne (1998). The derivation of (24a), see below, resembles the derivation of (23a). First, *de notte* 'at night' is attracted to the Spec of the (criterial) probing head associated with *sempre*. *Sempre* merges in the specifier of the next projection, namely, in [Spec, Asp_{Perfect}P], and the remnant moves in the sequence. (These steps correspond to the derivation of the Italian sentence (23a) shown in fig. 5.7 above.) Then, *sempre de notte* is attracted to the specifier of the criterial head associated with the epistemic adverb *provavelmente* 'probably', which merges subsequently, followed by remnant movement of "Tio Varte contava caso" to the next Spec

(cfr. fig. 5.8 above, which represents these steps for the derivation of the correspondent Italian version (23a)).

- (24) a. Tio Varte contava caso provavelmente sempre de noite.
Ted Varte used-to-tell stories probably always at night.
'Tio Varte used to tell stories probably always at night.'
b. *Tio Varte contava caso sempre provavelmente de noite.
Ted Varte used-to-tell stories always probably at night.

The ungrammatical counterpart would have *de noite* 'at night' extracted from the spec of a criterial head, thus violating Criterial Freezing and ruling out the sentence.

As for the ungrammaticality of (24b), it is ruled out by means of a violation of *Criterial Freezing*. Remember that the assignment of scope (Kayne 1998) to adverbs (Cinque 1999), being achieved through movement, is severely constrained. Hence, once *de noite* 'at night' is moved to the specifier of the criterial/probing head, it can no longer be extracted again and moved to the probing head associated with *provavelmente* 'probably'. This is sufficient to explain the deviance of (24b). Its ("crashed") derivation would be similar to its Italian counterpart (23b), represented in fig. 5.9 above.

The following English sentences could also be utilized to support the analysis proposed here. Once again, they would clearly suggest that the assignment of scope to Cinque's adverbs is severely constrained by the order that the adverbs enter the derivation.

- (25) a. Terry will run surprisingly probably only to Brooklyn. (Koktova 1986: 3, 29)
b. *Terry will run presumably surprisingly to Brooklyn (Koktova 1986: 73)¹⁵¹

To get (25a), the (probing) head associated with the epistemic adverb attracts the 'focus', i.e. *only to Brooklyn*, to its Spec. Then, *probably* merges, followed by remnant movement to the next specifier (see fig. 5.10, below). By Criterial Freezing (Rizzi 2004b, 2010), the chunk *only to Brooklyn* gets frozen in the Spec of the (probing) head associated with *probably*. Thus, it can no longer move alone, given the fact that "an XP meeting a criterion is frozen in place" (Rizzi 2010). Yet, under Rizzi's Criterial theory, (sub-)extraction out of the phrase in the Spec of a

¹⁵¹ Here, following Cinque (1999), I take *presumably* to be an epistemic adverb, thus, a class-mate of

critical head is allowed (see fn. 168 below). Besides that, movement of a chunk pied-piping the XP-bearing the criterial feature is possible. This latter possibility thus explains the grammaticality of (25a). The criterial-bearing phrase, namely, *only to Brooklyn* is moved to the specifier of the probing head associated with *probably* (fig. 5.10). Then, *probably* merges. After that, remnant movement takes place. *Only to Brooklyn* cannot be moved again, but *probably only to Brooklyn* can. Thus, this chunk is attracted to the Spec of the (probing) head associated with *surprisingly*, see fig. 5.11. In the sequence, *surprisingly* is merged, followed by remnant movement to the next Spec.

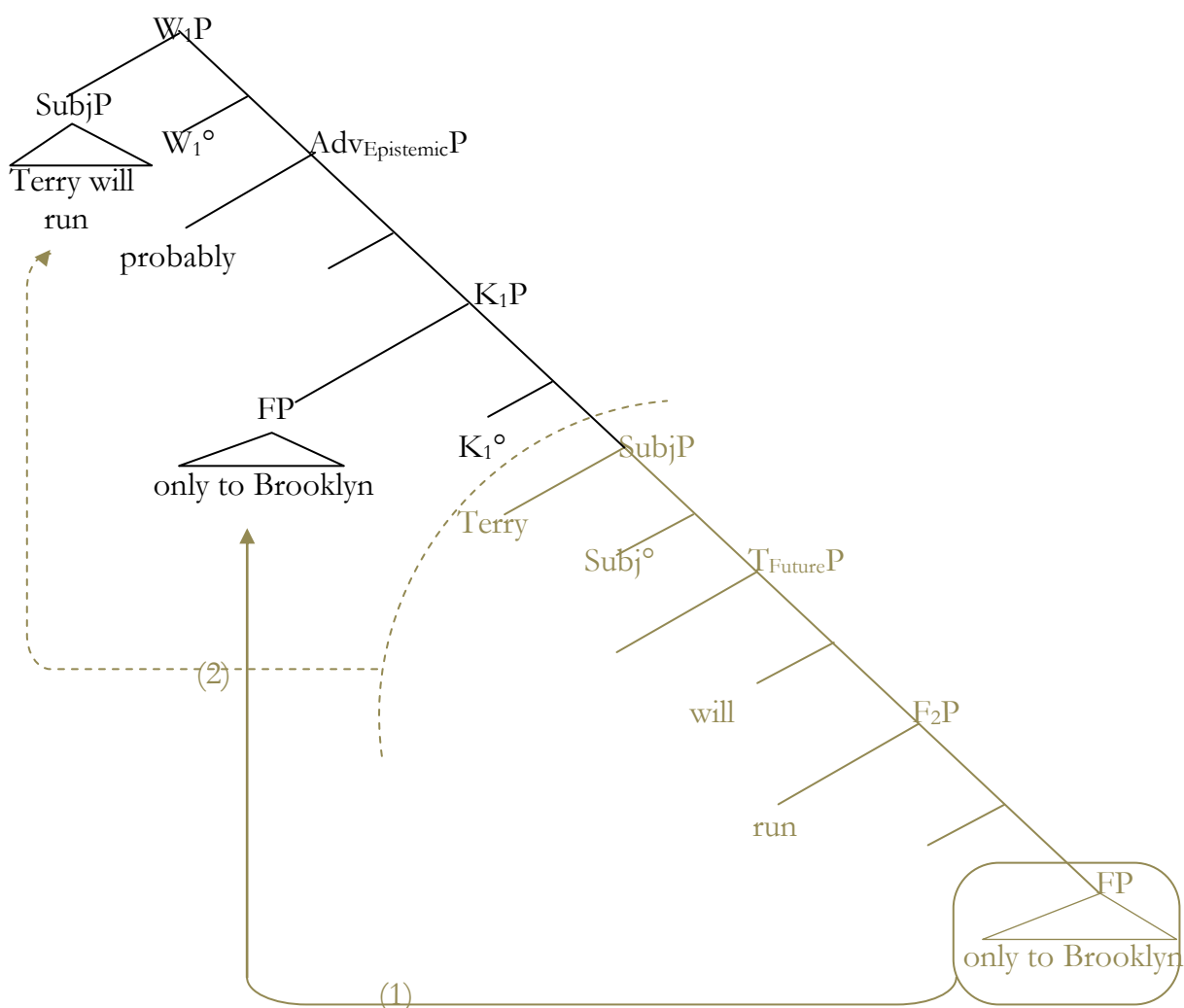


Fig. 5.10: The derivation (25a): part I¹⁵²

probably.

¹⁵² It is worth observing that the derivation of this sentence would actually be more complex, given the fact that, being a scope-inducing element, *only* would also be associated with a criterial position. Since I am assuming the contention that UG would allow only phrasal-movements (see Cinque 2005, 2010; see also Koopman & Szabolcsi 2000; Laenzlinger 2011, a.o.), I slightly modify Kayne's 1998 analysis, by proposing

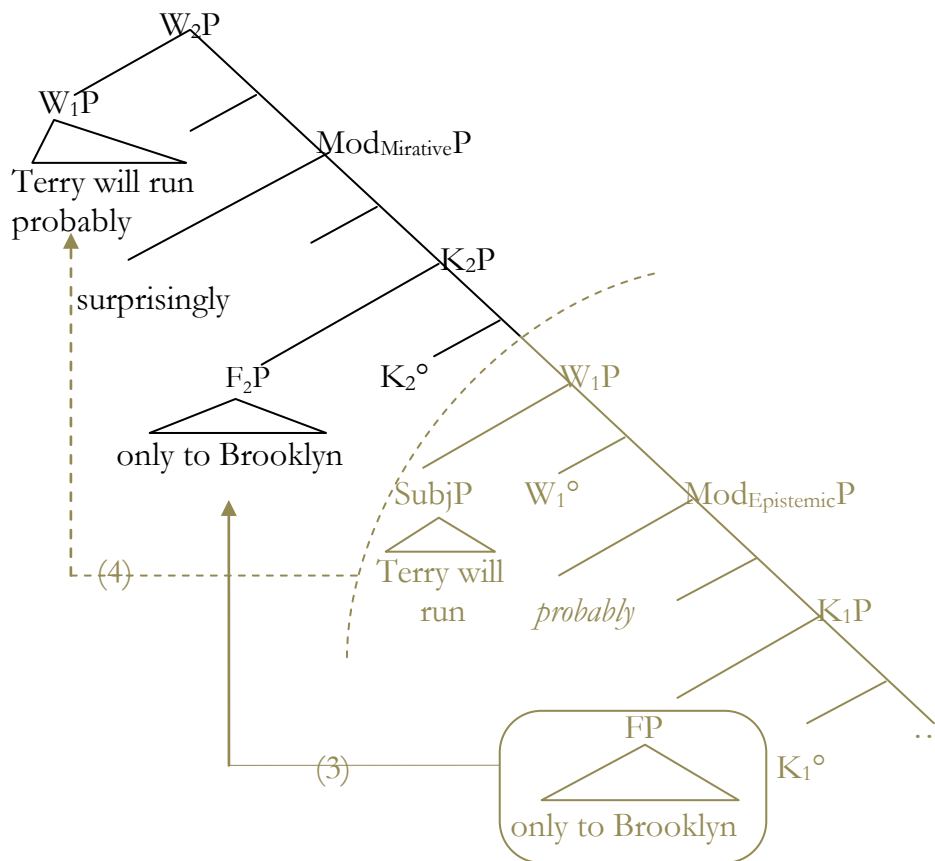


Fig. 5.11: The derivation of (25a): part II

As far as (25b), repeated below, is concerned, it is ruled out because it violates *Criterial Freezing*.

(25) b. *Terry will run presumably surprisingly to Brooklyn.

The XP-bearing the criterial features, namely, *to Brooklyn* cannot be extracted from the Spec of the criterial probing head associated with the epistemic adverb *presumably* (fig. 5.12).

that the criterial position associated with *only* would not be the Spec of *only*, but the Spec of a probing head merged before it. If *only* is a head in English, the whole picture should not be affected. That is, a probing head would merge, attracting *to Brooklyn* to its Spec (to satisfy its criterial requirements). Then, *only* would merge in the next head, followed by the merger of another head, say, W° , which would attract the remnant to its Spec. All of this amounts to saying that *to Brooklyn* would also be in a criterial configuration.

- (i) ... run to Brooklyn \rightarrow merger of K°
- (ii) ... K° run to Brooklyn \rightarrow attraction of *to Brooklyn* to Spec, K°
- (iii) ... [to Brooklyn]_j K° run t_j \rightarrow merger of *only* in the next head
- (iv) ... [OnlyP [Only $^\circ$ only [[to Brooklyn]_j K° run t_j]]] \rightarrow merger of L $^\circ$

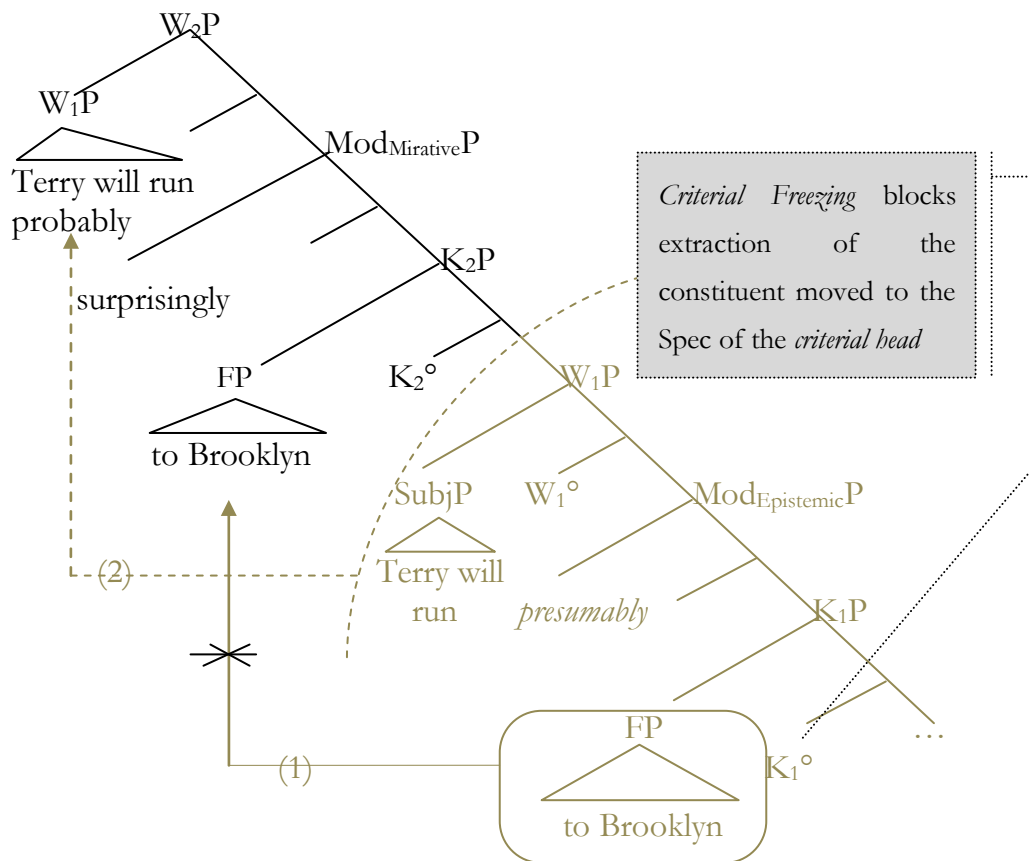


Fig. 5.12: The derivation of (25b)

Apparently, the ‘direct attachment’/adjunction analysis would encounter serious difficulties in trying to account for the ungrammaticality of (25b). First, one would suppose, under this analysis, that the two adverbs in (25b), namely, *presumably* and *surprisingly*, are direct attachers of the same “F-structure”, i.e. of the PP *to Brooklyn* (much in the same spirit of Zyman 2012: 73). Yet, to make such a claim, one should first provide, as mentioned above, a theory for adverbial generation within the extended projection of P, which would duplicate that of the IP. Where would adverbs merge within the extended projection of P? What would be the position(s) occupied by the adverbs in this extended projection? Even more so, how could one distinguish those cases where the adverb belongs to the clause from those cases where it belongs to the F-structure of a prepositional phrase, an adjectival phrase, the nominal expression and the like? Furthermore, the problem is that such an analysis overgenerates (see the discussion of (21), above). Besides all these issues, it would also fail to account for the wide scope reading of *probabilmente/provavelmente* ‘probably’ in (4). Last but not least, claiming that a functional category of the clause, namely, an AdvP, is a direct modifier of non-spinal

(v) ... L° [OnlyP [Only° only [[to Brooklyn]; K° run t_j]]] → remnant movement to [Spec,L°]

constituents every time it is unordered with respect to another AdvP of the Cinque hierarchy would give rise to an absurd result where generalizations on the clause and its main phrases would be severely missed, just by multiplying *ad infinitum* the complexity of grammar.¹⁵³

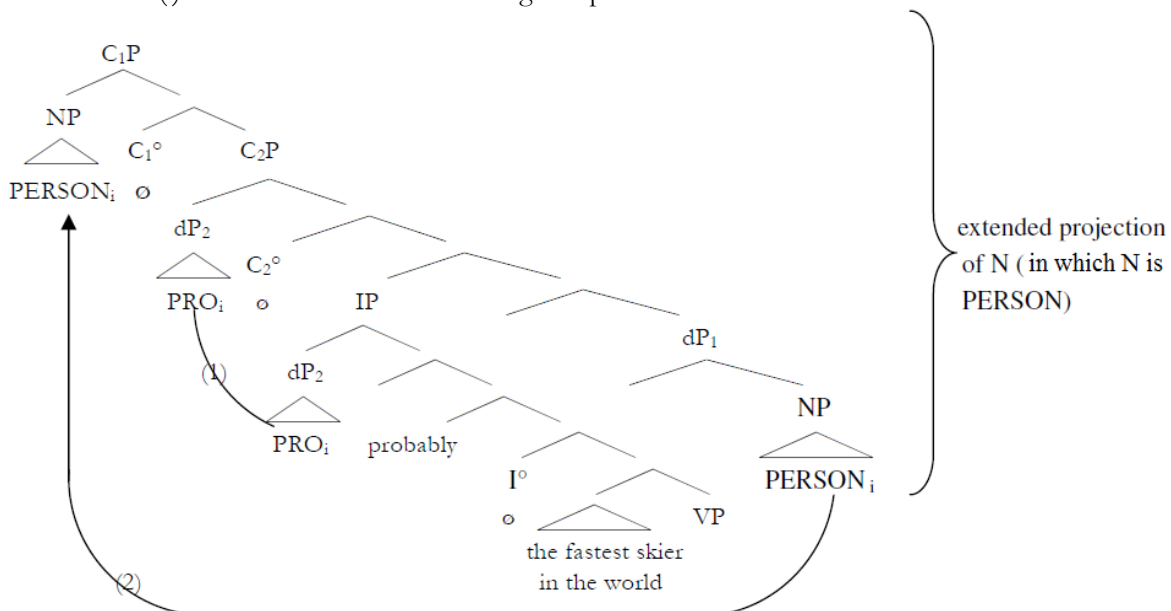
(vi) ... [LP [run t_k]_k L° [OnlyP [Only° only [[to Brooklyn]_j K° t_k]]]]

¹⁵³ To give support to the idea that adverbs may directly attach, i.e., adjoin, to non-spinal constituents, Zyman (2012: 76) provides the following example where, according to him, the co-occurrence of two *probably* would make it clear that the first *probably* is directly attached to the DP-subject.

(i) You're not going? *Probably* the fastest skier in the WORLD is *probably* going to be there! (Zyman 2012: 76)

I do not think that (i) would be taken as evidence for the contention that *probably* is directly attached/adjoined to the nominal expression. One could actually make the strong claim that AdvPs are modifiers of the extended projection of V, i.e. modifiers of the 'clausal spine', onlt. Hence, the adverb *probably* surfacing between *is* and *going* in (i) would be the epistemic adverb of the clause whose Subject is "Probably the fastest skier in the WORLD". The *probably* 'directly-attached' to the DP is not an adjunct of it, because there would be no adjunction/direct-attachment of adverbs to nominal expressions. One would say that this *probably* is actually part of the extended projection of a V within a reduced appositive relative clause modifying a silent noun.

I assume Cinque's (2008, 2009, 2013; 2011 and 2013 [class lectures]) fine-grained representation of the extended projection of N, according to which appositive clauses merge in the Spec of the highest FP of the nominal projection. So, now, one can explain some apparent cases of direct-attachment of adverbs to nominals like in (i), by stating that the adverb is actually part of a (reduced) appositive relative clause whose predicate is the sole pronounced element along with the adverb. One would argue that the appositive clause would be headed by an unpronounced noun (from that familiar (limited) set of unpronounced elements (person, thing, place, etc.) (see Kayne (2005)). In the case of (i), the unpronounced element would be PERSON. The nominal expression which comes to be the subject of the clause in (i) would thus have the following complex structure:



Where:

- PRO is the subject of the reduced appositive relative clause (see Cinque 2010a);
- dP₁ is the 'external head' and corresponds to the portion of the structure c-commanded by the IP of the relative clause (Cinque 2008, 2013);
- dP₂ is the 'internal head' of the relative clause (in this case, PRO)
- (2) movement of the internal head to [Spec,C₂]
- (1) movement of the external head to [Spec,C₁] (for details, see Cinque 2008, 2013)

Alternatively, the direct attachment/adjunction analysis would propose that the two adverbs in (25b) are directly attached each one to a distinct domain, namely, the clause and the PP. Some of the criticisms made in the previous paragraph would also extend to this (second) alternative analysis, all pointing to the conclusion that there would be no escape from the (Kaynean) analysis proposed in this chapter. Under this second version of the direct attachment analysis, *presumably* would be a direct attacher of the PP and *surprisingly* a direct attacher of the extended projection of V, the ‘clausal spine’. From Zyman’s (2012) discussion, this seems to be the form of analysis that the direct attachment hypothesis would propose for (25b) (see Zyman 2012: 73). Crucially, the two adverbs would belong to two different “F-structures”. Their belonging to two different ‘F-structures’, *a priori*, should not rule out this sentence, nonetheless. Otherwise, the analysis that Zyman (2012: 73) would propose for (25a,b) should not be valid, since the two adverbs, in those sentences, also belong to different F-structures. As we can see, the direct attachment/adjunction analysis is, in the best case, circular. Sometimes it predicts the grammaticality of a given sentence, but at the same time has nothing to say on the ungrammaticality of another sentence which, under this analysis, should receive the same treatment.

The only way to save Zyman’s direct attachment analysis, as far as this second ‘alternative’ to (25b) is concerned, is by claiming that the “F-structure” should be seen as a “clock” governing derivations, in the sense of Williams (2009). Under this view, F-structure should not be identified as “the extended projection of, say, V”, but as a ‘clock’ “to be consulted independent of what structure exist” (Williams 2009: 372). By pursuing this line of reasoning, the ungrammaticality of (25b) would perhaps be explained, since one would say that, though the two adverbs have been merged in two distinct ‘extended projections’, the “timing” in which they are merged in the “workspace” would necessarily respect whatever Williams’s understanding of “F-structure” should be. However, it would fail, for instance, to explain how to account for the wide scope reading of the epistemic adverb in (4). It would also fail to account for the VP-ellipsis puzzle which will be discussed in section 5. Furthermore, thinking of F-structure as a “clock governing derivations”, *à la* Williams (2009), thus “only derivatively as the structure of the clause” (Williams 2009: 360), would also be misleading. Were this the

Thus, according to this interpretation of the facts, even the *probably* which would appear to be adjoined to the NP would actually not be adjoined to it, but merged within an appositive relative clause which is part of the extended projection of a silent noun. All this amounts to retain the contention that adverbs are (only) clausal-like modifiers.

correct approach, we should expect (27) and (29) to be ungrammatical, given the ungrammaticality of (26b) and (28b). However, this is not the case.

(26) *Italian*

- a. (?) Evidentemente Gianni ha probabilmente lasciato l'albergo. (Italian)
 'Evidently G. has probably left the hotel'
 b. *Probabilmente Gianni ha evidentemente lasciato l'albergo.
 'Probably G. has evidently left the hotel'.

(27) *Italian*

È probabile che sia evidente che lui è il colpevole.
 'It is probable that it is evident that he is the guilty one' (Cinque 1999: 135)

- (28) a. Clearly John probably will quickly learn French perfectly.
 b. *Probably John clearly will quickly learn French perfectly.
 (Bowers 1993: 607, cited in Cinque 1999: 33 & Zyman 2012: 29)

(29) It is probable that it is evident that he is the guilty one. (Cinque 1997: 222)

Were F-structure organized as a clock governing derivations, perhaps derived from logical or semantic conditions, the grammaticality of (27) and (29) should not be expected, as their adverbial counterparts, say, (26b) and (28b), respectively, are ungrammatical in both Italian and English. From these examples, the "F-structure" of the clause should be understood in its Cartographic sense, i.e. as a synonym of "extended projection of V" (i.e. the Cartographic structures for the CP (Rizzi 1997, 2001, 2004a; Benincà & Poletto 2005; a.o.), the IP (Cinque 1999, 2004, 2006, 2010, 2013, *f.a.*; Laenzlinger 2011)), the low-IP area/*v*P (Belletti 2001; Cinque 2006, chapter 6; Laenzlinger 2011, a.o.).

More examples, from Cinque (1999, chapter 6, § 6.2), would be useful in the present context. From the Cinque hierarchy (1999: 106), it is known that prospective aspect adverbs (e.g. *almost/imminently*) follow retrospective/proximative AdvPs (e.g. *just, soon, etc.*), as shown in (30a,b).

- (30) a. He will soon almost be there.
 b. *He will almost soon be there. (Cinque 1999: 136)

Nonetheless, there is no logical or semantic ban ruling out (31) where the prospective predicate embeds the proximative adverb *soon*:

(31) He is about to soon be admitted to hospital. (Cinque 1999: 136)

The correct approach to whatever F-structure should be is not easily reducible to semantics, thus contra Fortuny (2008) and Shu (2011)¹⁵⁴. Fortuny's (2008) criticism of Cinque's (1999) hierarchy, seems, from this perspective, to be inaccurate. The three examples discussed here suggest that the universal hierarchy of IP projections should not be a subproduct of Semantics, or a logical rule, but should be conceived of as a primitive of grammar. This does not mean that we should ignore the pertinence of semantic principles. Cinque (1999: 6.2) himself realizes that the order of adverbs may also reflect semantic scope (see, e.g. Ernst 2007—but this is beside the point). From the Narrow Syntax view what is actually revealing are those cases discussed in (27), (29), and (31), which clearly show that the hierarchy, despite its possible reflecting semantic scope *cannot* be reduced to it.

Now, to return to the second alternative analysis of (25b) under a “direct attachment” analysis—which would suggest that the two adverbs would still, in that case, belong to two different structures, say, one modifying the clause and the other the PP (*à la* Zyman 2012: 73)—there would be no way to explain its ungrammaticality by stating that, in spite of their belonging to two distinct extended projections, they would be governed by one and the same “F-structure”, in Williams's (2009) sense. Such an approach to F-structure would fail to explain the (unexpected) grammaticality of (27), (29) and (31). As such, it would not be of help in trying to save a direct attachment, adjunction analysis. More arguments against the direct attachment analysis and any other analysis evoking some form of adjunction will be provided in section 5, on the basis of VP-ellipsis in Portuguese. All in all, all of the data seem actually to suggest that the only way to account for adverbial modification facts is by following Cinque's insights that adverbs are part of the functional structure of the clause and that it is a hardwired property of Narrow Syntax. Extending Kayne's (1998) theory to scope-

¹⁵⁴ Shu (2011: 35, n. 16), on the basis of (i) and (ii) below, provided by Richard Larson, conjectures that the Cinque hierarchy is semantic in nature, and, given this, “(...) it would be redundant to encode it in the syntax.”

- (i) a. Jane luckily has probably been granted extra time.
- b. *Jane probably has luckily been granted extra time.
- (ii) a. It's lucky for Jane that it's probable that she has been granted extra time.
- b. *It's probable that it's lucky for Jane that she has been granted extra time.

inducing adverbs has the desirable effect of clarifying that even the assignment of scope to them must interact with (i.e., must respect) the abstract order of the Cartographic hierarchies.

All things considered, those (apparent) ‘transitivity failures’ in the functional sequence of adverbs examined here are not counter-examples to the cartographic enterprise. We have seen that those apparent counter-examples can be accounted for by assuming that transformational operations triggered by scope-assignment reasons may reverse the order of these elements in the clausal hierarchy.

4. Aspectual/time-related adverbs and the two ‘generable’ zones within the IP

Until now, we have noted that even in the focusing use of higher adverbs, their Merge still complies with the Cinque hierarchy, a favorable result from a Cartographic point of view, so to speak. That is, in spite of their surface position, the point in the derivation at which they root-merge is always invariantly the same. Thus, if a higher adverb “A” is used as a focalizer of a ‘small chunk’ or a constituent (see example (4) in the beginning of this chapter), it may surface to the right of an adverb “B” which, instead, follows it in the hierarchy, giving the impression that they are ‘freely ordered’, i.e. that one cannot pinpoint the precise position, if any, in which the adverbs enter the derivation.

In this section, I would like to provide more evidence for the conclusion that the assignment of scope (in Narrow Syntax) (Kayne 1998) to AdvPs is sensitive to the Cinque (1999) Hierarchy and must comply with Rizzi’s (2004b, 2007, 2010) Criterial Freezing. Thus, an integration of these three subsystems, namely, the Cinque Hierarchy, Criterial Freezing and Kayne’s (1998) theory of scope assignment is all we need to account for the calculation of scope of adverbs.

Particularly in this section, following a suggestion by G. Cinque (p.c.), I will show that this use as scope-inducing elements/focus-sensitive adverbs is not limited to ‘higher’ adverbs. Even lower adverbs may enter this type of structure, thus being able to focalize from small constituents to large chunks. What is important here is that in this ‘focusing use’ their order

This conclusion is premature. One should also consider examples like (26-27), (28-29) and (30-31).

(of merger) is still constrained by the Universal Hierarchy. A reliable indication that the system works in such a constrained way comes from the distribution of some (aspectual) adverbs which have two positions of merger within the IP (Cinque 1999: 26ff.; 204, n. 36; Cinque 2004: 609). Ernst's (2007: 1019, § 2.2.2 ff.) objections on the 'size' of scope and the nature of functional heads would lack force if seen from this perspective.

One important observation concerning the appearance of the adverb in two distinct positions needs to be made here. One should separate those cases where the adverb is taking under its scope, for instance, only the complement of V or the predicate, but not the proposition (see, e.g. the 'narrow scope reading' of *provavelmente* 'probably' in (4), given at the beginning of this chapter), from those cases where the same lexical item can merge in two distinct positions in the clause, namely, a lower position, where the adverb quantifies over the 'event', and a medial/higher position, where the adverb quantifies over the process (Cinque 1999: 19ff; 169, n. 12; 1881, n. 89; 204, n. 36; Cinque 2004: 609ff.; Ernst 2007: 1011; see also § 2.1 and § 3 of chapter 4, here). The use of higher adverbs as focusing adverbials would give the impression that they would also be generable in two distinct 'quantificational zones', contrary to the fact, as I will illustrate here. The appearance of an adverb in two distinct quantificational zones is restricted, it seems, to (some) adverbs of quantification (Lewis 1975) (see Cinque 1999: 26ff.; 204, n. 36; Cinque 2004: 609). I will suggest that even those (aspectual) adverbs which are 'generable' in two quantificational zones might reproduce Kaynean transformations for scope assignment. The corollary of this (or, at least a stronger interpretation of the facts) would be that the assignment of scope to adverbs would only be achieved through this form of "Kaynean-like transformations". Remember that Zyman (2012) suggests that with the exception of *almost*, prospective *just*, *well*, *quickly* and *early*, all the other adverbs can "directly attach" to 'nonspinal' constituents (see, in the present work, chapter 3, § 7). I take Zyman's description to be essentially correct, though, as seen in the previous section, his direct attachment analysis should be reinterpreted in transformational terms, thus keeping with the Cinque hierarchy without inflating the grammar with additional, 'unnecessary' projections. Thus, what he dubbed 'direct attachment' is to be understood as focus/scope-sensitivity or 'scope-inducement' which means that a series of transformations should apply each time a scope-inducing adverb enters the derivation.

Let us begin by reproducing an example already discussed in Cinque (1999). In (32), which clearly suggests the existence of two quantificational zones for certain adverbs—given that

the two ‘positions’ may be filled simultaneously by the same lexical item—(Cinque 1999: 27), one should assume a movement of, say, the “ProcessP”¹⁵⁵ to the Spec of the criterial head associated with the lower adverb to guarantee scope-assignment. Equally, the assignment of scope to the highest adverb would also be guaranteed by the same transformational process: the criterial head associated with *twice/often/rarely* would probe for, say, the “EventP” (or event-chunk), which would move to its Spec. Next, the adverb would merge and remnant movement would take place in the sequence.

- (32) a. John twice (often/rarely/...) knocked on the door twice (three times/often/...).
 b. John twice (often/rarely/...) knocked on the door twice (three times/often/...) on the door. (Cinque 1999: 27)

The case of higher adverbs is different. They cannot appear twice in the same clause, for complementary distribution reasons, as (33) shows (for BP).¹⁵⁶

¹⁵⁵ There is obviously no such functional projections in the Cinque hierarchy. “ProcessP” and “EventP” should be understood here as the portion of the structure (a chunk) which would syntactically correspond to the process and to the event, respectively (cfr. Cinque 1999: 20).

¹⁵⁶ Those cases where a given adverb is generated in the specifier of two distinct, though semantically related projections, because they share a common feature, should be kept apart. This appears to be the case of *realmente* ‘(lit.) really’ in (Brazilian) Portuguese. This adverb can root-merge in the specifier of (at least) two distinct functional projections, namely, Mood_{SpeechAct}P and Mood_{Assertive}P (see the *Appendix* of chapter 4), given that they would co-occur—somewhat marginally—, each one with a specific value:

- (i) Realmente, os meninos estavam realmente aflitos.
 Honestly, the boys were really afflicted.

Zyman (2012: 29) gives (ii) which, according to him, would challenge a Cinquean treatment of the phenomenon of adverbial modification, since *clearly* can appear in two distinct positions.

- (ii) The police helped Linda? Clearly she probably had clearly been drinking. (Zyman 2012: 29)

One hypothesis is to presume that the adverb is generated in a position and, in its movement, it leaves a copy behind (Bezerra Lima 2006: 100, fn. 10, attributed to Ian Roberts, p.c.).

However, as G. Cinque (p.c.) explained to me, one should not associate these two instances of *clearly* in (ii) with one and the same functional projection. The same lexical item would merge in two distinct positions, namely, in Mod_{Evidential}P—the one to the left—and Subject-OrientedP—the one to the right. In fact, in Italian, still judging from G. Cinque (p.c.), it is possible to have two instances of *chiaramente* (lit. ‘clearly’) in the same sentence, with these two distinct uses, namely, evidential and subject-oriented values, which can be paraphrased as in (iv).

- (iii) Chiaramente lui si è chiaramente esposto facendo questo. (Italian)
 Clearly, he himself is clearly exposed doing this
 ‘Clearly, he’s clearly exposed himself by doing this’
 (iv) E’ chiaro per me che lui è stato chiaro nell’esporsi facendo questo.
 It’s clear for me that he was been clear in-the expose.INF.SI doing this

- (33) a. *??O José provavelmente tinha comido provavelmente carne.
 The J. probably had eaten probably meat
 ‘José had probably eaten meat’

Thus, *provavelmente* ‘probably’ as well as other higher adverbs can only appear once per sentence (but see the observation made in the previous footnote). However, if one does not consider the arguments presented thus far, the data given in (34a,b), see below, would be problematic:

- (34) a. O José comia provavelmente carne.
 José used-to-eat probably meat.
 b. O José provavelmente comia carne.
 J. probably used-to-eat meat.

One would take Cinque’s (1999) contention on the one-to-one relation between position and interpretation (Cinque 1999: 20) and interpret this as a clue for assuming two positions for *probably*, a higher (cfr. 34b)—from where the adverb would take scope over the propositional content—and a lower,¹⁵⁷ from where the adverb would take scope over the DP-complement (in 34a).¹⁵⁸ This is clearly *not* the case, both from (i) the point of view of the scope possibilities (see the discussion on this topic in sections 1 and 3, and also footnotes 116-122) and from (ii) the point of view of the impossible co-occurrence of these two adverbs (in sentence (33)). Put together, (i) and (ii) would suggest that the assignment of scope to adverbs would be blind with respect to the position that the adverb occupies. Thus, if scope

‘It’s clear for me that he has been clear when he exposed himself doing this’

See Cinque (2004: 609) where the author links the compatibility of the adverb with two distinct positions (of Merge) to the existence of a common core between these two positions/interpretations. In this sense, “[i]f the lexical item only expresses this common core, it is underspecified with respect to the two positions; hence compatible with both.” (Cinque 2004: 610).

Accordingly, given a general Principle of Economy, these cases of homonym could not be seen as a challenge to the “Location-in-Spec”/“Functional-Specifier” Approach.

¹⁵⁷ See the comments on the data in (21-22) in the preceding section.

¹⁵⁸ See footnotes 116-122 and sections 1 and 3, which are all devoted to the discussion of the scope of the adverb in these sentences. In (34b), the scope of the adverb can be either the whole VP or only the V or only the object, depending on which constituent gets stressed. In (34a), speakers tend to accept more the narrow scope of the adverb. But wide scope is not completely excluded, at least in my BP, in European

is assigned transformationally (Kayne 1998), the strongest interpretation would be that these movements apply independently of the position that the adverb occupies,¹⁵⁹ that is blindly.

In Cinque's theory, adverbs and functional heads match for (relative) order, number and semantic content (see § 3 of chapter 2). This amounts to saying that the position occupied by a given adverb is associated with a specific interpretation (which is also shared by the corresponding 'functional head'). From the data shown in (32-34), it should nonetheless be clear that this one-to-one relation associated with a specific position should not be linked to the surface position of the adverb, given the fact that one would wrongly predict that higher adverbs would thus be base-generated in at least two distinct positions, one higher and one lower, to account for their surface order and their scope. This is not the case, as suggested by (34). Moreover, the strongest interpretation of Kayne's theory of scope-assignment—if its extension to Cinque's adverbs is valid—would leave us with no choice but to turn to (that set of Kayne's 1998) transformations each time an adverb is taken from the numeration (so as to derive its scope).¹⁶⁰ All arguments considered, Ernst's (2007: 1013) contention that, in the "Functional Specifier Theory" (F-Spec Theory), "for any number of occurrences *n* of a given adverb with distinct interpretations, there must be *n* heads" (2007: 1013) is misleading, because the F-Spec Theory does not multiple F-heads each time a different 'scope size' comes about.

An even more telling fact would come from the 'functional heads' counterpart. Since in Cinque (1999) the adverbs, in Spec, match their correspondent functional heads for number, relative order and semantic content, each time an AdvP is 'duplicated'—e.g. in the case of (some) aspectual adverbs (repetitive, frequentative, inceptive, etc.)—, it is expected that the matching head also duplicates, but not necessarily. The very fact that (at least) some of them do is evidence for the 'reduplication' of these functional projections. Cinque (2006) provides evidence from Italian 'restructuring' verbs, which, according to him, would be directly merged in the relevant functional heads of his (1999) hierarchy. The author provides a number of interesting and convincing arguments to this conclusion, such as the order that different modal and aspectual ("restructuring") verbs appear if combined together. Cinque

Portuguese (J. Costa, p.c.) and in Italian (for some speakers).

¹⁵⁹ Remember that being achieved transformationally means, in the present context, being the result of attraction to the Spec of a probing/criterial head followed by the merger of the AdvP and remnant movement (in consonance with Kayne's 1998 analysis).

¹⁶⁰ Exceptions would be those adverbs mentioned in section 7 of chapter 3 (*almost, just, well, early* and *quickly* and *just*, in English), discussed in Zyman (2012). The same seems to be true of Romance

also shows that some (“restructuring”) aspectual verbs, e.g. Asp_{Inceptive}P, are actually generable in two distinct zones in the clause, *with different interpretations*. However, no such ‘reduplication’ seems possible with higher (restructuring/modal) verbs. Thinking for instance of the epistemic uses of *must* in English or *potere* in Italian, these Vs cannot be generated twice in the clause with, say, a common, underspecified, epistemic value for both, each alleged position specialized for a specific interpretation, e.g. scope over the process or scope over the event. This is clearly not the case. Thus, the lack of a lower restructuring/modal V for higher modal adverbs would provide interesting evidence in favor of the contention that their adverbial counterparts *do not duplicate* either. In this sense, in the focusing use of higher adverbs, for instance, transformations will ensure the assignment of scope to the adverb.

Ernst (2007, § 2.2), in defending his “Semantically-Based Approach” to adverbial modification, argues that ‘time-related’ adverbs (e.g. frequency adverbs, repetitive adverbs, and the like)—which in Cinque’s theory are generable in two distinct semantic zones (an event zone and a process one)—would actually be puzzling for (what he calls) the “Functional Specifier Theory” (F-Spec Theory), which merges adverbs as (the unique) specifiers of (semantically) distinct functional heads. What is puzzling, from Ernst’s point of view, is the assumption “that every different position has a different interpretation” (Ernst 2007: 1016). As I will show below, my proposal has the advantage of keeping *only with two distinct (syntactic-semantic) zones* for these “time-related” AdvPs, as originally proposed in Cinque (1999, 2004). Thus, combined with Cinque’s claim that some aspectual/time-related adverbs (e.g. habitual, perfect, continuous, inceptive, repetitive, completive, etc.) are generable in two zones, the proposal I suggest in this chapter has far-reaching consequences not only for the syntax of time-related adverbs but also for adverbial Syntax in general.

In this section, I take the English sentences which Ernst considers challenging for the F-Spec Theory and suggest a derivation for them. Besides being compatible with the Cinque hierarchy, my analysis has the advantage of accounting for the two readings of those quantificational time-related aspectual adverbs without increasing the number of heads.

Let us start with the sentences given in (35), found below, from Ernst (2007: 1016).

- (35) a. Janet frequently would be visiting Sam.
 b. Janet would be frequently visiting Sam.

languages (BP and Italian) as well.

c. Janet would be visiting Sam frequently. (Ernst 2007: 1016)

The scope of the adverb in (35a) is different from its scope in (35b,c). In (35a), the adverb modifies the event, whereas in (35b,c) it modifies the process (see Ernst 2007: 1016 for a clarification of these two readings and the contexts in which each one of them would come out). That this is the case is brought by (36), where the two instances of *frequently* actually co-occur.

(36) Janet frequently would be frequently visiting Sam. (Ernst 2007: 1017)¹⁶¹

¹⁶¹ The fact that the same adverb can co-occur is an interesting argument in favor of its generation in two distinct—though semantically related—functional projections (Cinque 1999, 2004: 692). Cinque (2004: 692, fn. 22) also observes that the very fact that certain adverbs (in a given language) are specialized for only one of these two positions is a good indication of the existence of these two distinct projections. As Cinque points out, *d’habitude* ‘usually’, in French, and *di solito*, in Italian, can only occur in the higher (quantificational) position (cfr. (i) and (ii)):

- (i) D’habitude ils regardent habituellement la télé. (French) (Ernst, 2002: 126; Cinque 1999: 692)
usually, they watch TV usually
- (ii) *Habituellement ils regardent d’habitude la télé/la télé d’habitude.

That the ungrammaticality of (ii) is due to the appearance of *d’habitude* in the lowest position, and not due to the appearance of *habituellement* in the highest position is suggested by (iii), below:

- (iii) Habituellement ils regardent fréquemment la télé. (French) (Cinque 2004: 692,fn. 22)
‘they usually watch TV frequently’

Hence, two distinct, specialized positions for quantificational/aspectual adverbs should be assumed. Relevant to the present discussion is Bezerra de Lima’s (2006: 105ff.) hypothesis that (what he calls) ‘real’ adverbs—i.e. adverbs ending in *-ment(e)* in BP, Italian, Spanish, French, etc., *-ly* in English—, as opposed to (what he calls) ‘pseudo-adverbs’—i.e. those adverbials not ending in *-ment(e)*, *-ly*, e.g., *d’habitude* (i-ii, above), *di solito* (‘usually’ – Italian), *de primeiro* (‘once/erst’ uneducated BP), etc.—would enjoy a richer distributional freedom. Though I would avoid the term ‘pseudo-adverbs’—for which I would rather use the more neutral term “adverbial” (as opposed to “adverb”), see Cinque 2004: 683, fn.1—, I believe that Bezerra de Lima’s generalization, coupled with Cinque’s insights on (two) quantificational zones might be promising. Notice that in Cinque’s example (i-iii), the *-ment* ending AdvP (a ‘real’ adverb, for Bezerra de Lima), namely, *habituellement*, may fill both the highest and the lowest Spec positions. *D’habitude*, on the other hand, can only be merged in the event-related HabitualP. The same holds for (my colloquial BP) *de primeiro* and *antigamente*, both meaning ‘once’. Only the latter can fill the event-related FP and the process-related one. *De primeiro* can only appear in the highest position.

- (iv) De primeiro/antigamente, as pessoas não comiam carne durante toda a Quaresma.
Once, people didn’t use-to-eat meat during whole the Lent period.
‘Once, people didn’t use to eat meat during the whole period’
- (v) As pessoas não comiam carne antigamente/??de primeiro durante toda a Quaresma.
People didn’t use-to-eat meat once during whole the Lent period.

(35) and (36) are easily explained, for instance, by the F-Spec approach: the adverb in (35a) and the highest *frequently* in (36) are merged in $Asp_{\text{Frequentative(I)P}}$, where the adverb takes the event under its scope. In (35b,c), as well as the lowest instance of *frequently* in (36), the scope of the adverb is the process.¹⁶²

Ernst criticizes Cinque’s contention that the ‘event scope’ use of frequency adverbs would be related to only one functional head, on the basis of the following data:

- (37) a. She frequently would have been visiting Sam.
 b. She would frequently have been visiting Sam.
 c. She would have frequently been visiting Sam.
- (38) a. Frequently, she just would have been visiting Sam.¹⁶³
 b. She just would frequently have been visiting Sam.
 c. She just would have frequently been visiting Sam. (Ernst 2007: 1017)

Ernst says that (37c) and (38a,c) would be problematic for Cinque’s idea that the event scope reading of frequency adverbs is encoded in one single functional head. (37a,b) would not represent a problem for Cinque’s theory, since one would assume that *would* would raise past *frequently* in (b). (37c) would apparently be problematic because it would involve a violation of the Head Movement Constraint (HMC) (Travis 1984) (see also Ernst 2002: 117). Apart from the fact that (37c) could still be approached through head-movement without any violation of the HMC (see Cinque 2004), it could be suggested that no such violation would arise if the assignment of scope to adverbs necessarily obtains transformationally, along the lines of Kayne (1998) (see below). If the same line of reasoning is extended to (38c), no violation of

¹⁶² A generalized interpretation of Kayne’s 1998 theory of scope assignment would predict that both the event and the process scope should be achieved through transformations. I assume that this is the case.

¹⁶³ Ernst states that (38a) would be even more problematic for the Cinque’s F-Spec theory, because it would clearly involve a (third) position related with the event use of *frequently*, given the fact that “adverbs may not topicalize across another adverb” (Ernst 2007: 1017). Thus, he argues, *frequently* should have a position to the left of *just* even if its surface position in (38a) were the result of movement. I believe that this observation is inaccurate. Rizzi (2004a) and Cinque (2004) suggest that the raising of an adverb to the left-periphery, for instance, across another adverb, is possible if the adverb undergoing movement has a different ‘Information Structure’ feature which should be checked in a dedicated position within the (split) CP. Thus, there is no need for this left-peripheral position for *frequently*_{Event}.

the HMC will arise, as expected (given the grammaticality of this sentence). The derivation of (37c) is represented below:

- (37) c'. ... have been visiting Sam \rightarrow merger of a probing head (associated with *frequently*_{Event})
 F° [have been visiting Sam \rightarrow attraction of *been visiting Sam* to [Spec,F]
 $[FP$ [been visiting Sam]_j F° [have t_j \rightarrow merger of $Asp_{Freq(I)}^\circ$ and merger of *frequently* in its Spec;
 $[Asp_{Freq(I)P}$ frequently $Asp_{Freq(I)}^\circ$ $[FP$ [been visiting Sam]_j F° [have t_j]] \rightarrow remnant movement
 $[GP$ [have t_j]_k G° [$Asp_{Freq(I)P}$ frequently $Asp_{Freq(I)}^\circ$ $[FP$ [been visiting Sam]_j F° t_k]]] ¹⁶⁴

As far as (38c) is concerned, it would involve a similar derivation. Two observations should be made here. First, it is not clear that, in this use, the adverb *just* is the one identified in Cinque (1999: 106) as $Asp_{Retrospective}$. It may be a focusing adverb (like *even*, *only*). However, if this *just* were being used in its retrospective use, the sentence would not represent a problem for Cinque's F-Spec theory at all, if one assumes that the hierarchy holds for the point in the derivation where the adverb is merged. Be it a retrospective or a (lower) focusing adverb, *just* would be merged before *frequently*_{Event}. The appearance of *just* to the left of *frequently* would be the result of the movement applied to the remnant which includes *just*. The second observation also relates to the remnant material. It contains two auxiliaries: *would* and *have*. Thus, the absence of HMC effects is accounted for.

The idea that the assignment of scope to adverbs obtains transformationally helps us to keep with Cinque's contention that 'time-related' adverbs are generable in two distinct zones, each

¹⁶⁴ *Would* would enter the derivation in T_{Past}° . After its merger, two Kaynean heads would merge above it, the first, (K°) (see (i), below), attracting the complement of T_{Past}° , namely, *have frequently been visiting Sam* (ii). Subsequently, *would* would move to the specifier of the next head, namely, W° (iii):

- (i) [KP K° [TP_{PastP} [TP_{Past}° would [GP [have t_j]_k G° [$Asp_{Freq(I)P}$ frequently $Asp_{Freq(I)}^\circ$ [FP [been visiting Sam]_j F° t_k]]]]]]]
(ii) [KP [GP [have t_j]_k G° [$Asp_{Freq(I)P}$ frequently $Asp_{Freq(I)}^\circ$ [FP [been visiting Sam]_j F° t_k]]] K° [TP_{PastP} [TP_{Past}° would t_j]]]]]
(iii) [WP [TP_{PastP} [TP_{Past}° would t_j]]_m W° [KP [GP [have t_j]_k G° [$Asp_{Freq(I)P}$ frequently $Asp_{Freq(I)}^\circ$ [FP [been visiting Sam]_j F° t_k]]] K° t_m]]]]]

Next, *would* t_j in [Spec,WP] would move to [Spec, T_{Future}°] to check the features of that head and license the anterior reading.

I have not put the Subject into the equation here. If the Subject moves together with the remnant, namely, *have* in (37c'), one could assume that, before the merger of *would*, the chunk [*have* t_j] would be extracted out

zone having one and only one functional head, specified either for the Event or for the Process. Approached in this way, (37) and (38) would actually favor the ‘F-Spec’ Theory which assumes only one FP for the event use of *frequently*.

The same analysis could be extended for (39). Ernst argues that, given the surface order in (39a,b), the F-Spec theory would have to increase the inventory of heads within the IP, by positing an additional functional head to license the event *frequently* which surfaces to the left of *willingly*. However, the surface order of adverbs, though necessary, is not a sufficient condition to propose the creation of a new FP. Evidence from the functional head counterpart (see, for instance, Cinque 2006 on ‘restructuring’ verbs in Romance) is also necessary to postulate a new FP. There seems to be no independent evidence to propose the existence of such a head. Moreover, the Cartography Framework, allowing a transformational approach to the data, would first seek to know if this apparent lack of relative order would be due to a movement operation. As for the other cases mentioned above, I propose that this apparent lack of relative order between the adverbs in (39) is the result of movement, triggered by a precise cause, namely, the assignment of scope.¹⁶⁵

- (39) a. Marie frequently would willingly call her brother.
 b. Marie willingly would frequently call her brother. (Ernst 2007: 1017)

(39a) represents the base order, i.e. the adverbs *willingly* (VolitionalP) and *frequently* (Asp_{Frequentative}) appear rigidly ordered, as in the Cinque hierarchy (i.e. *willingly* > *frequently*). The derivation of (39a) is schematized below.

- (39a’) a. [call her brother]¹⁶⁶ → merger of the subject
 b. [Marie [call her brother]] → VP-preposing
 c. [GP [call her brother]_i; G° [Marie t_i]] → merger of *would*
 d. [T_{AnteriorP} *would*¹⁶⁷ [GP [call her brother]_i [Marie t_i]]] → remnant-movement

of [[She [have t_i]], in [Spec,G°], followed by movement of [[She t_{have i}]] above it. Then, the steps in (i-iii) above would take place.

¹⁶⁵ The establishment of a scope relation is also the motivation for movement transformations in Barbiers (1995).

¹⁶⁶ The first element to enter the derivation in the clause is the V (see chapter 2, section 5 and 6). In line with Cinque’s *left-right* asymmetry, all the arguments and modifiers of V are merged above it (see § 6 of chapter 2). I am glossing over these details here. I am also glossing over those movements for case assignment/checking/matching (see section 7 of chapter 2).

e. $[_{HP} [_{Marie} t_i]_j [_{T_{AnteriorP}} would [_{GP} [call\ her\ brother]_i t_j]]]] \rightarrow$ merger of a probing head associated with *willingly*, namely, J° :

f. $J^\circ [_{HP} [_{Marie} t_i]_j [_{T_{AnteriorP}} would [_{GP} [call\ her\ brother]_i t_j]]]] \rightarrow$ attraction of “call her brother” to $[Spec, J^\circ]$

g. $[_{JP} [_{GP} [call\ her\ brother]_i t_j]_k J^\circ [_{HP} [_{Marie} t_i]_j [_{T_{AnteriorP}} would t_k]]]] \rightarrow$ merger of *willingly*

h. $[_{Subject-OrientedP} willingly\ Subj-Orient^\circ [_{JP} [_{GP} [call\ her\ brother]_i t_j]_k J^\circ [_{HP} [_{Marie} t_i]_j [_{T_{AnteriorP}} would t_k]]]]] \rightarrow$ movement of the remnant “Marie would”

i. $[_{LP} [_{HP} [_{Marie} t_i]_j [_{T_{AnteriorP}} would t_k]_l] L^\circ [_{Subject-OrientedP} willingly\ Subj-Orient^\circ$

$[_{JP} [_{GP} [call\ her\ brother]_i t_j]_k J^\circ t_l]]]] \rightarrow$

\rightarrow merger of the probing head associated with *frequently* and attraction of *willingly call her brother* to its Spec:

j. $[_{MP} [_{Subject-OrientedP} willingly\ Subj-Orient^\circ [_{JP} [_{GP} [call\ her\ brother]_i t_j]_k J^\circ t_l]_m] M^\circ$
 $[_{LP} [_{HP} [_{Marie} t_i]_j [_{T_{AnteriorP}} would t_k]_l] L^\circ t_m]]]]$

Next, *would* is extracted out of “Spec, L° ” (k), then a further remnant movement operation places “Marie” to the left of *would willingly call her brother* (l):

k. $[_{OP} [[_{T_{AnteriorP}} would t_k]_l]_n [_{MP} [_{Subject-OrientedP} willingly\ Subj-Orient^\circ [_{JP} [_{GP} [call\ her$
 $brother]_i t_j]_k J^\circ t_l]_m] M^\circ [_{LP} [_{HP} [_{Marie} t_i]_j t_n] L^\circ t_m]]]]]$

l. $[_{RP} [_{LP} [_{HP} [_{Marie} t_i]_j t_n] L^\circ t_m]_o [_{OP} [[_{T_{AnteriorP}} would t_k]_l]_n [_{MP} [_{Subject-OrientedP} willingly$
 $Subj-Orient^\circ [_{JP} [_{GP} [call\ her\ brother]_i t_j]_k J^\circ t_l]_m] M^\circ t_o]]]]]]]$

¹⁶⁷ I take *would* to merge in $T_{Anterior}$, i.e., before VolitiveP and $Asp_{Frequentative(I)}$. Remember that auxiliaries do not have a fixed position to merge (Cinque 1999: 57). They enter the derivation to bear the morpheme which would otherwise remain stranded (Cinque 1999: 57; Bjorkman 2011). See the *Appendix* at the end of

The next steps of the derivation resemble the familiar merger of a criterial head (“X°”) (m), here associated with *frequently*, attraction of the event-chunk to its Spec (i.e., to [Spec,XP]— cfr. (n)—, merger of the event frequency adverb (o) and remnant movement to [Spec,Z] (p):

m. [XP X° [RP [LP [HP [Marie t_i]; t_n L° t_m]_o] [OP [[T^{Anterior}P *would* t_k]_i]_n] [MP [Subject-OrientedP willingly Subj-Orient° [JP [GP [call her brother]_i t_j]_k J° t_i]_m M° t_o]]]]]]]

n. [XP [[T^{Anterior}P *would* t_k]_i]_n] [MP [Subject-OrientedP willingly Subj-Orient° [JP [GP [call her brother]_i t_j]_k J° t_i]_m M° t_o]_p] X° [RP [LP [HP [Marie t_i]; t_n L° t_m]_o] [OP t_p]]]]]

o. [AspFrequentative(I)P *frequently* [XP [[T^{Anterior}P *would* t_k]_i]_n] [MP [Subject-OrientedP willingly Subj-Orient° [JP [GP [call her brother]_i t_j]_k J° t_i]_m M° t_o]_p] X° [RP [LP [HP [Marie t_i]; t_n L° t_m]_o] [OP t_p]]]]]

p. [ZP [RP [LP [HP [Marie t_i]; t_n L° t_m]_o] [OP t_p]_q] Z° [AspFrequentative(I)P *frequently* [XP [[T^{Anterior}P *would* t_k]_i]_n] [MP [Subject-OrientedP willingly Subj-Orient° [JP [GP [call her brother]_i t_j]_k J° t_i]_m M° t_o]_p] X° t_q]]]]]] (= (39a))

(39b) would have a derivation in which the chunk *would call her* would be attracted to the specifier of the probing head related to *willingly* (cfr. “step (1)” in the fig. 5.13, below). Then, *willingly* would merge in the Spec of the next head, and remnant movement would place *Maria* to the left of *willingly* (step “(2)” of fig. 5.13). In the sequence, *call her brother* would subextract¹⁶⁸ from the specifier of the criterial head associated with *willingly* and undergo

this chapter. For this reason the position of merge of *would*, in this case, differs from its position of Merge in sentence (37c), see fn. 164.

¹⁶⁸ In Rizzi’s (2004, 2010) ‘Criterial Freezing’ system, subextraction out of a constituent in the specifier of a criterial head is possible (cfr. (i, ia), below), whenever the subextracted constituent bears a different information structure feature which has to be checked.

further movement (cfr. step “(3)”, in fig. 5.14), this time to the spec of the criterial head associated with the event *frequently*.

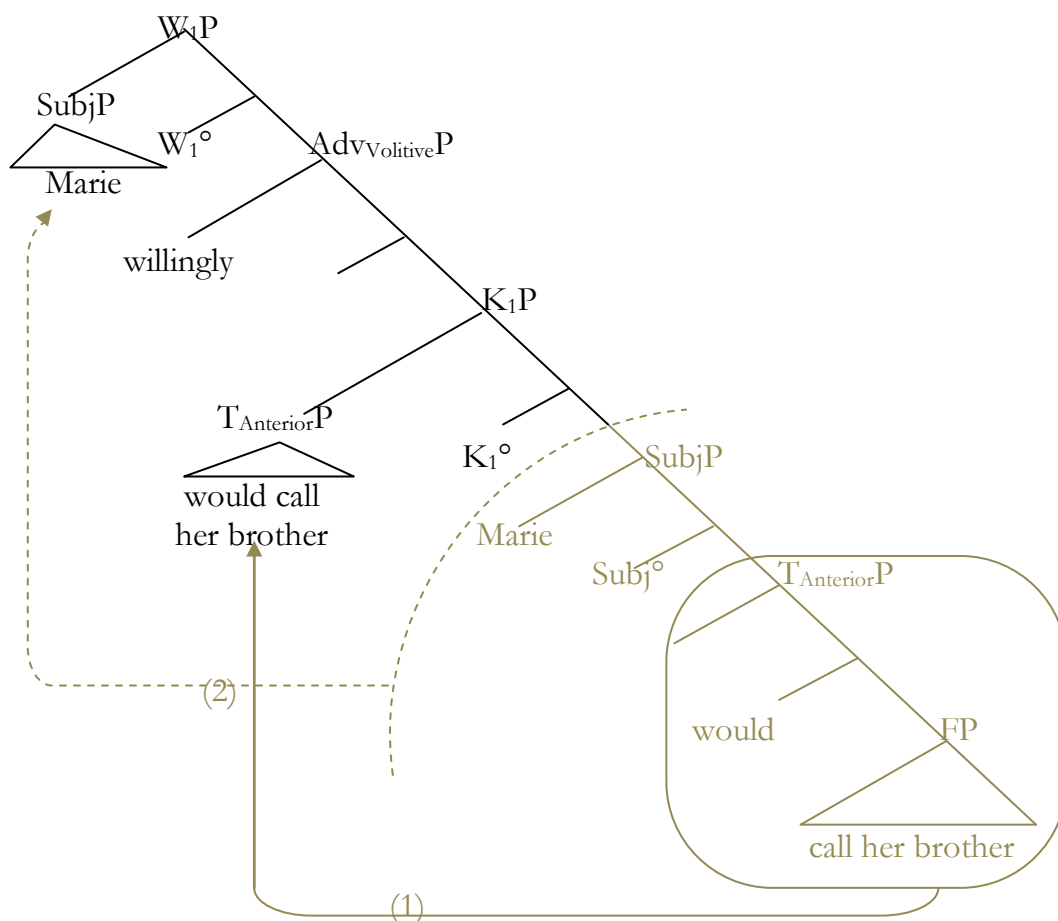


Fig. 5.13: The derivation (39b): part I

-
- (i) Non è chiaro [[quanti libri di Piero] Q siano stati censurati]
‘It isn’t clear how many book by Piero Q have been censored’
 - (ii) E’ di Piero che non è chiaro [[quanti libri ___] Q siano stati censurati]
‘It is by Piero that it is not clear how many books have been censored’ (Rizzi 2010)

The PP *di Piero*, in (ii), is extracted out of the complex *wh*-phrase *quanti libri di Piero* ‘how many books by Piero’ which sits in the specifier of a criterial head, Q, in (i).

However, as G. Cinque points out, it is not clear if subextraction is indeed possible. He gives the following examples, where it is banned (see iv).

- (iii) Si domandavano di Gianni quanti libri di quel poveretto fossero stati censurati.
SI asked of Gianni how-many books of that poor(man) were been censored.
- (iv) *È di quel poveretto che si domandavano di Gianni quanti libri fossero stati censurati.
It’s from that poor man that people asked of Gianni how many books has been being censured.

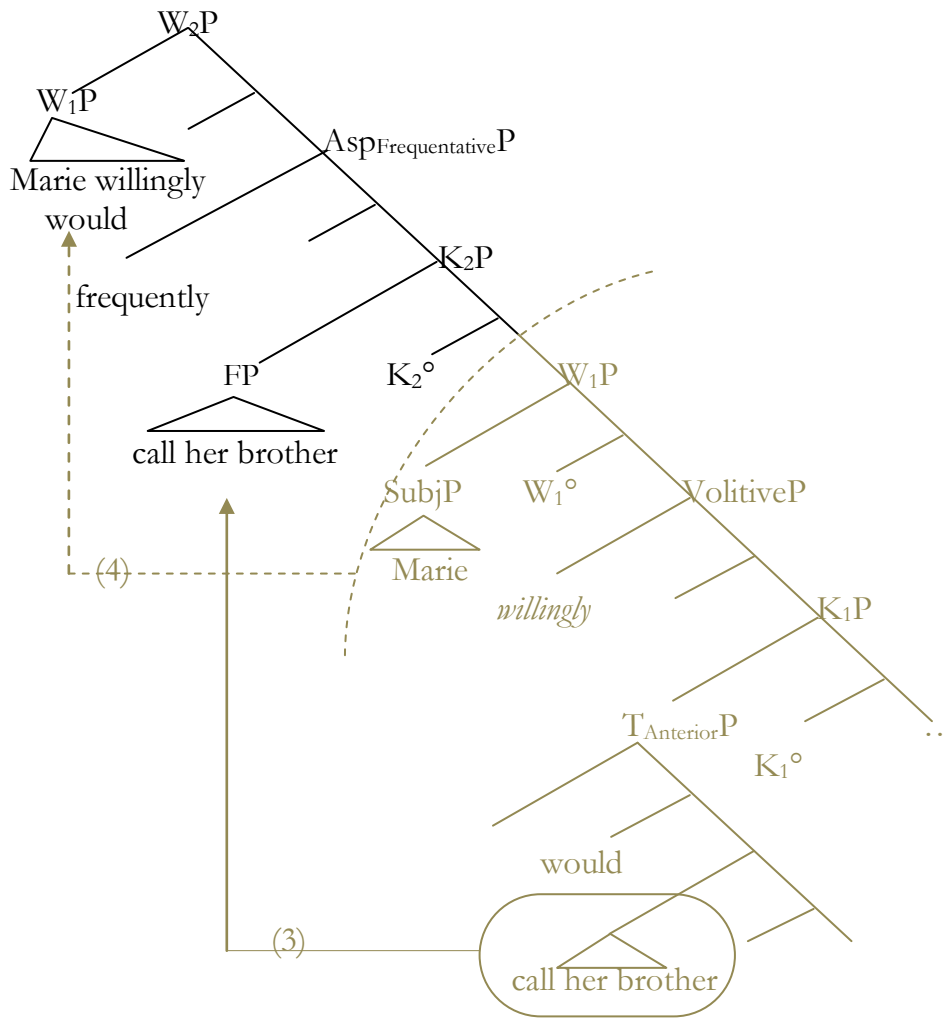


Fig. 5.14: The derivation of (39b): part II

Again, there is no need to assume another projection to host the frequency adverb in its event use. The assignment of scope, being achieved through movement, guarantees that the event head, in spite of surfacing to the right of the subject-oriented adverb by means of movements, may take under its scope the portion of the structure which corresponds to the ‘event’.

The same approach can explain the apparent lack of order between the event *frequently* and *suddenly* in (40a,b). If (40a) resembles the Cinque Hierarchy order (i.e., $\text{Asp}_{\text{Frequentative(I)}} \textit{frequently} > \text{Asp}_{\text{Inceptive(I)}} \textit{suddenly}$), the appearance of *suddenly* to the left of *frequently* in (40b) would be the result of (remnant-)movement. As such, it cannot be taken as counter-evidence for the “F-

I will nonetheless assume that *call her brother* subextracts in the example (39b), leaving this issue for further investigation.

Spec” theory. (41) would also be explained along these lines: the appearance of *willingly* to the left of *frequently*_{Event} is the result of movement of a remnant chunk containing *willingly* past *frequently*.

- (40) a. She frequently was suddenly being rejected by publishers.
b. She suddenly was frequently being rejected by publishers.
- (41) a. She willingly would frequently stop suddenly.
b. She wisely would have frequently already talked to him. (Ernst 2007: 1018)

All in all, a proper examination of these sentences would actually confirm the appropriateness of the Cartographic/‘F-Spec’ theory. The only thing which should be assumed is that there are rules for the assignment of scope to adverbs, which involve nothing but a series of movements, along the lines of Kayne (1998).

The alternative, semantically based approach to adverb licensing (e.g. Ernst 2002, 2007) proposes that adverbs freely adjoin to the syntactic constituent that they take under their scope (Ernst 2007: 1013). In Ernst’s approach, Semantics plays the most important role in determining which combinations of adverbs should or should not be ruled out, on the basis of an interplay of compositional rules and the lexical entry of each adverb. So, “nothing strictly syntactic is involved (...)” in Ernst’s theory (cfr. Ernst 2007: 1011).

Ernst argues that given the fact that Cinque’s F-Spec theory attributes the semantic interpretation to functional heads, the whole process is ‘redundant’, “given the existence of general and independently necessary mechanisms of semantic composition.” (Ernst 2007: 1015). This argument is also repeated in Fortuny (2008) and Shu (2011) (see footnote 154 and the related text). But the existence of such mechanisms of semantic composition should not preclude the ‘autonomy’ of Narrow Syntax. Some syntactic facts discussed in Cinque (1999, chapter 1, 2, and appendix 1: 2004) concerning V raising and crosslinguistic variation would actually challenge a purely semantic approach to adverbial syntax. How could the crosslinguistic differences concerning, for instance, the (obligatory) landing site of V be explained on semantic grounds? Furthermore, the data discussed in (26-31), above, gathered from Cinque (1999, chapter 6), would suggest that Semantics should not be responsible for adverbial distribution, since the combination of an adjectival predicate with a Cinquean

adverb may generate a sentence whose judgment is different from, say, the judgment of another sentence having the correspondent adverbs in the same order.

5. Back to VP-ellipsis in Portuguese: in defense of Kayne's theory of scope assignment and its generalization to all adverbs

Remember from § 2.1 that, on its movement upwards, the VP must pied-pipe some of the lowest adverbs in BP, namely, Asp_{Frequentative(II)} *com frequência* 'frequently', Asp_{Repetitive(II)} *de novo* 'again', Asp_{Inceptive(II)} *do nada* 'out of nowhere' and Asp_{Celerative(II)} *cedo* 'early'. Thinking of VP-ellipsis in Portuguese (see § 5 of chapter 4), if the VP obligatorily pied-pipes these adverbs, we expect that they be part of the elided chunk, in the second element of the coordination, whenever they are present in the first element of the coordination. This is so because, according to Matos & Cyrino (2001) and Cyrino & Matos (2002), the elliptical construction arises when both VP-adjuncts and V-complements get unpronounced. We provided some VP-ellipsis examples in § 5 of chapter 4, from both Brazilian and European Portuguese, presenting a lower adverb (*com frequência* 'frequently' (Asp_{Frequentative(II)}), *de novo* 'again' (Asp_{Repetitive(II)}), *do nada* 'out of nowhere' (Asp_{Inceptive(II)}), and *cedo* 'early' (Asp_{Celerative(II)})) in the antecedent sentence (the first element of the coordination). In those examples, all of these adverbs are recovered by the elliptical VP, and the VP-ellipsis reading represents the preferential reading for the gap in BP and EP. Below, I provide one of those examples, (42), where the gap in the second element of the coordination can be either interpreted as VP-ellipsis (the preferential reading in both BP (my judgments) and EP (G. Matos, p.c.)) or null-object.

- (42) a. O Mané come banana com frequência e a Mara também come [-]. (BP)
 b. O Manel come bananas com frequência e a Mara também come [-]. (EP)
 The Mané/Manel eats banana with frequency and the Mara too eats [-].
 (i) 'Mané/Manel eats banana frequently and Mara does too [-].' (VP-ellipsis: preferential reading in BP and EP)
 (ii) Null object (possible, but not preferential in both BP and EP).

We have also shown in section 5 of chapter 4 that in BP, all adverbs which are found below *já* 'already' (T_{Anterior}) can be part of the elided VP-chunk in the second element of the

coordination if they are present in the first element. Now, I would like to show that VP-ellipsis in Portuguese can help us to decide which analysis would be appropriate to account for the focusing use of higher adverbs, more specifically, and to account for the appearance of higher adverbs to the right of V, more generally.

(42) and (43) from (Brazilian (BP) and European (EP)) Portuguese present a higher adverb in the antecedent sentence, i.e. in the first element of the coordination.

- (43) O José comprou provavelmente uma BMW e o Pedrinho também comprou [-].
 The José bought probably a BMW and the Pedrinho too bought [-]
 ‘José probably bought a BMW and Pedrinho did too [-].’
 (European Portuguese (Gabriela Matos, p.c.) and BP)
- (44) A Maria cantou provavelmente para o patrão e a Ana também cantou [-].
 The Maria sang probably to the boss and the Ana too sang [-].
 ‘Maria probably sang to her boss and Ana did too [-].’
 (European Portuguese (Gabriela Matos, p.c.) and BP)

In both (43) and (44), the adverb *provavelmente* ‘probably’ in the antecedent sentence can only be associated with wide-scope—i.e. with its taking (part of) the IP under its scope—which is limited to the antecedent sentence. It is not possible to have a narrow scope reading for the adverb in these examples. Even more telling is the fact that the higher adverb cannot be recovered in the second element (in both BP and EP), thus favoring a null object interpretation for the gap. Under the present analysis, these facts are not surprising. The higher adverb *provavelmente* ‘probably’ enters the derivation in a position higher than the landing site of the V(P) (in BP and EP), from where this verbal element licenses the elliptical VP. Thus, crucially, the adverb cannot be recovered by the elliptical VP. No answer would be naturally provided by competitive analyses (Direct Attachment (Zyman 2012), merging of the higher adverb in a lower position (Nilsen 2004), Semantically-Based Theory of adjunction (Ernst 2002, 2007), etc.), which would rather make incorrect predictions: if the AdvP directly attaches to the constituent it modifies, at least the narrow scope reading should be available for the elliptical VP, contrary to the fact.

The fact that only the “wide scope reading” is available for the adverb in the antecedent sentence also favors the analysis proposed here. Our analysis captures this fact and explains it by suggesting that a chunk containing the trace of the V plus its complement raises to the specifier of the probing head associated with *provavelmente* ‘probably’. Thus, the wide scope

reading obtains. The competitive analyses mentioned in the last paragraph would have nothing to say on the availability of the wide scope reading for *provavelmente* in (43-44), which would be rather surprising for them.

All arguments considered, VP-ellipsis in Portuguese favors the analysis proposed here for the focusing use of higher adverbs, namely, the generalization of Kayne’s 1998 treatment of *only* to them (actually, to all adverbs). The (higher) adverb is merged in a position which is inaccessible for V raising. Therefore, the adverb—in spite of surfacing on the right of V, by means of remnant-movement of V past it—fails to be part of the elliptical constituent.

6. More on the Correspondence Hypothesis

As shown in chapter 3, the assignment of scope to quantified expressions has been treated for years in terms of covert LF-movements (e.g. May 1977, 1985; Longobardi 1992), in a way that would resemble (overt) syntactic movements (e.g. *wh*-movement). Longobardi’s (1992) ‘Correspondence Hypothesis’ is an attempt to capture this, when it proposes that the assignment of scope to *Neg*Ps and focusing *only* would also be a movement rule, this time in LF, which paralleled *wh*-movements in ‘S-structure’. Kayne (1998) rather suggests that this strong parallelism between syntactic movements and scope interpretation is actually a consequence of the fact that there are no such covert movements. Rather, the process of scope assignment also takes place in the overt component thanks to a series of displacements. In chapter 3, and specially in this chapter, we suggested that Kayne’s theory of scope assignment could be taken to explain the ‘focus-sensitive’ property (in Shu’s 2011 terms) of higher adverbs. This can be seen, for instance, on the basis of the data presented in (45-46) on the placement of focusing *só* ‘only’ and the higher AdvP *provavelmente* ‘probably’:

- (45) a. Os meninos só leram *Memórias Póstumas de Brás Cubas*.
 The guys only read.PAST *The Posthumous Memoirs of Bras Cubas*.
 ‘The guys only read *The Posthumous Memoirs of Bras Cubas*.’
 b. Os meninos leram só *Memórias Póstumas de Brás Cubas*.
 The guys read.PAST only *The Posthumous Memoirs of Bras Cubas*
- (46) a. Os meninos provavelmente leram *Memórias Póstumas de Brás Cubas*.
 The guys probably read.PAST *The Posthumous Memoirs of Bras Cubas*.
 ‘The guys probably read *The Posthumous Memoirs of Bras Cubas*.’
 b. Os meninos leram provavelmente *Memórias Póstumas de Brás Cubas*.

If scope is defined over c-command, and if Cinque (1999) is right in proposing a hierarchy of adverbs, whenever an adverb sits in its position of Merge, it can take under its scope everything following it, i.e. its entire c-command domain or even subparts of it, starting from the bottom (Chomsky 1971). This is true of both *só* and *provavelmente* in (45a,46a), where *só/provavelmente* can take the entire propositional content under its domain or only subparts of it, depending on focus stress. As suggested in chapter 3, the assignment of focus in configurations like (45-46) depends on the movement of the constituent bearing focus or of a large chunk containing it. What is crucial is that focus is necessarily assigned by means of movement to the specifier of the probing head associated with the focus-sensitive adverb. This is shown in fig. 5.15, see below, for (45a, 46a), where the focus can be *leram MPBC* ‘read MPBC’ or just *MPBC* if *MPBC* bears the focus stress by default. Fig. 5.15 can also represent the derivation of (45a, 46a) if *leram* ‘read’ is stressed.

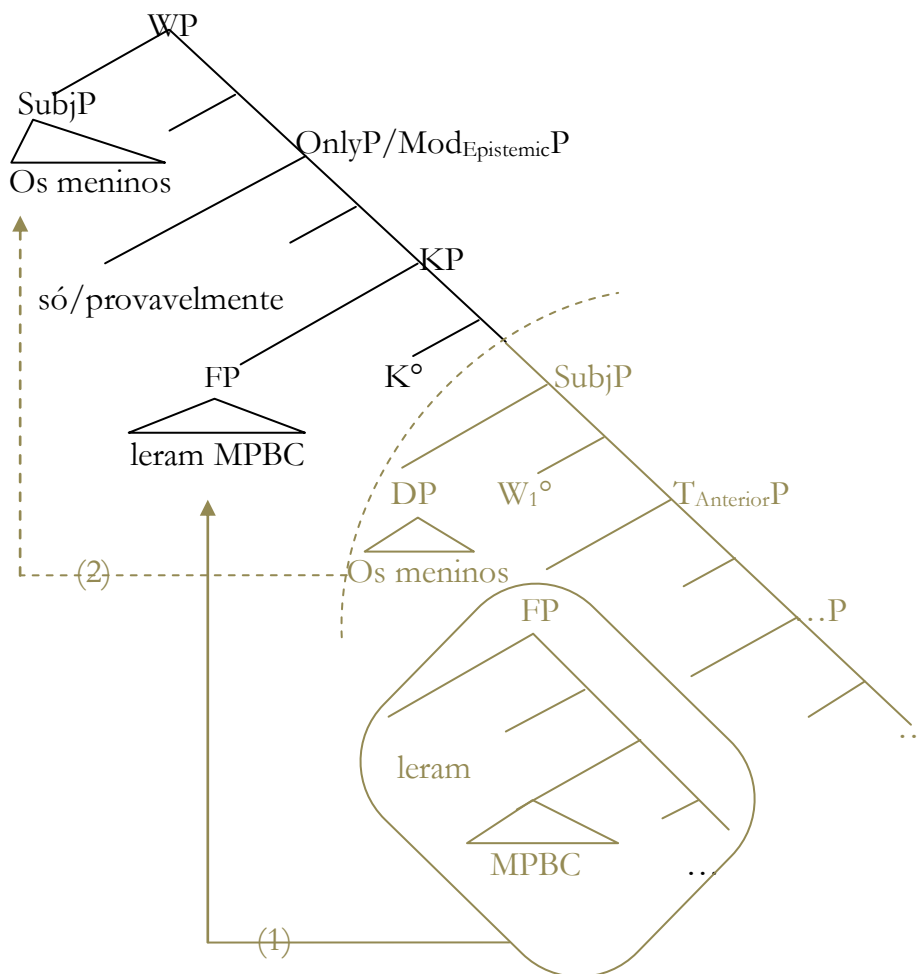


Fig. 5.15: The derivation of (45a, 46a)

Thus, in terms of (our modified version of) Kayne (1998)—see chapter 3, section 6—, the scope of *só* ‘only’, in (45), and *provavelmente*, in (46), would be assigned by moving the constituent under their scope to the Specifier of a probing head associated with them (“K°”, in fig. 5.15), followed by their Merge (in the correspondent Spec in the Cinque hierarchy) and remnant movement to their left (see step “(2)” of fig. 5.15). The configuration required for both the adverb and the focusing particle is that only the constituent under their scope remain in their c-command domain.

(45b) and (46b) are ambiguous. The scope of *só/provavelmente* can either be the constituent to their right, namely, the object (*Memórias Póstumas de Brás Cubas*), or the whole propositional content (here referred to as the ‘wide scope reading’), as noted in section 3.

The ‘narrow-scope’ of the adverb/focusing particle in (45b, 46b), i.e. its scope over the object, has a derivation which somewhat resembles the derivation of (45a, 46a). What is attracted now is only the object,¹⁶⁹ followed by merge of the adverb and remnant movement.

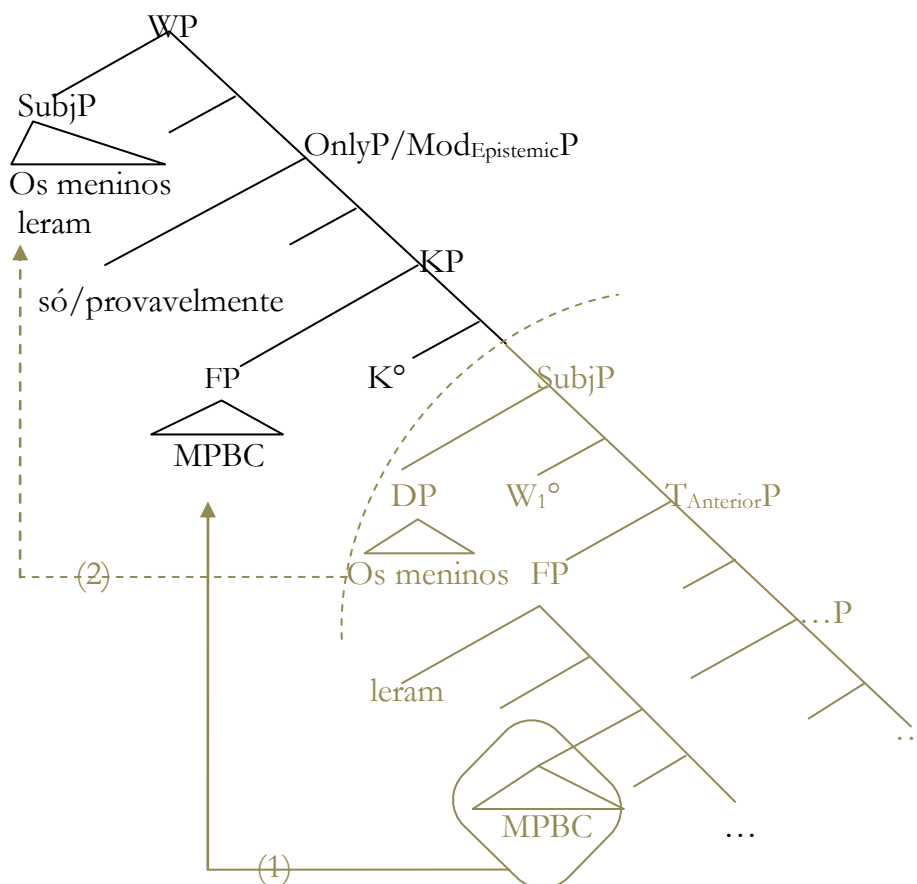


Fig. 5.16: The narrow scope reading of (45b, 46b)

¹⁶⁹ Remember, from chapter 2 and 4, that the object is necessarily pied-piped by the V in its movement upwards, given the assumption of Cinque’s (1996, 2005, 2007, 2010b, 2013) ‘left-right asymmetry’. Thus, some form of ‘subextraction’ must be assumed in this case, if we want to continue with the interesting generalizations drawn from chapters 2 and 4 that the V pied-pipes the object.

same constraints that Longobardi (1992) observed on the assignment of scope to focusing *only*, e.g. islands constraints. Longobardi noticed that the rule assigning scope to *solo* ‘only’ is apparently unbounded and ECP-governed, in the same way that *wh*-movement is (Longobardi 1992; Kayne 1998), as noted in his “Correspondence Hypothesis”. Thus, as shown by Longobardi, in (47), matrix scope of *solo* ‘only’ is only possible in (a). It is ruled out in (b), given the *Complex NP Constraint*. The same is true of the BP data (see 47a’,b’).

- (47) a. A questo punto, approverei che tu gli consentissi di parlare solo con Gianni. (*Italian*)
 ‘at this point, I would approve that you allow him to speak only with Gianni’
 (Longobardi 1992: 156)
- a’. Nessa altura do campeonato, eu aprovaria que você concordasse em falar só com o João (BP) (= 47a)
- b. A questo punto, approverei la tua proposta di parlare solo con Gianni. (*Italian*)
 ‘at this point, I would approve your proposal of speaking only with Gianni’
 (Longobardi 1992: 156)
- b’. Nessa altura do campeonato, eu aprovaria a tua proposta de falar só com o João (BP) (= b)

If the assignment of scope to higher adverbs can be approached *à la* Kayne, these adverbs should also behave as *solo/só* with respect to island constraints. Sentences (48a) and (48b), from BP, suggest that this is indeed the case. Matrix scope of *provavelmente* ‘probably’ (i.e. *provavelmente* ‘probably’ > *pediu* ‘request’) is only possible in (48a). Its impossibility in (48b) is due to the *Complex NP Constraint*.

- (48) a. A professora pediu que os alunos lessem provavelmente *Memórias*
 The teacher requested that the students read probably *The Posthumous*
Póstumas de Brás Cubas (MPBC) (BP)
Memoirs of Bras Cubas.
- b. A diretora criticou o pedido de que os alunos lessem provavelmente *MPBC*.
 The principal criticizes the requirement that the students read probably *MPBC*.

As mentioned in section 3 of chapter 3, and in the beginning of the present section, the rule assigning scope to *NegP* and *OnlyP* is apparently unbounded and ECP-governed, in the same way that *wh*-movement is (Longobardi 1992; Kayne 1998). Though we assume Kayne’s analysis in terms of *overt movements*, Longobardi’s ‘Correspondence hypothesis’ remains unaffected. The only difference is that Longobardi’s covert movements should be replaced by Kayne’s pre-Spell-Out movements. The Italian sentence in (49) below seems to suggest that higher adverbs are assigned scope in the same way focusing *only* is. The scope of *probabilmente*

is also unbounded in this example, thus resembling what happens to *solo* in (47a), above. *Probabilmente* in (49) can either have embedded scope (49a) or matrix scope (49b).

- (49) Lui pretenderà che tu legga *probabilmente* questo. (Italian, G. Cinque, p.c.)
 He will-claim that you read probably this
 a. *probabilmente* > *questo*
 b. *probabilmente* > *pretenderà*

Under a (revisited) Kaynean treatment of the facts, the wide scope interpretation for *probabilmente* ‘probably’ (cfr. (49b)) would be the result of attracting *questo* ‘this’ to the specifier of the probing head associated with matrix *probabilmente* ‘probably’, after which the adverb would merge and remnant movement would put *Lui pretenderà che tu legga* in the specifier above *probabilmente*. The narrow scope reading (49a) of *probabilmente* in (49) would be the result of the attraction of *questo* ‘this’ to the specifier of the probing head associated with the embedded *probabilmente* (see section 2 of chapter 3).

Kayne transposed the same analysis proposed for the matrix/embedded pair to root cases (e.g. the (b) examples of (45-46) above) (see chapter 3, section 2). Thus, if Kayne’s treatment of *only* in root contexts can be generalized to adverbs, his observations on the assignment of scope to these focusing adverbs should also be valid for higher adverbs in the same contexts. This hypothesis seems to be confirmed by the parallel behavior of *só* ‘only’ and *provavelmente* ‘probably’ in (47-48) above where the wide scope reading is only available in the (a, a’) examples, but not in the (b, b’) examples, due to the *Complex NP Constraint*.

Remember, from chapter 3, section 2, that Longobardi (1992), Kayne (1998), Shu (2011), a.o., observed the existence of a subject-object asymmetry regarding the wide scope reading of focusing *only* when it surfaces in the embedded clause. Matrix scope is much more difficult when the *OnlyP* occupies the subject position:

- (50) a. John has requested (that) Bill study only physics.
 b. John has requested (that) only Bill study it. (Shu 2011: 116)

The scope of *only* is ambiguous in (50a). The wide scope interpretation means that “the only request of John is that Bill study physics” (Shu 2011: 116). In the narrow-scope

interpretation, “the content of the request is that Bill study only physics” (Shu 2011: 116). (50b) is not ambiguous and only the narrow scope reading is available for *only*, as *only* is part of the subject.

Shu (2011: 150) observes that the same subject-object asymmetry with respect to the availability of the wide scope interpretation holds for higher adverbs. Hence, as in the case of *only* in (50), the scope of *probably* is ambiguous in (51a), but not in (51b):

- (51) a. John was advised to learn [probably only French]. (Shu 2011: 150)
b. John thinks [probably only Mary] learned French.

As Shu points out, *probably only French* can only have wide scope in (51a), given that the epistemic adverb “is not semantically qualified to be in the complement of the verb *advise* (cf. **John was advised to probably go home*).” (p. 150). In (51b), the scope of *probably* is restricted to the embedded clause, as it appears in the subject position. Were not higher adverbs inherent focusing adverbs, the parallelism observed in (50-51) would not be explained, as Shu concludes. The parallel behavior of the focusing adverb (50) and the higher adverb (51) regarding the subject-object asymmetries on the scope of the adverb—whatever their motivation be (the ECP, in the GB era; *Criterion Freezing* in Rizzi’s (2004b, 2010) account (see chapter 3, section 2)—provides strong evidence for the claim that (higher) adverbs are scope-inducing/focus-sensitive elements and, as such, should receive the same treatment that Kayne (1998) gave to *only/even/too*, etc.

BP data also offers support for the same conclusion. Thus, *só* ‘only’ and *provavelmente* ‘probably’ are ambiguous when related to the object (52a, 53a) but not when related to the subject (52b, 53b) position.

- (52) a. O Pierre pediu que o Eduardo estude só francês.
Pierre requested that Eduardo study only French.
‘P. has requested (that) Eduardo study only French’
b. O Pierre pediu que só o Eduardo estude francês.
P. asked that only Eduardo study French

Thus, while (52a) is ambiguous in that *só* ‘only’ can have either matrix (cfr. (52a’)) or embedded scope (52a’), (52b) seems to favor the embedded scope of *só* (see the deviance of

(52b'), with matrix scope of *só* and the grammaticality of (52b'') with embedded scope (i.e. scope over the DP) of this adverb).

- (52a') O Pierre pediu que o Eduardo estude só francês, não pediu mais nada.
 Pierre requested that Eduardo study only French, he didn't ask anything else.
- (52a'') O Pierre pediu que o Eduardo estude só francês, não chinês.
 Pierre requested that Eduardo study only French, not Chinese
- (52b') O Pierre pediu que só o Eduardo estude francês, */?? não pediu mais nada.¹⁷⁰
 Pierre requested that only Eduardo study French, he didn't requested anything else.
- (52b'') O Pierre pediu que só o Eduardo estude francês, ninguém mais.
 Pierre asked that only Eduardo study French, nobody else.
 'P. has requested (that) only Eduardo (and nobody else) study French'

The same subject-object asymmetry seems to hold for *provavelmente* in BP:

- (53) a. O Pierre pediu que o Eduardo estude provavelmente francês.
 Pierre requested that Eduardo study only French.
 'P. has requested (that) Eduardo study only French'
- b. O Pierre curte que PROVAVELMENTE O EDUARDO estude francês.
 P. likes that PROBABLY EDUARDO study French

If *provavelmente* 'probably' is stressed in (53a), it can have matrix scope (i.e. *provavelmente* 'probably' > *pediu* 'requested'), though the narrow scope reading (*provavelmente* 'probably' > *francês* 'French') is the preferred one. In (53b) only the narrow scope reading is available for the adverb, i.e. *provavelmente* 'probably' > *o Eduardo* 'Eduardo'. Matrix scope (*provavelmente* > *curtir* 'likes') is not possible. Obviously for the narrow scope reading to be possible in (53b), one should think of a context where there is someone who studies French and Pierre knows it, although he is not sure if this person is Eduardo.

Last but not least, Zyman (2012, chapter III) made a detailed survey on the Cinque adverbs which, in spite of appearing attached to a constituent in an embedded clause (small clause,

¹⁷⁰ Remember, from chapter 3, section 4, that, following a suggestion by Alessandra Giorgi (p.c.) we conjectured that there would be one additional position for restrictive adverbs like *only*. *Somente*, but (apparently) not *só*, would be the candidate for a possible highest position within the IP: *somente* can have IP scope, it can also appear sentence-finally (if de-accented), etc. That this seems to be the case is also suggested by the fact that the wide scope reading is not excluded in (i), below, where *somente* is associated with the subject.

- (i) O Pierre pediu que somente o Eduardo estude francês, ^(?)não pediu mais nada.
 Pierre requested that only Eduardo study French, he didn't requested anything else.

I have no explanation to add on the subject-object asymmetry debate and the different judgments

infinitival and finite clauses), are interpreted as modifying the predicate of a higher clause. He designated this phenomenon “inverse scope”. He shows that all the adverbs of the Cinque hierarchy may have wide scope when surfacing in an embedded clausal domain, except *just* and *almost*.¹⁷¹

Hence, in (54), although the adverb appears to be within the small clause, it can have wide scope, i.e. scope over the higher predicate, namely *consider* (see (54a)). *Probably* can also have embedded scope in this example (cfr. the paraphrase given in (54b)).

- (54) John considers Mary probably a murderer. (Zyman 2012: 91)
- a. A: What does John consider Mary to be?
B: John considers Mary probably a murderer—but to be honest I’m not really SURE what John considers Mary to be. (Zyman 2012: 92)
 - b. She’s *probably* a murderer.’ (Zyman 2012: 91)

Zyman suggests that sentences involving “interpretative scope”, i.e. those where the adverb surfaces adjacent to a constituent of the lower clause but has scope over the predicate of a higher clause, would be derived by lowering the adverb from the higher clause to the embedded domain. I believe that the data carefully discussed by him would be better accounted for if one rather turns to a generalized Kaynean treatment of focus-sensitive/scope-inducing adverbs, avoiding lowering. The interpretative scope phenomenon would be accounted for if one assumed that it is the DP “a murderer” which raises from the embedded domain to the Spec of the probing head associated with matrix *probably*, as in the derivation of the wide scope readings noted thus far. In the narrow scope case, the DP “a murderer” would move to the Spec of the probing head associated with the adverb *probably* merged within the small-clause.

reported for *só* (52b’) and *somente* in the subject position.

¹⁷¹ Remember, from section 7 of chapter 3, that in addition to *just* and *almost*, the lower adverbs *well*, *quickly*, and *early* cannot directly attach to nonspinal constituents either, as shown by Zyman (2012). He states that the former adverbs (*well*, *quickly* and *early*) cannot be tested as far as “inverse scope” (i.e. their appearance within the embedded but their scope being the matrix predicate) is concerned. He continues, “This is presumably a reflex (somehow) of the fact that they obligatorily follow the core VP on the surface (...)” (Zyman 2012: 102). I do not attempt to provide a reason for this either. Yet, the very fact that the same class of adverbs cannot be used as focus-sensitive attractors (see chapter 3, section 7) in Kayne’s sense in both root and matrix/embedded contexts would have us believe that something common is happening in the (root) clause and across clausal domains, as far as the assignment of focus/scope is concerned.

Conclusively, the strict parallelism regarding the interpretation of the scope of focus-sensitive/scope-inducing adverbs in the root-clause and in the matrix/embedded cases could be taken as a strong argument favoring a generalization of Kayne's (1998) analysis to Cinque's adverbs.

7. Back to higher adverbs: how do they interact with V-movement and auxiliaries in Brazilian Portuguese

Until now, we have illustrated how to accommodate the puzzling distributional facts on higher adverbs, in Romance and English. We have also noted that scope-inducing adverbs should be treated on par with focusing *only*, *Neg°*, *quantifiers*, etc. as far as the assignment of scope (Kayne 1998) is concerned.

All these achievements would help us to readdress the question of verb raising and its interaction with higher adverbs. From the preceding discussion, it should be clear now that higher adverbs are *not* reliable diagnostics for verb movement. The exception would be confirmatory adverbs like *realmente*, *mesmo*, *certamente* 'indeed, after all, surely' (in Portuguese), *di sicuro* 'surely', in Italian, etc., because they *are not higher adverbs*. Although they have sentential scope, they are not merged in the 'higher' portion of the IP which is inaccessible for V-raising. These adverbs take the 'vP' (subject included) under their scope. As suggested in section 2.2 above, they are merged in a lower position, given their behavior sentence-finally. The conclusion one can draw from previous sections (§ 2, for instance) is that the traditional classification *sentential* vs. *predicate* adverbs/IP adverbs vs. VP adverbs is *not* accurate, given that an adverb which is merged, say, in a higher position—thus being traditionally called 'sentential adverb'—may take an argument of V under its scope, not the (whole) proposition. For this reason, I believe that Cinque's (1999, chapter 1) syntactic classification in higher vs. lower adverbs is the most accurate, given that the only claim it makes concerns the position that different adverb classes occupy in the clausal spine. Together with Kayne's theory of scope-assignment, Cinque's classification makes correct predictions and helps us delimit the scope of each modifier of the extended projection of V.

Let us now return to the primary goal of this dissertation which is the study of verb movement in BP. Though higher adverbs are *not* diagnostics for V raising, they do interact

with V, auxiliaries and other constituents of the clause, since a probing head, associated with them, enters the derivation before their merger, to attract the constituent under their scope to its specifier.

In this section, we will explore more complex sentences—in terms of lexicalized material—to see how the system could work. (55) shows different positions targeted by the VP and the object (if AdvPs (higher focusing ones included) are assumed to be fixed in the structure).

- (55) a. O João vai ter estragado provavelmente o livro.
 The J. go.FUT. have damaged probably the book.
 'J. will have damaged probably the book.'
- b. O João vai ter provavelmente estragado o livro.
 the J. will have probably damaged the book.
- c. O João vai provavelmente ter estragado o livro.
 The J. will probably have damaged the book.
- d. O João provavelmente vai ter estragado o livro.
 The J. probably will have estragado the book.
- e. Provavelmente o João vai ter estragado o livro.
 Probably the J. will have damaged the book.

I will begin by discussing the steps of the derivational history that all the sentences in (84) have in common. Remember, from chapter 2, section 6, that the derivation of a sentence would start with the merger of the V (which projects the VP), followed by the merger of each argument in Specifier positions to the left of VP. Each time an argument is merged in a dedicated Specifier position, it is preceded and followed by the merger of a head (Cinque 2006). The first head projects an XP whose Spec hosts an argument. The next head creates the structural context for (phrasal-)movement of the V to its Spec. Thus, in (55), following Cinque (2006, chapter 6), the Theme DP is the first argument to be merged (say, in [Spec,Theme°], see fig. below). In the sequence, another head (here W°) is merged and the VP moves to its Spec (cfr. [Spec,WP] in fig. 5.18, below). Following the same line of reasoning, a Head (Ag°) enters the derivation, and the Agent DP (*o João*), merges in its Spec. Another head, X°, merges to the left with subsequent movement of the VP to its Spec.

Until now, our tree (see fig. 5.18, below) has the VP in the highest Spec and each argument merged in a Spec position, whose projections are all interspersed by functional projections hosting the trace of the VP in their Spec. Remember that a head is always merged before and after an argument enters the derivation. The first head projects an FP in whose Spec the

argument is merged. The following head creates a Specifier where the VP moves to.

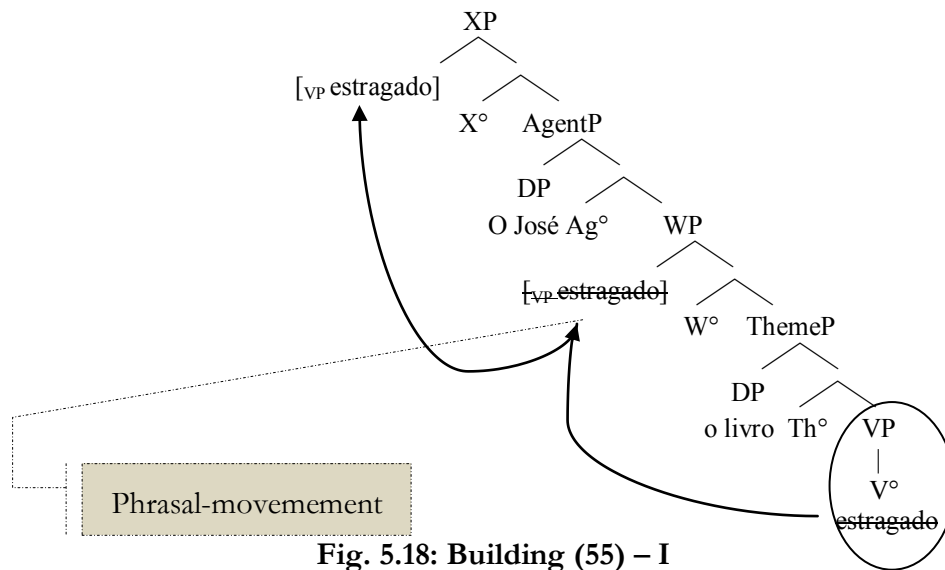


Fig. 5.18: Building (55) – I

Following Cinque (2006, chapter 6), the derivation continues by merging the two Kaynean Case-related projections which intersperse the extended projection of V. The first to merge is an Accusative-Case licensing Head which attracts the Theme-DP (here, *o bolo* ‘the cake’) to its Spec. An abstract P head merges in the sequence and further movement places the remnant in its Spec. (cf. figs. 5.19 and 5.20).

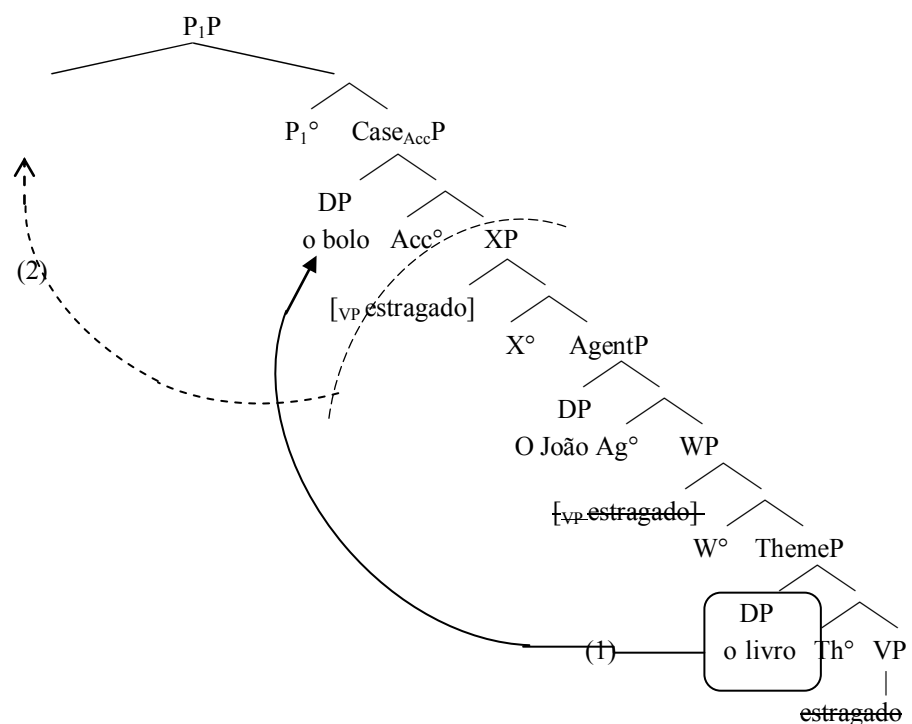


Fig. 5.19: Building (55) – II

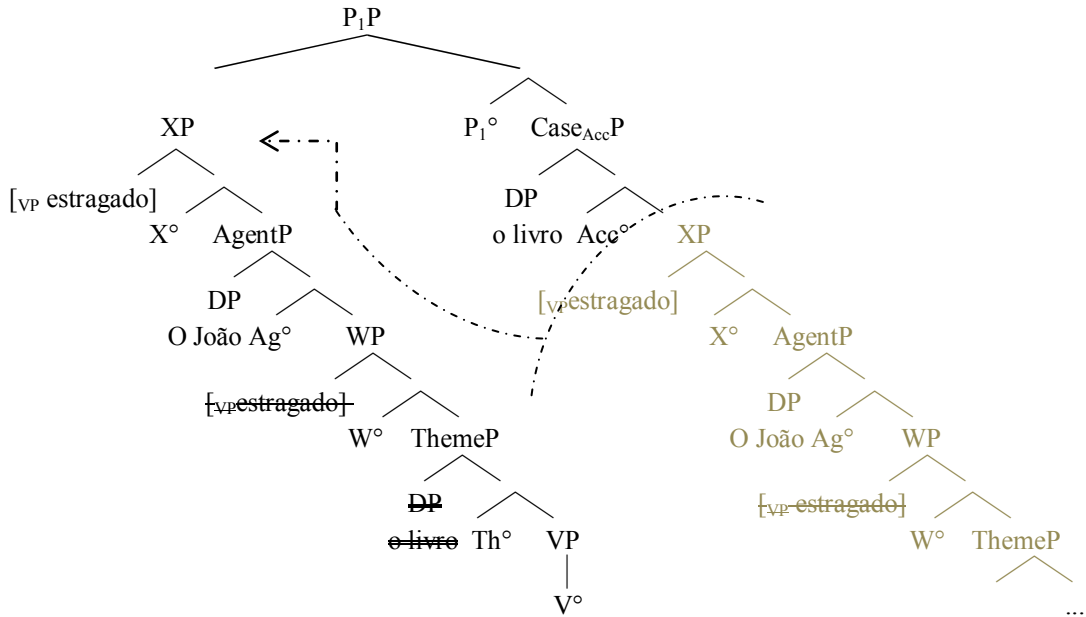


Fig. 5.20: Building (55) – III

In the sequence, a head checking/matching/assigning Nominative Case is merged and the Agent-DP, *o José*, is moved to its Spec (fig. 5.21), followed by remnant movement of VP-DP object to the next Spec (fig. 5.22).

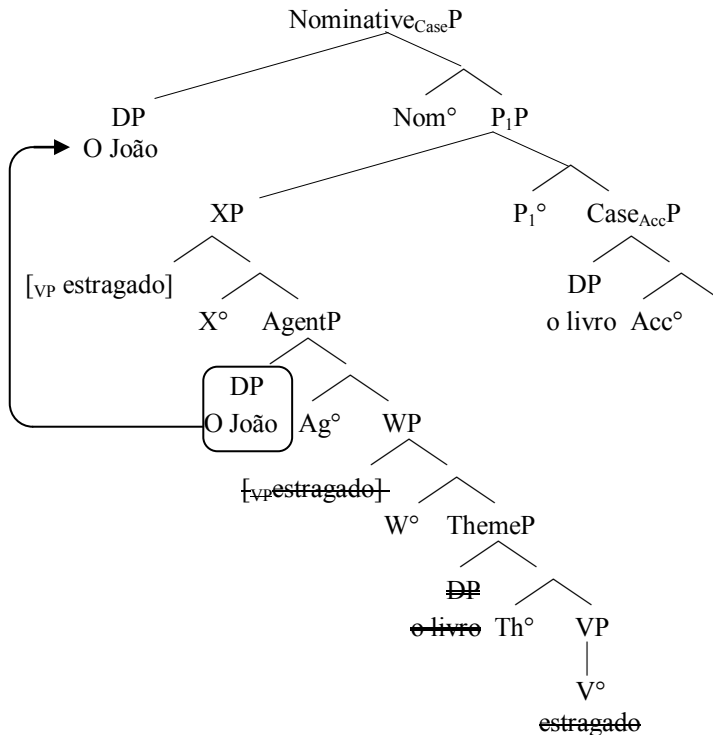


Fig. 5.21: Building (55) – IV

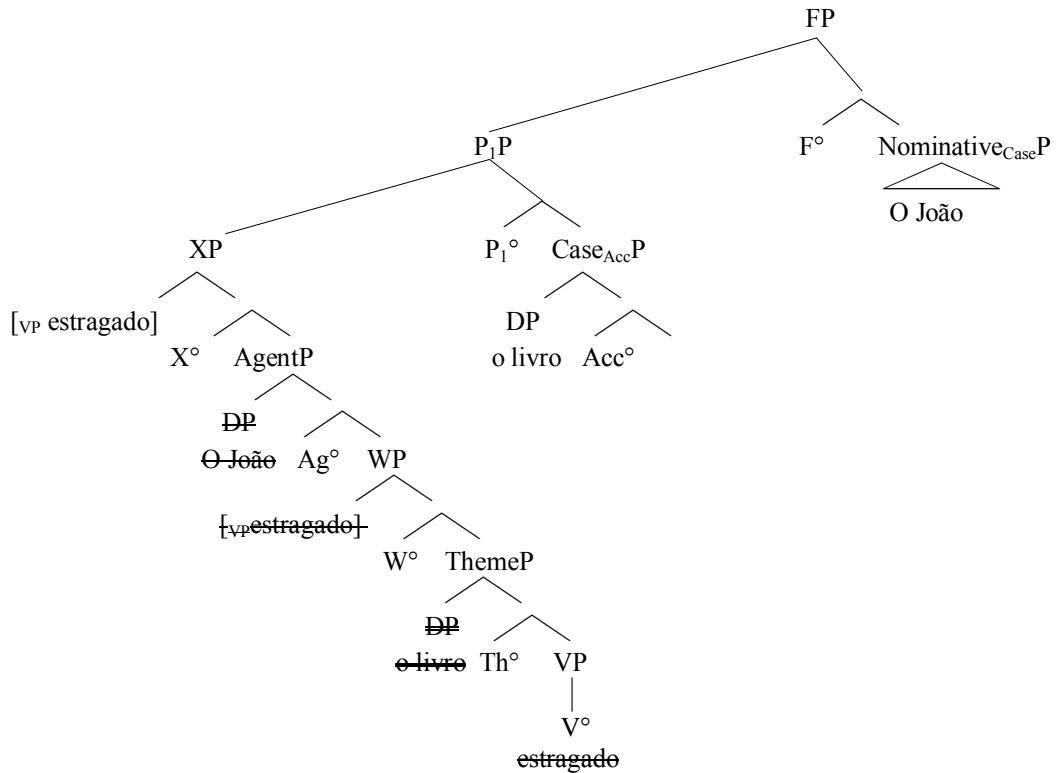


Fig. 5.22: Building (55) – V

Consecutively, the VP has to move past $\text{Asp}_{\text{Completive(I)}}\text{P}$ (see chapter 3). Then, *ter* ‘have’ merge in $\text{Asp}_{\text{Perfect}}^\circ$, in BP.¹⁷² Remember, from chapter 2, that whenever an auxiliary is merged, it enhances Kayne’s (2005) *try (to) live* structure. Thus, a head K° is merged to the left of *ter*, and attracts the complement of the auxiliary. Then, another head (here W°) merges in the sequence, attracting the remnant, namely, the auxiliary (see figs. 5.23 and 5.24).

¹⁷² See the *Appendix* for the motivations to merge *ter* ‘have’ in a low position.

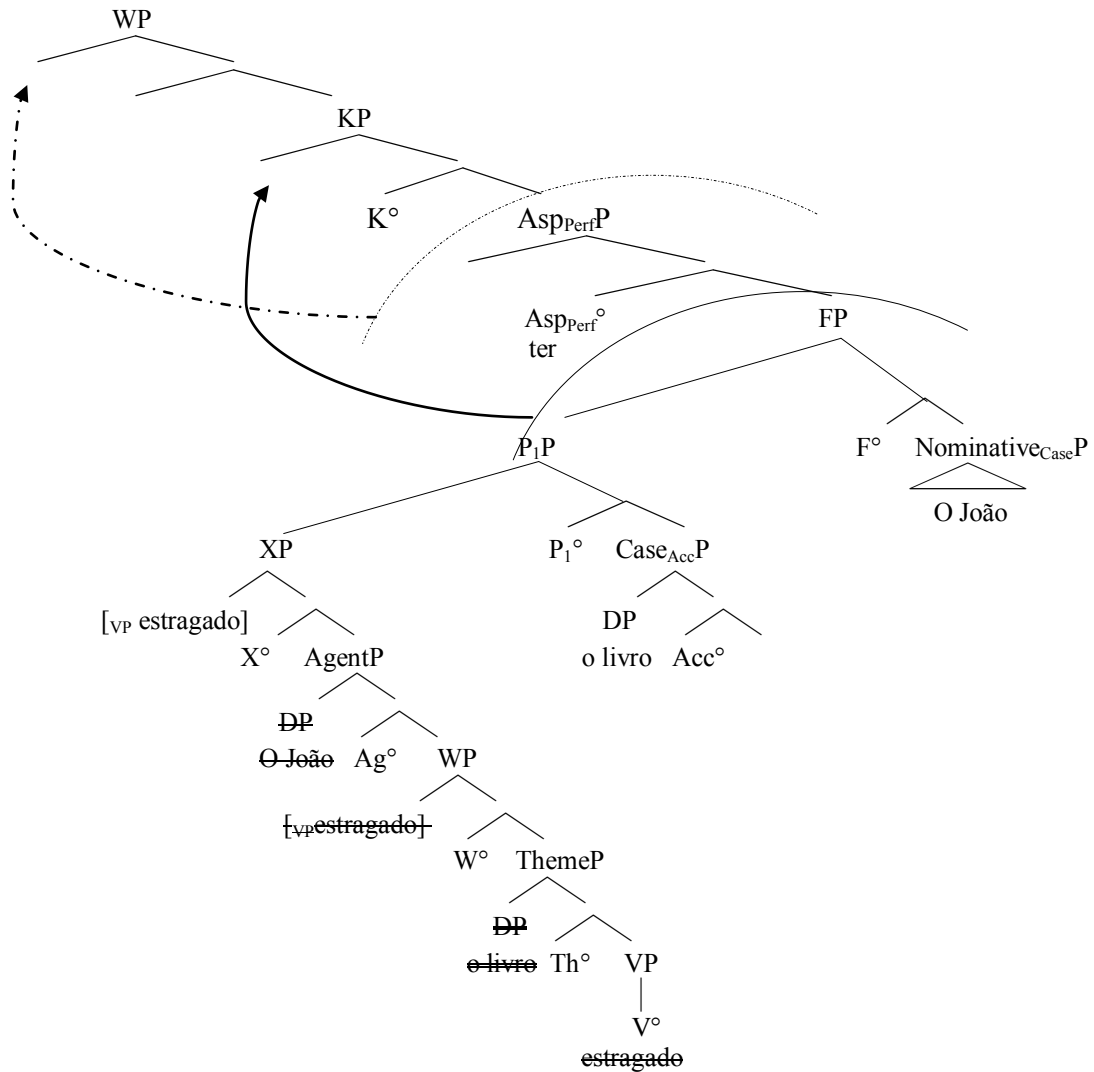


Fig. 5.23: Building (55) – VI

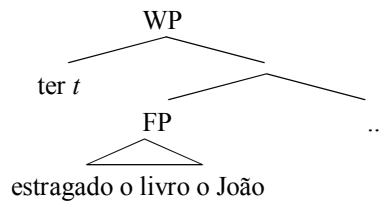


Fig. 5.24: Building (55) – VII

As noted above, each time an Auxiliary/modal/restructuring Verb enters the derivation, it automatically triggers the creation of these two Kaynean heads (as in Cinque 2006, 2010). Thus, *vai* is merged in $T_{\text{Anterior}}^{\circ}$. After its merger, K_1° (see above) enters the derivation and attracts the complement of *vai*, namely, *ter estragado o livro*, to its Spec, following the Closeness-driven Principle (Kayne 2005, §9.5.1). In the sequence, the remnant, i.e. *vai*, raises to

[Spec, W₁^o] (see fig. 5.25).

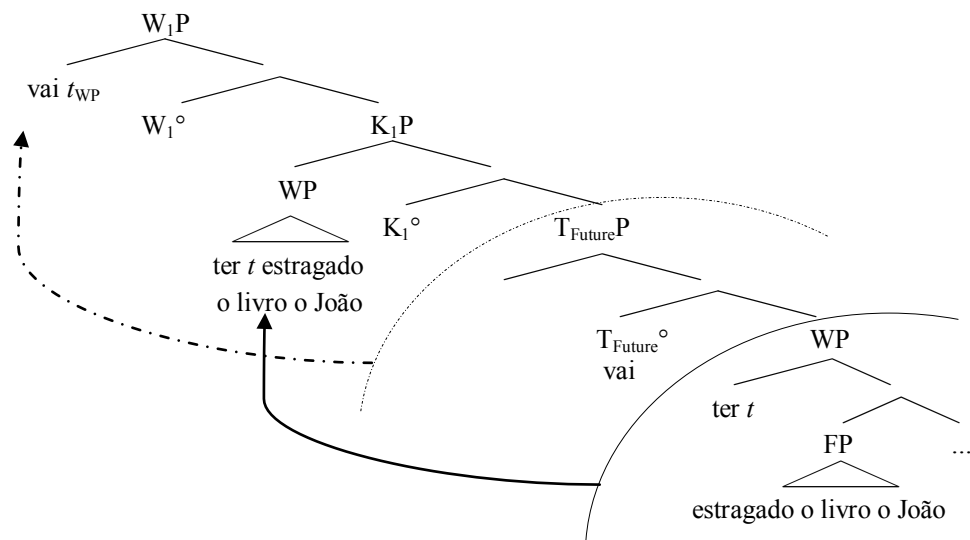


Fig. 5.25: Building (55) – VIII

I assume that the subject is extracted out of WP in [Spec, K₁P] and raises to [Spec, SubjP] for criterial reasons (see Rizzi 2004b, 2007) in the sequence. This stage of the derivational history of the sentences in (55) is represented in the syntactic marker below.

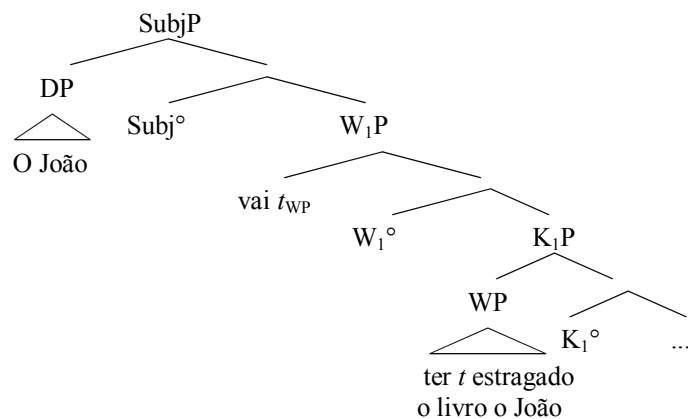


Fig. 5.26: Building (55) – IX

Until now, all the sentences in (55) have the same derivational history. Let us now discuss each sentence in particular. Starting with (55a), repeated below, for convenience,

- (55) a. O João vai ter estragado provavelmente o livro.
 The J. go.FUT.have damaged probably the book.
 'J. will have damaged probably the book.'

after the movement of the subject, the DP object is extracted out of WP in [Spec,K₁P]. It raises to the Spec of the probing head associated with *provavelmente* ‘probably’, here K₂[°], which is merged in the sequence (see fig. 5.27). After that, a further movement replaces the remnant (“O João vai ter estragado *t*”) in the next Spec (see fig. 5.28).

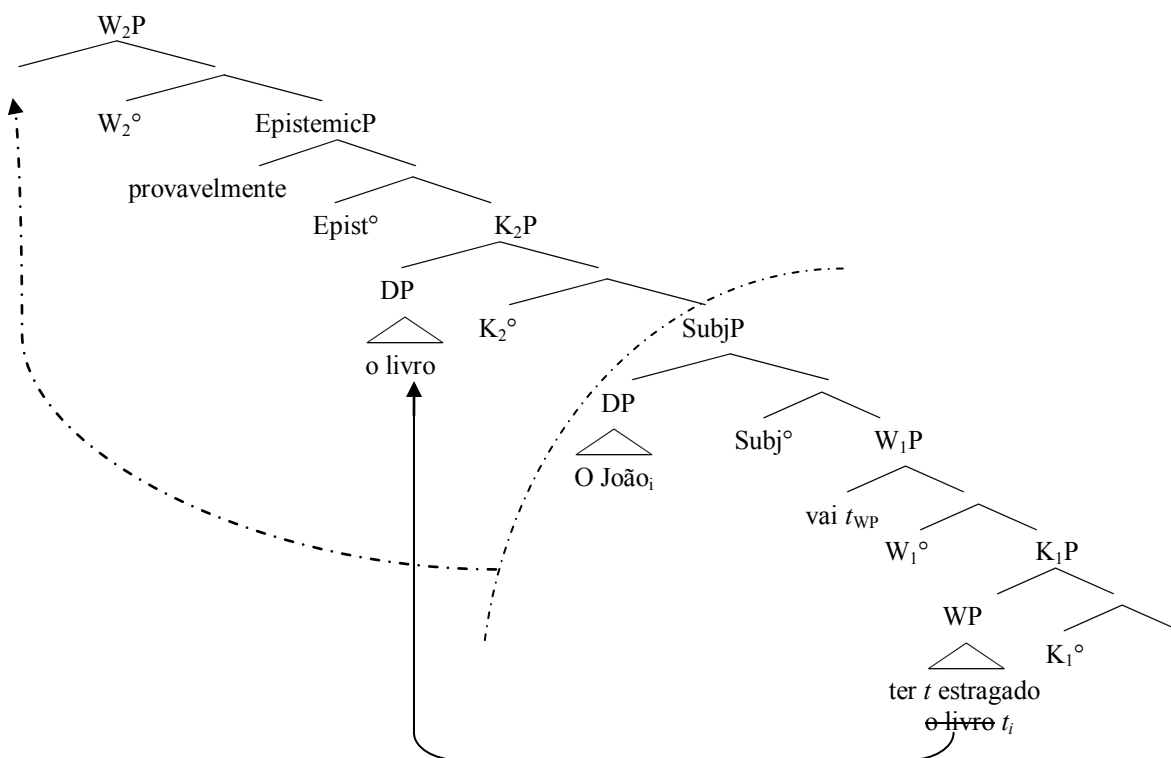


Fig. 5.27: The derivation of (55a), part I

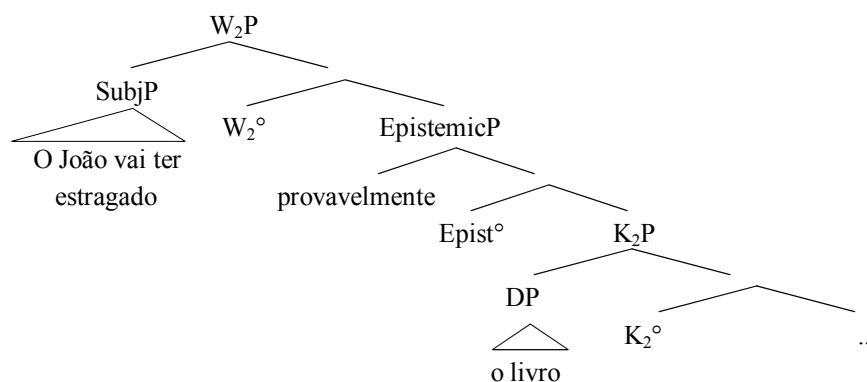


Fig. 5.28: The derivation of (55a), part II

The derivation of (55b-d) would resemble that of (55a) in that the probing head

associated with *provavelmente* ‘probably’ would attract a (different) piece of chunk. Thus, in (55b), it is *estragado o livro* which the probing head attracts; in (55c), *ter estragado o livro*; in (55d), *vai ter estragado o livro*. After this attraction, *provavelmente* merges in the Spec of the upper $\text{Mod}_{\text{Epistemic}}\text{P}$, followed by remnant movement (see fig. 5.29 below).

- (55) b. O João vai ter provavelmente estragado o livro.
 the J. will have probably damaged the book.
 c. O João vai provavelmente ter estragado o livro.
 The J. will probably have damaged the book.
 d. O João provavelmente vai ter estragado o livro.
 The J. probably will have estragado the book.

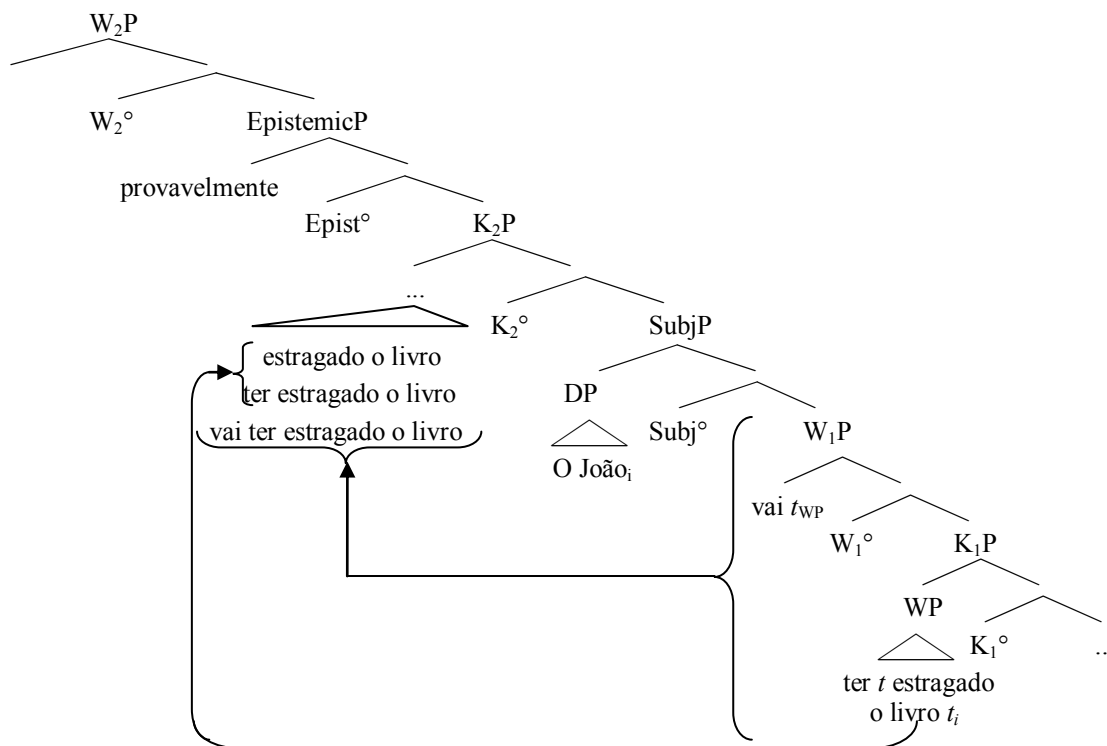


Fig. 5.29: the derivation of (55b-d)

(55e) would have a derivation where *provavelmente* remains *in situ*, and the probing head attracts the chunk “O João vai ter estragado o livro” prior to the merger of the epistemic adverb. In this case, there would be no further remnant-movement, as in those cases discussed in section 4 of chapter 3, where *only* and *even*, in English, precede the subject to focalize it. The difference is that in (55e) the adverb modifies the whole propositional content. Alternatively, one could assume that (55e) would have a derivation similar to (55b-d) but with further

movement of *provavelmente* to the left-periphery to check an information-structure feature.¹⁷³

- (55) e. Provavelmente o João vai ter estragado o livro.
Probably the J. will have damaged the book.

8. Conclusion

The main goal of this chapter was to provide an answer for the (apparent) paradoxical distribution of higher adverbs, mentioned in chapter 1, namely, the fact that they are ruled out sentence-finally in one case but can appear to the right of the lexical V to focalize an argument, in other cases. Any attempt to explain this on the basis of the putative V raising would only provide an explanation for one of these two distributional facts, leaving the other unexplained.

To solve this puzzle, I first begin by discussing the pertinence of the labels ‘higher’ adverbs/‘lower adverbs’ and their relevance to Linguistic Theory taking into account Rizzi’s (1997) and Cinque’s (1999) fine-grained representations. I elected a purely syntactic criterion, namely, the position the adverb occupies in the hierarchy, to pinpoint its status as “higher” or “lower” adverb. To arrive at this, I based my analysis on the (un)availability of the adverb sentence-finally. Only lower adverbs can appear sentence-finally with ‘flat intonation’.

In section 3, I discussed the data on higher adverbs presented in the *Introduction* to show how the generalization of Kayne’s treatment of *only* to adverbs can help us understand the paradoxes presented in section 1. In section 4, I suggested that generalizing Kayne’s theory to

¹⁷³ There is a way to decide which derivation would be the one which gives (55e). A well known fact from the syntax of BP is that this language is discourse-oriented, i.e. the privileged relation is the one between the entire sentence with a topic and not the subject-predicate relation (Pontes 1987; Negrão & Viotti 2000; Kato 1989, 1993, 2000; Duarte 1995, 2000; Galves 1983, 1998; a.o.). Thus, the constituent in the topic position can be resumed by a pronoun within the IP. Subject pronouns can resume the topic, as well. Thus, we can play with left-dislocated structures to decide if the *provavelmente* of (55e) is in the left-periphery or remains in *situ*. (i) would actually confirm the *in situ* analysis for *provavelmente* in (55e).

- (i) O João provavelmente ele vai ter estragado o livro.
The J. probably he will have damaged the book

It seems to me that *provavelmente* should be prosodically marked in (i). If in (55e) no special prosodic marking is necessary, we could think that in (55e) the adverb has not been moved to the left periphery.

all adverbs has the advantage of accounting for the distribution of some aspectual adverbs which can be generated into two quantificational zones in the IP space, without turning to the postulation of more positions for which one does not have independent semantic reasons. Apparent violations of the Cinque Hierarchy can be seen as consequences of movement operations, which, in Kayne's framework, are motivated by the need of assigning scope to the adverb. What matters from a Cartographic perspective is the "time" when the modifier enters the derivation, i.e. when it is externally-merged.

The issue of VP-ellipsis was considered in section 5 to support our Kaynean analysis of the distributional puzzles presented in § 1 and 3. Competitive analyses would have nothing to say on the possible recovering of lower adjuncts in the elliptical VP (as shown in section 5 of chapter 4) but, instead, on the impossible recovering of higher adverbs. If V adjuncts can be elided (Matos & Cyrino 2001, Cyrino & Matos 2002), the very fact that higher adverbs are not recovered by the elided VP is strong evidence for the contention that even in their focusing use, they are still merged in their Cinquean higher position.

Longobardi's (1992) 'Correspondence Hypothesis' was revisited in section 6 to provide additional evidence for a Kaynean treatment of Cinque's adverbs. The assignment of scope to higher adverbs, for instance, parallels the assignment of scope to *only* in that it is unbounded and ECP constrained. In section 7, I showed how higher adverbs interact with the raising of V and auxiliaries in BP. The *Appendix* which follows briefly addresses the question regarding the merger of auxiliaries in a Cinquean-like system.

Appendix – On the merger of the auxiliaries

Cinque (1999: 57; 2004) proposes that auxiliaries do not have a fixed position to merge. They enter the derivation in the X° of the correspondent FP to bear the affix that would otherwise remain stranded. The same suggestion is made in Bjorkman (2011).¹⁷⁴ According to this view, if the semantics required is that of, for example, the head ‘ Y° ’, the auxiliary would be merged in Y° to avoid affix stranding. If the semantics is that of a higher head, ‘ W° ’, the auxiliary would be merged in that head. Those cases involving auxiliaries like *would*, in English, would be the result of a movement of the Specifier containing *will* (after the merger of *will* and the creation of the two Kaynean heads) to [Spec,TPastP] to obtain *would*, i.e. the *future of the past*.

So far, so good. However, as already noticed by Cinque (1999, §6.2), the modal of Future (*will*) seems to be generated in lower positions in the structure not in $T_{\text{Future}}^{\circ}$, given that it cannot appear to the left of a lower AdvP like *never*, suggesting that it is probably merged very low in the structure, perhaps in some head between *completely* (Asp_{Sing}Completive(I)) and *well* (Voice).

(from Cinque 1999, §6.2)

- (1) a. Bill never will ___
b. * Bill will never ___
- (2) He said he would completely destroy it ... (?) and he completely will/has.
- (3) (He said he would do his homework somehow by tonight.)
 - a. * ... and he well will/has
 - b. * ... and he will/has well.
- (4) (He said he would wake up by himself.)
 - a. * ... and he early will/has
 - b. * ... and he will/has early
- (5) (He said he would finish his homework by tonight.)
 - a. * ... and he fast has/will
 - b. * ... and he has/will fast

The data seem to suggest that these heads are generated in a lower position (cf. (1), which

¹⁷⁴ If auxiliaries do not have a fixed position to merge but enter the derivation to bear an affix which would remain stranded, Bobaljik’s (1999) ‘Hierarchy Paradox’ is weakened.

shows that *will* cannot appear to the left of a lower AdvP like *never* [AspPerf]) nor to the left or to the right of *well* and all AdvPs following it in the hierarchy (see (3-5)). The remaining option would be to generate the auxiliary in vP-shells to the left of *well*, but preceding *completely* (Cinque 1999, §6.2), i.e. to generate them in the head of a functional head between *completely*_(I) and *well*_(Voice).

Data from BP would also suggest that auxiliaries in ‘head initial’ languages should also be merged in lower positions in the structure, given their relative position to lower AdvPs (like *já* ‘already’):

- (6) a. Eu já tinha comprado o livro.
 I already had bought the book
 ‘I had already bought the book.’
 b. *Eu tinha já comprado o livro.
 I had already bought the book.

(6) also seems to suggest that the auxiliary *ter* ‘have’ should enter the derivation in a medial position in BP. I will take this position to be $T_{Anterior}^{\circ}$, which happens to be the head to the immediate right of the $T_{Anterior}$ -AdvP *já*.¹⁷⁵ *Já* can be pied-piped in the pictures-of-whom mode by the projection containing the auxiliary, so as to keep with Vikner’s (1985) tripartite symbolic representation of Tense¹⁷⁶. Since (6b) shows that the auxiliary cannot move to the left of *já*, but must be generated on its right (see (6a)), I will take this head to be the head where the first auxiliary is merged.

More complex cases like (7) would receive an straightforward treatment, I think, if they

¹⁷⁵ Here, I am assuming Cinque’s (2010) shell-structure for AdvPs and Functional heads (cfr. chapter 2, § 6). Thus, one actually has “[AdvPT_{Anterior}P *já* F° [X.. [T_{Anterior}P T_{Anterior}[°] ...]” where “.X..” should be understood as a ‘space’ for internal merge, whenever Kayne’s (1998, 2005) derivations are called for, for instance, when an auxiliary is merged in T_{Anterior}[°], since we are assuming that auxiliaries enhance a “try to leave-structure”, along the lines of Kayne (2005).

¹⁷⁶ For T_{Future}, for instance, it can be argued that the analytic form in BP, namely, *vou* (‘go’.PRES.1SG) + infinitive (e.g. ‘vou cantar’ (I will sing)) is derived by merging the infinitival verb as the head of the VP, followed by successive movements of this VP. The auxiliary of the future would be merged in T_{Anterior}[°] with the *default* features of that projection, namely, [-anterior]. Two Kaynean heads would be projected next. *Vou* ends up being the Specifier of (Kayne’s) W[°] (C[°]/P[°] of his (2005) work). *Já* is merged in the sequence, in a Spec to the left. Then, only XP movement pied-piping in the pictures of whom mode will be possible from that position on, unless a focusing higher AdvP enters the structure.

follow the same line of reasoning proposed here.

- (7) (Semana que vem, nessa hora,
(Next week this time,)
O Zé já vai estar chegando no aeroporto.
The Zé already go.2.Sing.PRES be.INF arriving.GER at the airport
'This time next week, Zé will be arriving at the airport.'

The derivation of (7) begins with the merger of *chegando* 'arriving' which projects the VP. Successive (XP-)movements (Spec-to-Spec) of this V form will apply, up to [Spec,DurativeP] obviously passing through [Spec,ProgressiveP] to check the [+progressive] feature. *Estar* 'to be' is merged in $\text{Asp}_{\text{Perf}}^{\circ}$, triggering the creation of the two Kayne's heads and coming to occupy the Spec of the highest one. The Spec containing *estar* will keep moving from Spec to Spec up to the Spec immediately c-commanded by $\text{T}_{\text{Anterior}}^{\circ}$. The "[–anterior]" feature is merged when *vai* enters the derivation in $\text{T}_{\text{Anterior}}^{\circ}$. Once again, two heads are created, with *vai* raising to the Spec of the highest one. After that, *já* is merged in [Spec, $\text{AdvP}_{\text{Anterior}}$ P]. To guarantee the checking of all F° s of the IP, XP-movement of the Spec containing *vai* will apply, this time by pied-piping *já* and all the FPs to its left in the pictures-of-whom mode.

Chapter 6:

Floating Quantifiers as Scope-inducing

Elements:

Where do they Merge? Are they Real

Diagnostics for Verb Raising?

“Be careful where you float your quantifiers.” (Bošković 2004)

Since Sportiche (1988), Pollock (1989) and Koopman & Sportiche (1991), floating quantifiers have been taken as diagnostics for verb movement, on the basis of two theoretical assumptions: (i) the ‘Stranding Approach’ (Sportiche 1988, a.o.) to floating quantification, according to which floating quantifiers are merged with their associated nominal, and (ii) the ‘VP-Internal Subject Hypothesis’ (Koopman & Sportiche 1991), which defends that subjects are merged within the “VP” (say, as specifiers of ν P, in current terms). (ii) is dependent on (i) in the sense that (i) provides the appropriate syntactic context to justify (ii). The tradition in Generative grammar has taken floating quantifiers (FQs) to be diagnostics for verb movement (see, for instance, Ambar 1987, 1989, 2008; Belletti 1990; Costa 1998, 2004a; Costa & Galves 2002; Figueiredo Silva 1996; Galves 1994[2001], a.o.) based on the assumption that, being merged together with their associated DP, they would enter the derivation in $[Spec, \nu P]$, given the VP-Internal Subject Hypothesis. Thus, if the DP raises to $[Spec, IP]$ for case-reasons/EPP and leaves the floating quantifier stranded in $[Spec, \nu P]$, they would indicate if V would have raised to I, for instance, in SV contexts.

In the 90’s, in response to the traditional ‘Stranding Approach’ to the syntax of Floating Quantification, another theoretical framework has been put forward, built on previous analyses (Jackendoff 1972, Kayne 1975, a.o.) which treated FQs as adverbs, the so-called ‘adverbial approach’ (Bobaljik 1995, 2001; Doetjes 1997; Brisson 1998, 2000; Fitzpatrick 2006, §2.6). It claims that FQs do not merge within the DP. Given that their distribution resembles that of adverbs, the adverbial approach (Bobaljik 2001) rejects the contention that FQs are

the result of stranding. Rather, they are seen as adverbial-like elements merged in the extended projection of V.

*Given that the main goal of this dissertation is to provide an analysis of verb raising in BP, the first attempt of this chapter is to review the pros and cons of the stranding approach. Consequently, I will do the same for the adverbial approach. I will opt for the latter, though I will propose a new version of it, again based on Kayne's (1998) theory of scope-assignment. FQs will also be treated as scope-inducing elements. In particular, I will argue against the contention that FQs are freely ordered with respect to higher modal AdvPs, a common assumption made by the supporters of the adverbial approach (see Bobaljik 1995; Brisson 1998, 2000; Fitzpatrick 2006, chapter 2). I propose rather that their apparent free ordering is due to the fact that the familiar series of movements for the purpose of scope-assignment (à la Kayne 1998), see the previous chapter, gives us the illusion that they do not have a fixed position to merge. All this theoretical lucubration will be developed to test the validity of the 'floating quantifier test' for verb raising. The suggestion is that universal FQs are **not** reliable diagnostics for V-raising, given the fact that floating 'all' in English and its Romance counterparts merge in a very high position within the IP. As such, they could not be taken as (reliable) diagnostics for the V raising phenomenon, contrary to the tradition built on it.*

*Since the main goal of this dissertation is the analysis of V raising in BP, universal FQ **todos** 'all' is not of help, given that it is merged in a very high position in the IP, which is inaccessible for V raising.*

1. Introduction

Two main approaches to the syntax of floating quantification have been developed in the last three decades, namely the 'adverbial approach' and the 'stranding (or 'movement') approach'. Proponents of the former believe that FQs are adverbial elements that, in some sense, do not directly quantify over their related nominal (Bobaljik 1995, Doetjes 1997; Brisson 1998, 2000). The stranding theory, on the other hand, proposes that floating quantification is the result of the stranding of the quantifier by the movement of its associated-nominal (Sportiche 1988, Giusti 1990, Shlonsky 1991, Boskovic 2004, a.o.). In this chapter, I will provide evidence favoring the adverbial analysis, at least for universal FQs, like English *all* (cf. section 3.2).

My main goal is to provide an answer to both a general and a specific question, namely: (i) are FQs reliable diagnostics for V raising? (ii) what can FQs tell us about the phenomenon of verb movement in Brazilian Portuguese?

The initial goal is to pinpoint the position in which FQs enter the derivation, assuming the Cartography tenet that there is a unique, universal underlying hierarchy for the clausal elements and its main phrases, which guides the order that they enter the derivation (as outlined, for instance, in Cinque’s recent work (cfr. Cinque 1999, 2004, 2005, 2007, 2008, 2009, 2010a,b, 2013, *f.c.*)). The present discussion thus aims at clarifying the distribution of ‘floating’ quantifiers relative to other adverbs of Cinque’s (1999) hierarchy and other elements of the clausal structure (e.g. their associated nominal, the predicate, etc.).

As we will notice in section 3.2, proponents of the adverbial theory have argued that FQs and modal adverbs are freely ordered among each other (Bobaljik 1995; Brisson 1998, 2000 and Fitzpatrick 2006). Though assuming the view that FQs like *all* (BP *todo(a)(s)/tudo*; Italian *tutto/i*, *tutta/e*, etc.) are modifiers merged within the IP (thus having a sort of ‘adverbial-like’ nature—to which I will return to in due time) in BP, French, Italian (thus, Romance) and English, I argue against the view that universal FQs are freely ordered with respect to other higher adverbs. Rather, I propose that they do have a fixed position of Merger which is very high in the IP, necessarily to the left of Mod_{Evidential}P (see section 3.2). The apparent freedom they enjoy with respect to modal adverbs is the result of a series of movements which has the effect of reversing their order.

I begin the chapter with a brief theoretical background (section 2). I present the ‘stranding theory’ (§ 2.1), its advantages (§ 2.1.1) as well as some of its drawbacks (§ 2.1.2). In section 2.1.3, I discuss the validity of the advantages presented in § 2.1.1. In section 2.2, I introduce the ‘adverbial theory’ and provide some of the arguments that scholars of this approach generally cite to defend its validity. Subsequently I bring English data on adverbial distribution relative to verbal elements (§ 3.1) and do the same for FQs (section §3.2). The distribution of the FQ *all* and AdvPs is also discussed in section 3.2, where I suggest that the same (Kaynean) treatment generalized to adverbs (cfr. chapters 3, 4 and 5) can also be extended in the domain of floating quantification. I argue that such an approach would explain the distribution of FQs relative to V and other AdvPs as well as the distribution of V relative to higher, focusing AdvPs. The conclusion is that FQs are *not* reliable diagnostics for V movement, since they are merged in a higher position in the structure and the surface position of V relative to them is the result of movement of larger pieces of structure. In section 4, I provide some arguments for the scope-inducing nature of universal floating quantifiers. Section 5 will show how the version of the ‘adverbial approach’ proposed here,

coupled with the assumption of the Cinque hierarchy, will help us to understand the distribution of ambiguous adverbs. Section 6 is dedicated to the syntax of universal FQs in BP. Thus, in § 6.1, I explain why BP data on universal FQ *todos* cannot help us discover the position this quantifier occupies among the modifiers of the Cinque (1999) hierarchy. Next, in §6.2, I propose an explanation for the prohibition of universal FQs sentence-finally. In § 6.3 I discuss the placement of universal FQ *todos* among a sequence of auxiliaries. Section 6.4 provides an additional puzzle for the Stranding Approach.

2. Two main approaches to the Syntax of ‘Floating Quantification’

In this section, I provide an overview of two main theories of ‘floating’ quantification, namely, the stranding (or movement)¹⁷⁷ theory and the adverbial theory. Of course, there are many divergences among scholars working within each approach. Even the proposal I advance in this chapter (§ 3), which considers FQs as modifiers merged in the extended projection of V, departs from the most representative adverbial analyses (Bobaljik 1995, 2001; Doetjes 1997; Brisson 1998, 2000; Fitzpatrick 2006, chapter 2) in many aspects, namely, (i) in that my proposal states that FQs like *all* are **not** freely ordered with respect to other modal adverbs and (ii) in that it is not totally exempt from movement. I start by presenting a brief overview of the stranding theory (2.1), as well as its main advantages (2.1.1).

2.1 The Stranding Theory

The stranding theory aims at accounting for the apparent lack of semantic difference between floating (1b) and non-floating quantifiers (1a):

- (1) a. [*All* the students] have had lunch.
b. [The students] have *all* had lunch. (Fitzpatrick 2006: 14)

¹⁷⁷ The labels “stranding” or “movement” approach to floating quantification refer to the same theoretical bulk of work, where floating quantifiers are seen as the result of the movement of their associated nominal (to the left), stranding them. These labels would thus be interchangeable here but I will use the term “stranding approach” given the fact that, in spite of assuming (a modified version of) the so-called adverbial approach, my (adverbial) analysis will not be exempted from syntactic movements (see § 3.2).

In (1a), the nominal quantification is said to be the result of merging the DP *the students* together with the quantifier *all*, i.e. as ‘constituent-mates’.¹⁷⁸ The stranding analysis also predicts that the nominal quantification in (1b) would arise by the same mechanism: *all* and *the students* would be constituent-mates in a step of the derivation of (1b), namely, when the entire nominal expression (i.e. “All the students”) is merged in [Spec,*v*P], see (2a) below:

- (2) a. [TP ___ [T^r have [VP [DP all the students] had lunch]]]
 b. [TP [DP All the students] [T^r have [VP t had lunch]]]

According to Koopman and Sportiche’s (1991) “VP-internal Subject” hypothesis, on its movement to (what corresponds in current Minimalist theory to) [Spec,TP], the subject could leave the floating quantifier stranded in the low subject position where it is generated (3b):

- (3) a. [TP ___ [T^r have [VP [DP all [DP the students]] had lunch]]]
 ↑
 b. [TP [DP The students] [T^r have [VP [DP all t] had lunch]]]

Thus, the contention that floating quantificational structures are related to non-floating ones *via* movement is the central idea underlying the stranding approach (see (2a), (3a)). This amounts to saying that, according to this framework, the quantifier is semantically composed with its associate DP in one level of representation. In Sportiche’s (1988) analysis, FQs appear in an argument position attached to an empty nominal of some sort, namely, a trace of movement. Koopman & Sportiche (1991) avail themselves of Sportiche’s (1988) stranding theory to support their *VP-internal subject hypothesis*. The fact that a quantifier may appear in the preverbal position whilst its associated nominal occupies the EPP-subject position (cfr. (3b) below) is interpreted by the stranding theory as evidence for the VP-internal Subject Hypothesis: FQ and its associated nominal are generated together (as phrase-mates) in [Spec,*v*P]. The nominal associate moves to [Spec,IP] for case reasons and to satisfy the EPP

¹⁷⁸ This analysis of (1a) does not change under the adverbial theory. The fact that FQs are adverbial elements in the extended projection of the V does not exclude the possibility that these elements may be modifiers in the extended projection of N. In Cinque (2011, 2012[class lectures]), universal quantifiers, for instance, are one of the highest modifiers within the extended projection of N. Cardinaletti & Giusti (1990) and Giusti (1996) provide a different analysis, namely, they propose that FQs make an extended projection on their own. Independent of these subtle differences, the interesting point here is that these

and may leave the FQ stranded in its base-generated position. For these reasons, FQs would also be diagnostics for V-to-I movement, since, being stranded in [Spec,*v*P], they would indicate if the V left the VP.

2.1.1 Some advantages of the Stranding Approach

The following facts are generally mentioned to support the stranding analysis of the floating quantification phenomenon (cfr. Fitzpatrick 2006 and references cited there):

- (i) it is compatible with the VP-internal subject hypothesis;
- (ii) it explains the (semantic) similarity between floating and non-floating Qs;
- (iii) it explains the agreement patterns that often arise with FQs. In French (and Standard BP), for instance, the quantifier agrees, within the nominal expression, with its constituent-mate (cfr. (4a,c)). The same agreement facts arise in a floated context (see (4b,d)).

(4) *French* (Fitzpatrick 2006: 17)

- a. Toutes/*tous les femmes sont arrivées.
All-FEM/*-MASC the women are arrived
'all the women have arrived'
- b. Les femmes sont toutes/*touts arrivées.
The women are all-FEM/*-MASC arrived
'The women have all arrived.'
- c. Tous/*toutes les hommes sont arrivés.
All-MASC/*FEM the men are arrived.
'all the men have arrived'
- d. Les hommes sont tous/*toutes arrivés.
The men are all-MASC/*-FEM arrived
'the men have all arrived'

Proponents of the stranding approach argue that both floated and non-floated structures exhibit the same agreement pattern due to the fact that FQs start the derivation as non-floated ones, i.e. as modifiers of their associated nominal (for instance, within the nominal expression/DP). In *Appendix 1* of this chapter, I show how the adverbial approach would

proposals all clearly state that Qs may be (also) merged on the top of the DP.

account for these agreement facts, based on Fitzpatrick (2006, chapter 2).

- (iv) the distribution of FQs (Boskovic 2004): FQs appear in original or intermediate positions of nominal/argument phrases cfr. (3b) given above).

In section 2.1.3, I will succinctly review each of these four arguments and argue that they cannot be taken to support the stranding view. Rather, some of them would actually favor an adverbial analysis of floating quantification.

2.1.2 Some drawbacks of the Stranding Approach

The fact that FQs may precede or follow almost all auxiliaries (see (5)) has been provided as evidence supporting the conjecture that they are stranded by their NP/DP associated on its movement to higher positions of the clause.

- (5) We (all) could (all) have (all) been (all) running a marathon by now. (Harwood 2011: 2)

Nonetheless, there are contexts where FQs could not be taken as reliable trace indicators. Sometimes they give a false negative, i.e. they cannot appear in contexts where they would be expected to (Bobaljik 1995, chapter 4; Fitzpatrick 2006, § 2.2.1). There is plenty of evidence to believe that the syntactic subject of unaccusatives and passives is actually the logical object, i.e. the constituent which receives the theta-role assigned to objects. Certain intransitive structures (unaccusatives, passives), for instance, contain a ‘post’-verbal DP complement position that is related to the surface subject. English passive structures like *be arrested* (cfr. (6a)) and unaccusatives (6b) would provide evidence for this (see Bobaljik 1995, chapter 5; Fitzpatrick 2006, chapter 2, a.o.). Unergative Vs do not have a post-verbal position for the DP-complement (see (6c)):

- (6) a. There were arrested over five-hundred protesters. (Passive)
b. There arrived a letter for you today. (Unaccusative)
c. *There danced many students on the floor. (Unergative)

Italian also provides evidence in this direction. As Fitzpatrick (2006, chapter 2) notes, *ne*-cliticization is only possible with passives (see (7)) and unaccusatives (see (8)). Unergative verbs do not allow *ne*-cliticization (cf. (9)):

Italian (Fitzpatrick 2006: 20ff.)

- (7) a. Furono arrestati molti studenti.
 Were arrested many students
 ‘Many students were arrested’
 b. Ne furono arrestati molti (Passive)
 of-them were arrested many
 ‘Many of them were arrested’
- (8) a. Arrivarono molti studenti.
 Arrive many students
 ‘Many students are arriving.’
 b. Ne arrivano molti
 of-them arrive many
 ‘Many of them are arriving.’
- (9) a. Telefonano molti studenti.
 Call many students
 ‘Many students are calling.’
 b. *Ne telefonano molti.
 Of-them telephone many
 Intended: ‘Many of them are calling’

Given the plethora of evidence presented above for a post-verbal DP complement position with unaccusatives and passives, but not with unergatives, the stranding analysis would thus predict that a FQ must not be found in the post-verbal position of an unergative V. This is borne out by the data given in (10e). However, the same theory would predict that a FQ should be found in the post-verbal position in unaccusative and passive constructions (see the discussion in Bobaljik 1995, chapter 4; Fitzpatrick 2006: 36ff). Yet, this prediction is not borne out by the data (see (10a,c)).

- (10) a. *The suspects have been arrested all. (Passive)
 b. The suspects have all been arrested.
 c. *The students have arrived all. (Unaccusative)
 d. The students have all arrived.
 e. *The finalists have danced all. (Unergative)
 f. The finalists have all danced. (Fitzpatrick 2006: 39)

French also provides evidence in the same direction, thus against the stranding approach. One should expect to find a FQ in post-verbal position in French only with unaccusatives and passives. However, judging from Sportiche (1988), a FQ can always be found in a post-verbal position, independent of the verb class (i.e. unaccusative, passive, unergative) (cfr. Fitzpatrick 2006: 39-40). That would deny any attempt that explains the phenomenon of ‘floating quantification’ through (i) Merge of the FQ and its nominal associate together followed by (ii) movement of the associated (which in turn strands the FQ).

- (11) *French* (Sportiche 1988: 437; Fitzpatrick, 2006: 40)
- a. Les enfants ont été vus ?tous/presque tous (Passive)
The children have been seen all/almost all
‘the children have all come.’
 - b. Les enfants sont venus ?tous/presque tous. (Unaccusative)
The children are come all/almost all
 - c. Les enfants ont dormi ?tous/presque tous. (Unergative)
the children have slept all/almost all
‘the children have all slept’

Thus, the invariant behavior of English and French FQs in post-verbal position is a strong argument against the stranding analysis, if one assumes that the complement of V is generated to its right, as in the traditional Larsonian approach.

In addition to these predictions made by the stranding approach which are not confirmed by the data, there is another objection to this theory. As noted by Guglielmo Cinque (personal communication), if FQs were the result of stranding by the movement of their nominal associate, we should not expect to find sentences like (12a,b,c) where a FQ appears at the top of the nominal expression and the same FQ is appearing within the IP.¹⁷⁹

- (12) *Italian* (G. Cinque, p.c.)
- a. Tutti i bambini sono usciti tutti alle 5.
All the children have left all at 5.
‘All the children have left [_F at 5].’

¹⁷⁹ The adverbial theory does not rule out the possible co-occurrence of two homonymous quantifiers (one merged within the nominal expression and the other merged in a sentential adverb-like position in the clause) (G. Cinque, p.c.), thus providing a favorable explanation under the theories on the (partial) parallels between the nominal expression and the clause (argued for, for instance, in Abney 1987, Giusti 2006 and Laenzlinger 2011).

- b. Tutti i ragazzi volevano uscire tutti con Maria.
 All the guys wanted to go-out all with Mary.
 ‘All the guys wanted to go out [_F with Mary].’
- c. Tutti i ragazzi sono usciti tutti con Maria.¹⁸⁰
 All the guys have gone-out all with Mary.
 ‘All the guys have gone out [_F with Mary].’

The adverbial approach does not predict that the two quantifiers in each one of these sentences given in (12) are part of the extended projection of V. Rather, one comes from the extended projection of V and the other from the extended projection of N. It is not possible to have two homonymous adverbial (thus, FQ) *tutti* related to the subject if both of them are merged in the extended projection of V:

- (13) *I ragazzi sono tutti usciti tutti con Maria. (Italian)
 The guys are all gone-out all with Maria. (G. Cinque, p.c.)¹⁸¹
 ‘The guys have all gone out all with Maria.’

Another disadvantage of the stranding approach has to do with the fact that it fails to explain why FQs cannot appear in any *theta-positions* (Bobaljik 1995; Fitzpatrick 2006, chapter 2)¹⁸². If

¹⁸⁰ Giuliana Giusti (p.c.) considers this sentence unacceptable in her Italian. She also observed that, even if it is acceptable for some speakers, one would explain the co-occurrence of the two universal quantifiers *tutti* ‘all’ by turning to the copy theory of movement (Chomsky 1995; Nunes 1995). In some cases, as in (12c), the trace would, for some reason, remain pronounced.

¹⁸¹ Giuliana Giusti (p.c.) provided the sentence (i) below which is considered better, in her Italian, than (13):

- (i) I ragazzi sono usciti tutti ieri sera alle dieci tutti con Maria.
 The boys were left all yesterday night at 10 o’clock all with Mary
 ‘The boys all left yesterday night at 10 o’clock all with Mary’

(i), coupled with the observation on the copy theory of traces (mentioned in the previous footnote), would perhaps favor a stranding-like analysis.

(i) could be problematic for the analysis proposed here, unless one states that the floating quantifier leaves its position of Merge, and then moves to a higher information-structure position.

¹⁸² Harwood (2011) suggests that this prohibition is due to a ‘Principle of Late Adjunction’, which he attributes to work by Stepanov (2001), according to which adjoined elements—he takes FQs to be adjoined elements—can only be merged in the left edge of a phase. Harwood takes $\text{Asp}_{\text{Progressive}}^{\circ}$ to be the lowest phasal head, and not ν° , as standardly assumed in the minimalist tradition (Chomsky 1998, 2001). Thus, in his view, only after the raising of the subject to [$\text{Spec}, \text{Asp}_{\text{Progressive}}$], i.e. to the left edge of the lower phase, the FQ can be adjoined. It explains, according to him, why FQs cannot appear in lower positions where, under the traditional stranding view, they were expected to. I will not assume this view here (see section 3.2, where I present my own proposal, which is an extension of Kayne’s theory to FQs as well). The assumption of Harwood’s analysis would nonetheless leave unanswered the question of why

they are phrase-mates of the associated DP/NP, they should be expected in theta-positions as well. The data in (14d-e) and (15) show that they cannot appear in low argument positions, which is unexpected under the stranding theory. Yet, this restriction is not limited to argument positions. They cannot appear in lower positions in the clause in English (see (14-15), from Fitzpatrick 2006: 42ff.)).

- (14) a. The vegetables *all* will have been being roasted for an hour by the time you arrive.
 b. The vegetables will *all* have been being roasted for an hour by the time you arrive.
 c. The vegetables will have *all* been being roasted for an hour by the time you arrive.
 d. ?*The vegetables will have been *all* being roasted for an hour by the time you arrive.
 e. *The vegetables will have been being *all* roasted for an hour by the time you arrive.
- (15) a. ?*The students could have been *all* intelligent.
 b. The students could have *all* been intelligent.

One could argue that FQ are not possible in lower positions because they could interfere with *theta-role* assignment, following a conjecture made in Chomsky (1986: 16, attributed to Kyle Johnson) (see also the previous footnote for another possible explanation). However, as Fitzpatrick (2006: 42, fn. 2) correctly points out, *theta-role* assignment could not be the reason for their unacceptability in ‘theta’ positions given their unavailability in other lower positions as well—cfr. (14 d,e) which shows that they are ruled out below *been* (see again the previous footnote for an alternative interpretation of the facts).

These drawbacks not only cast doubts on the basic tenets of the stranding approach to floating quantification but also sets the stage for the development of alternative proposals like the adverbial approach, discussed in the following section.

2.1.3. No Advantage for the Stranding Approach

In Section 2.1.1, I have presented four major ‘advantages’ of the stranding approach, which are: (i) its compatibility with Koopman & Sportiche’s (1991) VP-internal subject hypothesis; (ii) the (semantic) similarity between floated and non-floated Qs; (iii) the agreement patterns which (often) arise with FQs (cfr. the examples (4a,c) of § 2.1.1); and (iv) the distribution of

universal FQ *all* cannot appear to the left of speech act and mirative adverbs (see § 3.2 below).

FQs which appear in original or intermediate positions of nominal/argument phrases.

Now, under the view that FQs are modifiers merged in a dedicated position within the IP, the question remains as to how these four facts could receive an explanation within the adverbial framework.

As for the VP-internal Subject Hypothesis, it is not yet completely understood if subjects are generated within the VP. Actually, in the version of the Cartography framework which guides this dissertation (cfr. Cinque 2006, 2010b, 2013 and subsequent work), the Subject is not (externally) merged in '[Spec,*v*P]'. The reason for this is that there could perhaps be no *v*P at all—or, say, no Larsonian *v*P-shells structure—or that what is referred to as *v*P in the minimalist tradition would not correspond to a unique functional projection under a Cartography framework. In fact, Cinque (2006, 2007, 2010b, 2013) develops a proposal where the first element merged in the extended projection of V is the V. This (sole) V projects a phrase (call it VP) which has no complement and no Spec.¹⁸³ The logical subject is merged in the specifier of a Functional Projection to the left of two other arguments (also merged in dedicated specifier positions) hierarchically ordered according to their thematic roles (Cinque 2010b) (see chapter 2, § 6 for further explanations on this subject). The crucial point is that under this view there is no need to assume the VP-internal Subject Hypothesis. One problem that the VP-internal Subject Hypothesis brings with it is that it fundamentally depends on the assumption of a Larsonian VP-shell structure. Larson's (1988) VP-shell structure is costlier than Cinque's, since the former approach needs two different structures to account for the merger of the arguments of V. Larson's approach essentially depends on the presence or absence of the indirect object. When it is present, the direct object is merged in the Spec of the lower VP and the PP object is merged as the complement of the lower V. Rather, in the absence of an indirect object, the direct object is merged as the complement of the lower V. Thus, Larson's analysis needs to play with two structures and abandons Baker's UTAH. Cinque's approach does not have problems with this duality since it proposes that everything is always merged to the left of V, respecting an underlying hierarchy. Thus, the only difference would be having or not having an object preceded by a preposition. To conclude, there is no need to assume the VP-internal Subject Hypothesis.

¹⁸³ As G. Cinque has pointed out to me (p.c.), this is not a problem for his proposal, given the assumption of Chomsky's (1995) *Bare Phrase Structure*. In the Bare Phrase Approach, there is no preconceived phrasal structure, differing from the more traditional X-Bar view where every phrase has a specifier, a head and a complement. Thus, under the Bare Phrase Approach, a projection can be Specifier-less and complement-

Regarding the second point, the (semantic) similarity between floated and non-floated Qs, it has been shown that two Qs can co-occur in the same sentence, one merged in the extended projection of the N and the other (possibly) as an adverbial modifier within the IP. The fact that they may co-occur strongly suggests that stranding is not responsible for floating quantification. From this viewpoint, the argument of semantic similarity actually provides no support to the stranding approach. The idea of “(semantic) similarity” is very likely to be correct, but the explanation the stranding theory provides for this does not seem to be valid. By pursuing the idea that (at least partial) parallels exist between nominal expressions and clauses (Abney 1987; Giusti 1993, 2006; Laenzlinger 2011, a.o.), the fact that the same quantifier may be found both in the clause and in the nominal expression clearly provides support to the contention that nominals would resemble clauses (and vice-versa) in a couple of ways. The maximizing effect (Brisson 1998, 2000; Fitzpatrick 2006) of quantifiers like *all* can both be a property of nominals and clauses. As a conclusion, the idea of semantic similarity, in the best of possible worlds, is better explained within an approach which not only realizes that a quantifier may appear in the domain of the clause and in the domain of a nominal but also avoid turning to ‘stranding’ mechanisms to explain the distribution of floating quantifiers. The adverbial theory, as we will see in section 2.2, does not deny the possibility that a quantifier may appear within the nominal expression if it is generated there. This theory only proposes that the phenomenon of floating quantification is due to the merger of a quantifier as a modifier within the extended projection of V. Thus, it is fully compatible with the contention that floated and non-floated structures may be semantically similar.

The third fact mentioned in section 2.1.1, namely, the agreement patterns which (often) arises with FQs (see the examples (4a,c)) has been taken by proponents of the stranding approach as an advantage of their theory. Yet, as Fitzpatrick (2006: 65ff) notes, defendants of the adverbial approach argue that there are many other instances of Agreement in number, gender and case which can be observed between elements which seem to not be related syntactically. Some of these cases will be discussed in *Appendix 1* of this chapter. Thus, the idea that the quantifier and its associated nominal were phrase-mates in a previous level of the representation, as argued by the stranding approach, should not be the reason for the agreement of the FQ with its associated NP/DP. Furthermore, as Fitzpatrick (2006: 64ff.)

argues, this agreement may be due to the fact that adverbial FQs contain a null pronominal *pro* element (see *Appendix 1* at the end of this chapter), which is semantically related, perhaps by binding, to the associated nominal:

(16) [_{DP} The students]_i will have [_{VP} all *pro*]_i¹⁸⁴ [_{VP} t had lunch]] (Fitzpatrick 2006: 39)

The last argument presented by scholars of the stranding approach, namely, the distribution of FQs which appears in original or intermediate positions of nominal/argument phrases may also find an explication under the adverbial approach, as suggested in section 2.2 and 3. Those intermediate positions are the same positions where higher (generally modal) adverbs of Cinque's hierarchy may also appear in English (see section 3.2). Those distributional facts suggest that floating quantifiers have adverbial distribution because they are also modifiers in the extended projection of V (Bobaljik 1995; Brisson 1998, 2000; Fitzpatrick 2006 (chapter 2, for *all* in English and *tous* in French); a.o.). I will argue that in this use floating quantifiers actually resemble focusing adverbs like *only* (Kayne 1998) and higher/medial adverbs when used as focalizers (see Cinque 1999, §1.6; 2004; see also chapter 5 of this dissertation, for a more detailed discussion, and § 3.2 in the following). Once again, we have plenty of evidence to state that the facts presented by scholars to support the stranding approach have been misinterpreted and could actually find a more convincing explanation under the adverbial approach proposed here (see section 3.2), which is nothing but an extension (and a revisited version) of Kayne's (1998) theory of scope-assignment.

¹⁸⁴ As in Doetjes (1997), Fitzpatrick assumes that the QP adjoins to the VP. Although I am assuming (a modified version of) the adverbial approach, I will argue that universal FQs do not adjoin to VP. They are rather merged in the Spec of a very high functional projection in the IP space.

2.2. The Adverbial Theory of floating quantification

From the previous discussions, the reader may have already grasped the general idea proposed by the adverbial theory of floating quantification. Its traditional version (Bobaljik 1995; Doetjes 1997; Brisson 1998, 2000; Fitzpatrick 2006¹⁸⁵) proposes no transformational relation between the ‘FQ’ and the associated DP. FQs would be adjuncts to VP or some larger projection of the low inflectional area (Fitzpatrick 2006).

The main advantages of the adverbial theory are summarized below:

- (i) it provides a natural explanation for distributional facts: FQs like *all* overlap in distribution with modal adverbs (Bobaljik 1995, chapter 4; Fitzpatrick 2006, chapter 2)—see below;
- (ii) FQ *all* in English cannot occur in positions where there is no left edge of a predicate XP, but in which we have independent reason to posit a DP trace (Bobaljik 1995: 193)—cfr. (10), repeated below as (17), where no FQ can appear in the post-verbal position of passives (17a) and unaccusatives (17c), contrary to expectations.

- (17) a. *The suspects have been arrested all. (Passive)
c. *The students have arrived all. (Unaccusative) (Fitzpatrick 2006: 39)

- (iii) Universal FQs can occur in positions other than subject trace positions (see (18b)). In (18a), FQ *todos* ‘all’ cannot occur sentence-finally (with unergative Vs) in BP (Modesto 2000: 29). That position is a post-verbal one. There is no evidence for a post-verbal position associated with the DP subject in BP. However, in the example (b), we find a quantifier floating ‘post-verbally’. The grammaticality of (b) is unexpected under the stranding approach.

¹⁸⁵ Fitzpatrick actually argues that both the adverbial and the stranding approaches are needed to account for the floating quantification phenomenon. In this dissertation, when I refer to Fitzpatrick’s (2006) adverbial analysis, it is important to note that I am referring to his analysis of FQs like *all*, *each*, in English and French (see his chapter 2). Numeral classifiers in Japanese, as Fitzpatrick explicitly points out, demand a stranding analysis: “(...) there is no single correct analysis of floating quantification. (...) Certain floating quantifiers, or certain languages, will show one type of behavior, while other quantifiers and languages will show another, opposing pattern.” (Fitzpatrick 2006: 29).

- (18) a. *Os caras viajaram todos. (Modesto 2000: 29)
 The guys travelled all
 b. Os caras viajaram todos para São Paulo.
 The guys travelled all to São Paulo

(iv) The FQ *all* can be associated with DPs with which it cannot have formed a single constituent at any level of representation:

- (19) a. Os garotos comeram *todos* aquelas três pizzas. (BP)
 The guys ate all those three pizza.
 ‘the guys all ate THOSE THREE PIZZA’ (Pinto Jr. 2007)
 b. A água saiu *toda/ [tudo—A.T.N]* pelo ladrão da caixa. (BP)
 The water left all from the tank overflow pipe
 ‘the water escaped completely from the tank overflow pipe’ (Pinto Jr. 2007)

As far as (19a) is concerned, judging from Pinto Jr. (2007), *todos* modifies the ‘event’ in this sentence. There is a link between the material found to the left of *todos*, i.e., the nominal expression *aquelas três pizzas* ‘those three pizza’ and to the DP to its right. *Todos* establishes this maximizing relation by pinpointing the way the DP-complement, i.e., *aquelas três pizzas* is affected by the event “three guys eating”). The same line of reasoning can be extended to (19b) where *toda/tudo*, though being associated to the DP *a água* ‘the water’ takes the PP *pelo ladrão da caixa* ‘from the tank overflow pipe’ under its scope, i.e. the event of water escaping took place exclusively from the tank overflow pipe (see also section 5.4).

(v) The adverbial theory explains why FQs cannot appear in a theta-position in English. They are ruled out there because this position is not suitable for higher focusing adverbs either. See table 6.1, below, which shows the positions where FQ *all* and higher adverbs can surface in a sequence of auxiliaries in English:

Table 6.1: The position of adverbs/FQ *all* relative to V and auxiliaries (from Fitzpatrick 2006: 43)

	The students					reprimanded...
	The veggies	will	have	been	being	roasted ...
allegedly (Speaker-Or.)	OK	OK	?	*	*	
willingly (Subject-Or)	?	OK	OK	?	*	
easily (Modal)	OK	OK	OK	?	*	
<i>all</i> (FQ)	OK	OK	OK	?	*	
quietly (Manner)	*	*	?	OK	OK	
completely (Compleitive)	*	*	*	?	OK	

Observe that higher adverbs (speaker-oriented, subject-oriented, modal) and FQ *all* pattern alike as far as their prohibition in the alleged theta-position, i.e., before the participle, is concerned, a surprising result under the stranding view, so to speak. Both higher adverbs and FQ *all* are ruled out in that position. The Stranding Analysis incorrectly predicts that FQs, being the result of stranding by the movement of their associated nominal, should be found in theta-positions. The position between *being* and the participle, in table 6.1., would correspond, under a traditional Larsonian analysis, to [Spec, *v*P], which, according to the VP-internal Subject Hypothesis (Koopman & Sportiche 1991), is the position that subjects are base-generated. As such, a FQ should be found there, contrary to the facts. But even more telling is the fact that in addition to FQs, higher (speaker-oriented, subject-oriented and modal) AdvPs are also ruled out in that position. It seems as though under a stranding analysis there would be no immediate explanation to these distributional facts. Besides this, the position preceding *being* also gives rise to ungrammaticality if filled with a higher adverb or a FQ.

We will go back to table 6.1 to discuss the placement of adverbs and FQs in a sequence of auxiliaries (§ 3.1).

- (vi) The adverbial theory does not rule out the possible co-occurrence of two homonymous quantifiers (one merged within the nominal expression and the other merged in a

sentential adverb-like position in the clause¹⁸⁶—cfr. (12), repeated below), thus providing a favorable explanation from the point of view on the (partial) parallels between the nominal expression and the clause (argued for, for instance, in Abney 1987, Giusti 2006 and Laenzlinger 2011).

(12) *Italian* (G. Cinque, p.c.)

- a. Tutti i bambini sono usciti tutti alle 5.
All the children have left all at 5.
'All the children have left [_F at 5].'
- b. Tutti i ragazzi volevano uscire tutti con Maria.
All the guys wanted to go-out all with Mary.
'All the guys wanted to go out [_F with Mary].'
- c. Tutti i ragazzi sono usciti tutti con Maria.
All the guys have gone-out all with Mary.
'All the guys have gone out [_F with Mary].'

The adverbial approach does not predict that the two quantifiers in each one of these sentences in (19) are part of the extended projection of V. Rather, one comes from the extended projection of V and the other from the extended projection of N. It is not possible to have two homonymous adverbial (thus, FQ) *tutti* related to the subject, being both of them merged in the extended projection of V (cfr. (13), repeated below).

- (13) *I ragazzi sono tutti usciti tutti con Maria. *(Italian)*
The guys are all gone-out all with Maria. (G. Cinque, p.c.)
'The guys have all gone out all with Maria.'

Being quantificational elements, FQs are argued to appear in an adjoined adverbial position that is non-local to the apparent NP/DP associated. This is the general proposal put forth by Bobaljik (1995), Doetjes (1997), Brisson (1998, 2000) and Fitzpatrick (2006, chapter 2). As we will notice below, the version of the adverbial approach proposed here claims that FQs have a dedicated Spec position within the IP template. A restrictive version of the Cartography Project would have us expect that, being a modifier in the extended projection of V, the universal FQ *all* would be rigidly ordered with respect to other adverbs of the Cinque (1999)

¹⁸⁶ Many thanks to Guglielmo Cinque for pointing this possibility out to me.

hierarchy. This amounts to saying that it does not enjoy any word order freedom relative to other adverbs as far as the position of merger is concerned. This is one point the present analysis differs from the other adverbial theories which explain the apparent ordering freedom enjoyed by FQs by saying that they are modal adverbs (e.g. Bobaljik 1995, Fitzpatrick 2006) and that when adverbs of the same class appear together in the clause, their relative word order is free. Curiously, this point is in complete disagreement with Jackendoff (1972)—the work they basis their adverbial analysis on—who proposes that adverbs of the same class cannot appear in the same sentence (Jackendoff 1972: 87; Cinque 1999: 11).

(vii) the version of the adverbial approach developed here (see § 3.2) provides a uniform treatment of scope-inducing elements. Hence, FQs, on a par with adverbs (see chapter 3, 4 and 5), focusing adverbs (e.g. *only*) and negation, can all be approached *à la* Kayne 1998).

2.2.1. The Internal Structure of (universal) FQs

In Doetjes's (1997) analysis, the FQ is generated in an adverbial position, adjoined to VP, and binds an empty category in an argument position. The empty category bound by the FQ is the trace of the nominal argument the floating quantifier is associated with. Doetjes assumes the 'VP-internal Subject Hypothesis' (Koopman & Sportiche 1991). She unifies both the R-*tous* and the L-*tous* cases under a uniform approach that she calls "generalized L-*tous*". Thus, for her, the DP-subject (in the R-*tous* case) raises to [Spec,IP], leaving a trace in [Spec,VP]. This nominal argument is associated with the floating quantifier and licenses the variable it leaves in [Spec,VP]. Differing from bare quantifiers like *tout* (Cinque 1995b), the floating quantifier *tous* is not an operator because it contains a pronominal material (*pro*) within its internal structure.

Doetjes (1997) assumes that the internal structure of the FQ-*phrase* is [QP *tous* [DP *pro*]]. This is the reason why the quantifier phrase cannot bind the variable. It is the nominal argument associated with the FQ which binds the variable left behind by its own movement.

Contrary to the *bare quantifier*, FQs like *tous* cannot be interpreted if the sentence has no associate DP for them (cfr. (20)):

- (20) *Il faut *tous*_i voir *t_i*. (French)
 It must all see
 ‘it is necessary to see (them) all’ (Doetjes 1997: 205)

The ungrammaticality of (20) follows from the fact that the floating quantifier, differing from bare *tout*, contains a *pro* within its internal structure and that prevents the FQ from licensing the empty category as a variable (Doetjes 1997: 205).

Doetjes (1997: 205) suggests that the agreement which arises on the FQ should be seen as “a reflex of the binding relation between the FQ and the DP trace”. I will return to this issue in *Appendix 1*.

Fitzpatrick (2006) expands Doetjes’s (1997, chapter 8) proposal that adverbial FQs contain a null pronominal element, as in (21), see below, which is semantically related, by binding, with the associated nominal:

- (21) [_{DP} The students]_i will have [_{VP} all *pro*_i] [_{VP} t had lunch]] (Fitzpatrick 2006: 39)

A’-movement of a phrase binding *them* cannot cross over it (Fitzpatrick 2006: 55). This can be seen in (22) with the intended interpretation given in (22’).

- (22) *Which students₁ did [all of them₁] see *t₁*? (Fitzpatrick 2006: 55)
 (22’) for which students is it the case that all of those students saw themselves?

The correspondent of (22) in BP is also ungrammatical:

- (23) *Quais alunos₁ tudo₁/todos₁ viram *t₁*? (Brazilian Portuguese)
 Which students all seen *t*?

Fitzpatrick associates the ungrammaticality of (22) to the so-called Cross-Over effects. He assumes that the ungrammaticality of this sentence has the flavor of the one observed in (24a), where a strong cross-over effect obtains.

- (24) a. **Who₁ did he₁ see t₁? (SCO)
 b. *Who₁ did [his₁ mother] see t₁? (WCO)

(22) would pattern like (24a): both exhibit a strong cross over effect. However, as noted by Fitzpatrick (2006: 56), the wh-phrase in (22) crosses over the bound pronoun within the FQ.¹⁸⁷ However, for his purposes, what really matters is the fact that (19) patterns as if it were an instance of SCO effect.

Observe that A-movement of the associated DP over the FQ is possible (25) in English, as well as in BP.

- (25) [DP The students]₁ will have [VP all *pro*₁] [VP t had lunch]] (A-movement)
 (26) [DP Os estudantes]_i vão ter [..._P *tudo/todos pro*_i] [... t₁ almoçado]] (= 25)

In fact, as Fitzpatrick (2006, § 2.4, p. 55ff.) proposes, floating quantifiers impose an A-movement restriction on their associated NP/DP. Hence, A'-movement of the nominal associate over them should be ungrammatical. Although this point is important for any theory treating floating quantifiers as adverbials, I refer the reader to Fitzpatrick's work (especially section 2.4 of chapter 2) for a more detailed discussion, which would bring us too far from our main concerns.

Here, I assume, with Doetjes (1997) and Fitzpatrick (2006), that the internal structure of adverbial FQs is [QP *all* [DP *pro*]]. BP gives support to this analysis in that *pro* can be either an empty *pro* (see (27a,a')) or the pronominal '*ele*' and its variants (see (27b)):

- (27) a. Os gringos vão *tudo/todos* lotar o Maracanã na final da Copa de 2014.
 The foreigner will all fill the Maracanã in-the final of the Cup of 2014
 'The foreigners will all make the Maracanã overcrowded at the 2014 World Cup final'
 a'. Os gringos vão [*tudo pro*] lotar o Maracanã na final da Copa de 2014.
 b. Os gringos vão [*tudo eles*]¹⁸⁸ lotar o Maracanã na final da Copa de 2014.

¹⁸⁷ However, it should be noted that this bound pronoun does not c-command the lower copy/the trace of the wh-phrase. Fitzpatrick states that nonetheless this fact is not important for his purposes, something which remains to be understood.

¹⁸⁸ Some speakers of my dialect actually pronounce *eles* as a clitic, namely *eis* /eiz/ (see Kato 1999).

The foreigners will all them ...

Pontes (1987), Galves (1983, 1998), Kato (1989, 1993), Duarte (1995, 2002), a.o. show that LD structures in BP may involve a resumptive pronoun *ele* resuming the topic, see below.

(28) Essa competência_i, *ela*_i é de natureza mental.

If we add a resumptive pronoun to (27b), we clearly see that the pronoun appearing within the FQ is not the resumptive pronoun, since they can both co-occur (27b’):

(27 b’) Os gringos_i, eles_i vão [*tudo eles*_i] lotar o Maracanã na final da Copa de 2014.

The gringo.PL they go.FUT [all they] make-crowded the Maracanã in-the final of-the Cup...

‘The gringos, they will all of them make the the Maracanã crowded at the 2014 World Cup Final.’

The fact that this pronoun *eles* may alternate with the pronominal *pro* is a positive indication that the internal structure of FQs is actually as Doetjes proposes.

2.2.2 What do I mean by using the label “The Adverbial Theory”?

As we have seen, the adverbial theory of floating quantification (Fitzpatrick 2006, chapter 2; see also Brisson 1998, 2000, Bobaljik 1995 and Doetjes 1997, for English) understands that the FQ *all* is adverbial in nature. As we will notice in sections 3.1 and 3.2, they have adverbial, rather than nominal distribution. Fitzpatrick (2006: 35ff.) argues that they impose an A-movement restriction on their associated nominal—which means that it cannot cross-over the FQ by means of A-bar movement—and are not derived by movement or quantifier stranding, as defended in the stranding approach. In my version of the adverbial approach (see § 2.2.2 below), movement is still necessary to account for the syntax of floating quantification. Such movement is however different from the transformations defended by the stranding approach where the quantifier floating is the result of (i) merging the quantifier

and the associated nominal together and (ii) subsequent raising of the associated nominal stranding the FQ.

Before discussing distributional facts of FQs, I would like to clarify an important point. By now, the reader will have realized that I have used the (somewhat) vague terms “adverbial” and “modifier (of the extended projection of V)” to refer to FQs. I am not assuming that FQs are adverbs *stricto sensu*. At least I am not assuming that, morphologically speaking, they should be treated on par with adverbs. The very fact that, under the adverbial theory view, the internal structure of a FQ is “[Q [*pro*]]”, where *pro* is co-indexed with the associated nominal of the FQ (see above in the text), would be sufficient to suggest that FQs, in spite of their *distributional* similarities with Cinque’s AdvPs, would still differ from them—as far as I know, no adverb (at least in Romance) has a *pro* in its internal structure, coindexed with another constituent in the clause—. I will not make any claim regarding the categorial status of FQs. I will treat them as modifiers of the extended projection of V (see Sportiche 1998, *Introduction*). The important claim to be made here is that FQs behave as other scope-inducing elements (see the previous chapter). Thus, their placement will crucially depend on that.¹⁸⁹

3. On the Distribution of universal FQ *all* and AdvPs

A first contrast concerning the distribution of universal FQ *all/tout(es)* and (modal) adverbs relative to the verb/first auxiliary in French and English would suggest that both could receive a similar treatment (see Bobaljik 2001: 4; Brisson 2000: 18, § 3). In French, a FQ and/or an adverb cannot interfere between the subject and the first auxiliary/lexical verb. In English, adverbs or floating quantifiers can immediately follow the subject.

- (29) a. My friends all/probably will leave.
a'. The students all/probably have left. (Brisson 2000: 18)
b. *Les enfants tous/bientôt vont partir.
the children all/soon will leave (Pollock 1989: 368; Brisson 2000: 18)
b'. *Les soldats tous les deux ont été présentés à Anne par ce garçon.
the soldiers all the two have been introduced to A. by this boy
(Kayne 1975: 47; Bobaljik 2001: 4)

¹⁸⁹ I thank Giuliana Giusti for her questions concerning this point, during a talk I gave in our weekly seminars in Venice (September 2012).

That would make us wonder whether the distribution of adverbs and FQs would be due to their patterning alike in Syntax.

Another strong argument favoring the adverbial analysis for FQs in English is the fact that they overlap in distribution with certain uncontroversial (modal/mood) AdvPs (Bobaljik 1995; Brisson 2000, Fitzpatrick 2006, chapter 2). The same observation holds for BP and French, as we will see below. A restrictive theory would then seek to investigate if the distribution of FQs would be treated on a par with the distribution of AdvPs (cfr. Bobaljik 1995, Brisson 2000, Fitzpatrick 2006: 43ff.). This is the main motivation of the adverbial theory of floating quantification.

Bobaljik (1995: 228), Brisson (2000), Fitzpatrick (2006: 42ff.) assume the idea that adverbs of different types respect a hierarchical order.¹⁹⁰ The idea of a hierarchy for adverbs goes back, in the generative tradition, to Jackendoff (1972) and Bellert (1977). In Jackendoff (1972), it is explicitly stated that adverbs of the same class cannot co-occur in the same sentence. Though assuming Jackendoff's adverb classes, Bobaljik (1995), Brisson (1998, 2000) and Fitzpatrick (2006) do not seem to be convinced by Jackendoff's ban on the co-occurrence of adverbs belonging to the same class. They stipulate that adverbs of the same class can actually co-occur and, in case they do, they would have no rigid word order. To justify this change, the authors turn to distributional facts. They first observe the position of FQs relative to the predicate. Then, they turn to adverbs. The last attempt is to combine adverbs and floating quantifiers together. Their conclusions for adverbs of the same class are:

“While the various classes of adverbs are ordered with respect to one another, within each class of adverbs, ordering is relatively free. Thus, the adverbial view predicts that FQs should fall into one or another class of adverbs, varying freely in order with other with that class, but with a fixed order relative to other classes. The latter prediction turns out to be correct: floating quantifiers pattern with modal adverbs.” (Bobaljik 1995: 228)

“Given that FQs have adverbial distribution, we might expect them to interact

¹⁹⁰ Laenzlinger (1996, 2000, 2002, 2011), Cinque (1995, 1999), Alexiadou (1997), Ernst (2000), Tenny (2000), a.o. also assume the existence of some hierarchy for adverbs. As we noted in chapter 2, Cinque (1999, 2004, 2006) is the most radical of these theories in proposing that the hierarchy of adverbs would actually match that of the heads, because adverbs are in a non-accidental relation with those heads.

with adverbs much as other adverbs do. Given an adverb A that is interpreted at a given ‘level’ (e.g., a speaker-oriented adverb or a modal adverb), only adverbs of the same or lower level may follow A. Conversely, only adverbs of the same or higher level may precede A.” (Fitzpatrick 2006: 43)

The ban on the co-occurrence of adverbs of the same class (Jackendoff 1972, Bellert 1977, Cinque 1999: 11) would nonetheless follow directly from a general principle of Complementary Distribution. As such, the idea should be retained in a restrictive theory of Syntax. If an adverb α is generated in a given position, no adverb β from the same ‘class’ should appear in that position. In an (anti-symmetric) theory assuming adverbs to be base-generated as Specifiers of FPs, such a prohibition would follow naturally, given the ban on multiple Specifiers or multiple adjunction (Kayne 1994). The principle guiding the cartographic view of the clausal spine—“One feature, one head” (Kayne 2005; Cinque & Rizzi 2008)—has the natural consequence of ruling out each imaginable combination of heads sharing the same featural composition and, consequently, severely precludes the external Merger, in a given Specifier, of two or more XPs also sharing the same featural composition (see also Poletto 2012). As noted before, Bobaljik’s (1995), Brisson’s (2000) and Fitzpatrick’s (2006) approaches allow adverbs of the same class (or ‘level’) to nonetheless co-occur in the same sentence.

From the point of view of Cartography, there is another problem with Bobaljik’s (1995), Brisson’s (1998, 2000) and Fitzpatrick’s (2006, chapter 2) versions of the adverbial approach. Cinque (1999) provides evidence for almost 40 FPs within the IP. (This number would increase if we acknowledge Cinque’s 2006 implementations of the hierarchy, which have picked out a number of aspectual and modal distinctions, e.g. two functional projections for inceptive aspect). Theoretically speaking the languages of the world could have at their disposal the entire set of specifier AdvPs or functional heads or even both. Taking Fitzpatrick’s work into account, he realizes almost six adverbial classes. Thus, either these classes are representatives of six ‘(big) (semantic) zones’ of Cinque’s hierarchy—each one encompassing a number of adverbs overlapping for a feature (e.g. the modal zone, where all adverbs would overlap for a [+ modal] feature, the mood zone, the tense zone, the aspect zone, etc.¹⁹¹)—or his analysis underestimates the actual number of adverbial classes. To make the problem regarding the ‘number’ of adverbial classes clearer, let us take, for instance, what

¹⁹¹ See also Laenzlinger (2002) and Laenzlinger & Soare (2005a) where these ‘zones’ are seen as ‘IP phases’. Tenny’s (2000) approach to adverbial syntax also plays with “semantic zones”.

Jackendoff/Fitzpatrick calls “modal” AdvPs. The set of modal adverbs in Cinque is much more complex, given the fact that, under the label *modal*, one can find many FPs which are not even adjacent, i.e. there are some modal functional projections which are separated by TP (Past and Future), there are also some ‘modal’ projections which are found very low in the structure, e.g. ‘root modality’, thus interspersing the “Asp” zone. There are also ‘medial’ Modal projections (e.g. alethic of possibility (*possibly*) and necessity (*necessarily*)).

Assuming only one ‘layer/level’ (to use the label referred to in Fitzpatrick) for “modal” adverbs would be misleading, given the fact that one adverb from, for example, the ‘epistemic “layer”’ is expected to co-occur with an irrealis adverb, in the Cinque-compliant order *epistemic* > *irrealis* (see Cinque 1999: 12), even though some degree of marginality might be perceived if some variants (e.g. the presence/absence of functional material (auxiliaries, modal/restructuring verbs) overtly licensing some AdvPs overlapping for a feature; information structure facts (focalization, topicalization etc.)) are not controlled for (see Tescari Neto 2008, appendix; see also Zyman 2012 (for English)).

The assumption made in Fitzpatrick (2006, chapter 2), Bobaljik (1995) and Brisson (2000) that adverbs of the same class would be freely ordered, would make us expect (under their interpretation of the facts) that the epistemic adverb (*probabilmente* in the next example) and the irrealis adverb (*forse*) would always co-occur, with no rigid order, contrary to the facts:

- (30) *Italian* (Cinque 1999: 12)
- a. Gianni sarà probabilmente forse ancora in grado di aiutarci.
G. will probably perhaps still be able to help us.
 - b. *Gianni sarà forse probabilmente ancora in grado di aiutarci.
G. will perhaps probably still be able to help us.

Though some speakers may find (30) unnatural, the grammaticality of (30a) as opposed to the ungrammaticality of (30b) gives support to the conclusion that epistemic modality precedes irrealis mood.¹⁹² As such, what Fitzpatrick (2006) calls ‘modal’ adverbs actually corresponds

¹⁹² For (30a) to be possible, the probing head associated with *ancora* ‘still’ (see the previous chapter) first attract *in grado di aiutarci* to its spec, *ancora* merges, and remnant movement takes place in the sequence. Then, glossing over the details concerning the position where the copula *be* is merged, the irrealis probing head associated with *perhaps* attracts the “KP” *ancora in grado di aiutarci*, followed by merger of *forse* ‘perhaps’ and remnant movement. Then, the probing head associated with epistemic *probabilmente* attracts the chunk *forse ancora in grado di aiutarci*, followed by merger of the epistemic adverb and remnant movement. What is crucial here is that *ancora* is under the scope of *forse* because the chunk containing *ancora* is attracted to the

to a series of layers, each one having a distinct feature (Cinque 1999, § 6.1.), which, under the *One Feature, one Head* Principle (Kayne 2005), are interpreted in Cartography as distinct positions in the tree. All in all, the contention that adverbs of the same class would be freely ordered among each other, whatever ‘membership to the same class’ would mean in those works, is misleading. Were this the case, one should expect that both (30a) and (30b) would be grammatical, as long as both *probabilmente* and *forse* (‘probably’ and ‘perhaps’, respectively) would overlap some mood/modal feature.

In the following two sections, I investigate the position of FQs relative to the predicate (§ 3.1) and their position relative to other adverbs of the Cinque hierarchy (§ 3.2).

3.1 The surface position of AdvPs and universal FQs relative to V

It has been shown (Jackendoff 1972) that speaker-oriented, epistemic modals, and subject-oriented AdvPs, in English, ‘adjoin’ to “S” (i.e. to TP/IP), in the traditional view. Under this view, manner AdvPs would attach to VP, in Jackendoff’s terminology. Thus, in (31), the ungrammaticality induced by *completely* is due to the fact that the VP-adverb has been adjoined to the auxiliary, which occupies a high position in the sentence.

(31) The boys *probably; willingly/*completely* have read the book
will lose their minds (Jackendoff 1972: 16)

The position in between two auxiliaries, according to Jackendoff, also induces ungrammatical results for VP-adverbs in English. IP adverbs are possible there:

specifier of the probing head associated with *forse*. Likewise, *forse* is under the scope of *probabilmente*, because the chunk containing *forse* is moved to the probing head associated with *probably*. Remember that “being under the scope of/being the focus of”, in Kayne 1998, means “being in the specifier of the scope-assigning head”.

Here, I take the scope-assigning head to be merged before the merger of its related adverb. From the viewpoint of the scope of the adverb, the remnant movements have the effect of leaving only the XP under the scope of the adverb in its c-command domain. See sections 3 and 6 of the previous chapter. (30a) will obviously be ungrammatical in the reading that *probabilmente* and *forse* both take the same portion of the IP under their scope, since *no derivation could produce* that. This is the reason for the ungrammaticality of most of the sentences reported in Tesconi Neto (2008, *Appendix*). See also Zyman (2012: 33).

adverbs (speaker-oriented, subject-oriented, modal) and FQ *all* pattern alike with respect to the ban on their appearance in the alleged theta-position, i.e. the one before the participle (see the table below). It is an unexpected result under the stranding view. Both higher adverbs and FQs are forbidden there. Second, the position before the auxiliary *been* also gives rise to ungrammatical results if “filled with” higher AdvPs or FQ *all*. Third, the colored lines in the table given in the sequence show the positions where *easily* (in its (modal) use) and FQ *all* can appear in a sequence of auxiliaries. They clearly overlap in distribution. This third observation has strongly motivated Bobaljik (1995), Brisson (1998, 2000) and Fitzpatrick (2006, chapter 2) to propose an adverbial analysis for the phenomenon of floating quantification, mainly in English, mainly.

Table 6.1: The distribution of AdvPs and FQ *all* in English (Fitzpatrick 2006: 43)

	The students				reprimanded...
	The veggies	___ will ___	have ___	been ___	being ___ roasted ...
allegedly (Speaker-Or.)	OK	OK	?*	*	*
willingly (Subject-Or.)	?*	OK	OK	?*	*
<i>easily</i> (Modal)	OK	OK	OK	?*	*
<i>all</i> (FQ)	OK	OK	OK	?*	*
quietly (Manner)	*	*	?	OK	OK
completely (Completive)	*	*	*	?*	OK

The traditional stranding approach would perhaps fail to provide an explanation for the facts mentioned in the last paragraph, unless it proposes that FQs are late merged in the derivation, i.e. not merged directly with their associated nominal, in the extended projection of V, but necessarily late—judging from the data given in the table—in a position to the left of Asp_{Progressive}P. Harwood (2010, 2011) actually suggests this analysis, by proposing that FQs are adjoined to their associated DP in the course of the derivation, namely, to the left-edge of the lowest phase, which he takes to be Asp_{Progressive}P in English, given the fact that FQs cannot interfere with theta-role assignment. In the point of the derivation in which the Subject adjoins to the lowest phase, namely Asp_{Progressive}P in Harwood’s analysis, the FQ

would adjoin to its left and that would explain why FQs and modal adverbs overlap in distribution. Thus, the reason, from that perspective, would be due to late insertion and derivation by phase. I believe that both the adverbial approach and Harwood’s revisited version of the stranding approach would explain the three observations on the distribution of higher adverbs and FQs made in the previous paragraph. Yet, the data that I will present in the following section (3.2) would actually call for a different approach, which still shares affinities with the adverbial theory (Bobaljik 1995; Dotjes 1997; Brisson 1998, 2000; Fitzpatrick 2006), specifically the idea that FQs are part of the *clausal spine*, i.e., are modifiers merged in the extended projection of the V. The shortcomings of the data to be presented in the following section and our interpretation of the facts would rather suggest that FQs *do* have a fixed position to enter the derivation, i.e. they have a position in the clausal structure, which can be masked by transformations related to the assignment of scope (*à la* Kayne 1998—see the previous chapter). Thus, FQs are treated here on par with scope-inducing adverbs, focusing adverbials, Neg, etc. This explains their distribution (see table 6.1). Furthermore, the ban on the placement of FQs to the left of speech-act adverbs and mirative adverbs (see next section) would apparently find no explanation under competitive analyses. This ban follows directly from their merging in a very high position within the IP, but in a position necessarily to the right of speech-act and mirative adverbs. This is the main object of investigation in the next two sections.

3.2. The surface position of universal FQs relative to Adverbs

It is often claimed by scholars of the ‘adverbial theory’ of floating quantification that FQs enjoy some freedom relative to modal adverbs, given their surface position (Bobaljik 1995, Brisson 1998, Fitzpatrick 2006). In (35-38) below, *all* may either precede or follow a higher adverb it is co-occurring with.

- (37) a. The thieves have *all certainly* been apprehended.
 b. The thieves have *certainly all* been apprehended. (Bobaljik 1995: 31)
- (38) a. The thieves could *all easily* have opened the safe. (modal *easily*)
 b. The thieves could *easily all* have opened the safe.¹⁹³ (Bobaljik 1995: 31)

¹⁹³ It is important to highlight here that there are semantic differences motivated by the placement of the FQ and the adverb in (38a,b). While (38b) strongly favors a collective reading where ‘it was easy for the

- (39) a. The girls all bravely fought the lions. (^{OK} subject-oriented *bravely*; ^{OK} manner reading)
 b. The girls bravely all fought the lions. (^{OK} subject-oriented;¹⁹⁴ *manner reading)
- (40) a. The players all *skillfully* climbed the wall. (*skillfully*: ^{OK} subject-oriented; ^{OK} manner)
 b. The players skillfully all climbed the wall. (*skillfully*: ^{OK} Subject-oriented;¹⁹⁵ * manner)
 ((39,40) from Brisson 2000: 19)

Such freedom is in complete disagreement with the Cartography tenet that UG makes available one and only one structure of Merger for the clause and its main phrases (Cinque 1999, 2005, 2006). It is also in disagreement with Jackendoff's (1972: 87) and Cinque's (1999: 8,11) premise that adverbs of the same class cannot co-occur.

By extending the analysis proposed in the previous chapter for scope-inducing adverbs to universal FQ *all*, I will argue that this freedom is only epiphenomenal. That is, the base order is masked by a series of movements much in the spirit of Kayne's (1998) account of scope-inducing elements like *only* and negation—the natural difference being that FQs are taken to be phrases here, not heads (see section 6 of chapter 3 on adverbs), given that they can, for instance, be modified (e.g. *almost all* (English), *quase todos* (BP), *presque tous* (French), *quasi tutti* (Italian) and can themselves modify other elements: *tutti quanti/tutti e tre*). I take FQ *all* to merge in a (higher) dedicated Specifier within Cinque's (1999) IP,¹⁹⁶ and treat it as a scope-inducing element. Let us now explore the distribution of FQs relative to other higher adverbs of the Cinque hierarchy.

Starting with the highest adverbs of the Cinque hierarchy, namely, speech act adverbs (e.g. *honestly*), judging by Brisson (1998, 2000), universal FQ *all* must necessarily follow them.

thieves as a group to have opened the safe', (38a) allows both an individual and a collective reading. I would like to thank Christine Brisson and Jason F. Siegel (p.c.) for having given their impressions on the data. C. Brisson notices that the distributive reading, in (38b) is not completely ruled out, nonetheless.

¹⁹⁴ As Brisson (2000, § 4.2) points out, there is a difference, in meaning, in (39a,b). To the extent that (39b) is grammatical—it apparently violates the hierarchy given in (51), below in the text—it only allows a collective reading for the subject oriented adverb, meaning that “it was brave of the girls to all fight” (Brisson 2000: 20). The (a) sentence can be true either of many individual girls in individual fights with lions, or of a group of girls fighting the lions all together.

¹⁹⁵ See the previous footnote. The (a) sentence is ambiguous to the extent that the skillfulness can be understood as characteristic of the group (“their ability to work as a team” – Brisson 2000: 20) or as the (individual) climbing of each member of the group. Crucially, the (b) sentence only allows the collective reading.

¹⁹⁶ That this position is necessarily a higher one within the IP is suggested by the manner reading of the adverb co-occurring with the FQ *all* in (39-40). Notice that the manner reading of *skillfully* and *bravely* is only possible when the adverb follows the floating quantifier. The manner reading is not possible in the (b) examples, i.e. where the adverb precedes the floating quantifier. The subject-oriented reading is nonetheless possible in both cases, suggesting that the FQ is necessarily merged in a position to the left of the manner adverb.

- (41) a. The police honestly all left. (Brisson 2000)
 b. *The police all honestly left. (Brisson 2000, see also Brisson 1998: 201)

In terms of Cartography hierarchies, (41) would suggest the following (partial) template:

- (42) Mood_{SpeechAct}P > FQ_{all}

From Cinque (1999)—see also Hauman 2005, Zyman 2012, a.o.—, it is known that speech act adverbs must precede evaluative adverbs:

- (43) a. Honestly I am unfortunately unable to help you. (Cinque 1999: 33)
 b. *Unfortunately I am honestly unable to help you.

(43) would suggest the (also partial) template given in (44):

- (44) Mood_{SpeechAct}P > Mood_{Evaluative}P

The next obvious step is to wonder whether it is possible to determine the position of FQ *all* relative to evaluative adverbs. On the basis of David Pesetsky's judgments (p.c.), evaluative adverbs should precede the floating quantifier *all*:

- (45) a. The girls amazingly all quit smoking.^{197,198}
 b. (??)The girls all amazingly quit smoking.¹⁹⁹ (D. Pesetsky, p.c.)
 (46) a. The girls have unfortunately all left.
 b. (?)The girls have all unfortunately left.²⁰⁰ (D. Pesetsky, p.c.)

¹⁹⁷ This sentence is grammatical for Christine Brisson, p.c.

¹⁹⁸ For Jonathan Bobaljik and Jason F. Siegel (p.c.) all the sentences in (45) are grammatical. But see the discussion which follows in the text.

¹⁹⁹ This sentence is reported as ungrammatical in Brisson (1998: 201).

²⁰⁰ (46b) is given as grammatical in Brisson (1998: 201). Brisson told me (p.c.) that (46a) is also grammatical for her.

(45-46) would give us the following partial order:

$$(47) \text{ Mood}_{\text{Evaluative}}\text{P} > \text{FQ}_{\text{all}}$$

For Brisson (1998), “(...) it appears that *all* may in fact dominate at least some evaluative adverbs (although there seems to be some variation here).” (Brisson 1998: 201). She gave (45b) as ungrammatical and (46b) as possible in her English, thus, sharing similar judgments as Pesetsky. I will take this distinction to suggest that $\text{Mod}_{\text{Evaluative}}\text{P}$ should actually be split in two other FPs, namely, Mirative mood and Evaluative mood, FQs actually being merged among them:

$$(48) \text{ Mood}_{\text{Mirative}}\text{P} > \text{FQ}_{\text{all}} > \text{Mood}_{\text{Evaluative}}$$

Evidence supporting this claim would come from the fact that some languages have specialized ‘particles’ expressing contrasts such as ‘surprise/non-surprise’, ‘luckily/unfortunately.’ See, for instance, Catalan particle *pla*, which can be used to convey surprise (Rigau 2012), and the Equatorian perfect which can also be used to convey this (Olbertz 2012)). Following Olbertz (*op. cit.*), I do not consider the “Mirative Mood” as a modifier of the illocution. I rather locate it in the IP-space, see below. See also Cinque (1999: 201,fn. 21) who had already observed that what he called “Evaluative Mood” would perhaps comprehend two projections if De Lancey’s (1997) discovery (of the “Mirative Mood”) were valid. As G. Cinque (p.c.) points out, the adverbial corresponding to these distinctions, in Italian, namely, *sorprendentemente* ‘surprisingly’/*inaspettatamente* ‘unexpectedly’ and *purtroppo* ‘unluckily’/*fortunatamente* ‘luckily’, can actually combine naturally for him in the order *sorprendentemente* > *purtroppo*, but not the other way around (see (49)). I share the same intuitions in my BP (cfr. (50)):

(49) *Italian* (G. Cinque, p.c.)

a. Gianni	sorprendentemente	si è	purtroppo
G.	surprisingly	SI be.3.SG.PRES	unluckily
dimenticato	di chiudere la cassaforte		
forgotten	to lock the safe		

- ‘Gianni surprisingly unfortunately forgot to lock the safe’
 b. *Gianni purtroppo si è sorprendentemente dimenticato di chiudere la cassaforte.

- (50) a. O Zé surpreendentemente felizmente chegou em tempo.
 The Zé surprisingly luckily arrived in time.
 b. *O Zé felizmente surpreendentemente chegou em tempo.
 The Zé luckily surprisingly arrived in time.

All in all, the position of FQ *all* within the Cinque Hierarchy of AdvPs is given in (51):

- (51) Mood_{SpeechAct}P > Mood_{Mirative}P > FQ_{*all*} > Mood_{Evaluative}P > Mod_{Epistemic}P > ... > V

Now, the reader might be asking: “What is going on with adverbial (Bobaljik, Brisson, Fitzpatrick)/modifier (Sportiche 1998) FQs?” An extension of Kayne’s 1998 treatment of scope-inducing elements to FQs can help us understand their puzzling distribution.

An examination of the data presented in this section would suggest that *all* merges between Mod_{Mirative}P and Mod_{Evaluative}P and, as such, is *not* freely ordered with other higher adverbs, against Bobaljik (1995), Brisson (1998,2000), and Fitzpatrick (2006). Let us attempt to understand why this is the correct approach for these distributional facts.

The data given in (37-50) may make one think that those adverbs found to the left of *all* in the hierarchy, i.e. Mood_{SpeechAct}P and Mood_{Admirative}P adverbs, *must* precede it on the surface, given their position in the hierarchy, as suggested by the data in (41) and (45), while those following the FQ in (51) may surface either on its right or on its left (cf. (37-40) and (46)). This apparent freedom is however due to the scope-inducing status of *all*. This amounts to saying that before the merger of *all*, a probing head attracts a chunk (containing the constituent to be modified) to its Spec. Next, the FQ merges to its immediate left. Then the remnant moves. The allegedly free ordering (37-40) would be explained on the grounds of what is attracted to the Spec of the probing head associated with the FQ. If the higher AdvP is attracted together with the predicate, it will give the base order of (51) as output (see (37a) and (38a), repeated again below for convenience and its respective trees):

- (37) a. The thieves have *all certainly* been apprehended.

From the previous chapter, the reader might be familiar with the type of derivation represented in fig. 6.1. I am glossing over some details like the merger of V, the theme-DP *the thieves*, movements for case assignment, etc. Let us go directly to the point. The criterial probing head associated with the evidential adverb *certainly*, i.e. merged before it, attracts the chunk *been apprehended* (identified as $Asp_{Perfect}P$) to its Spec. *Certainly* merges in the next Spec and further movement places the remnant, namely, *The thieves have* to the left. Fig. 6.2, below, shows that before the merger of FQ *all*, the probing head associated with it, identified as K_2° , attracts the chunk $Mod_{Evidential}P$ to its Spec. *All* merges in the Spec of the next FP, followed by remnant movement of *The thieves have* to the left.

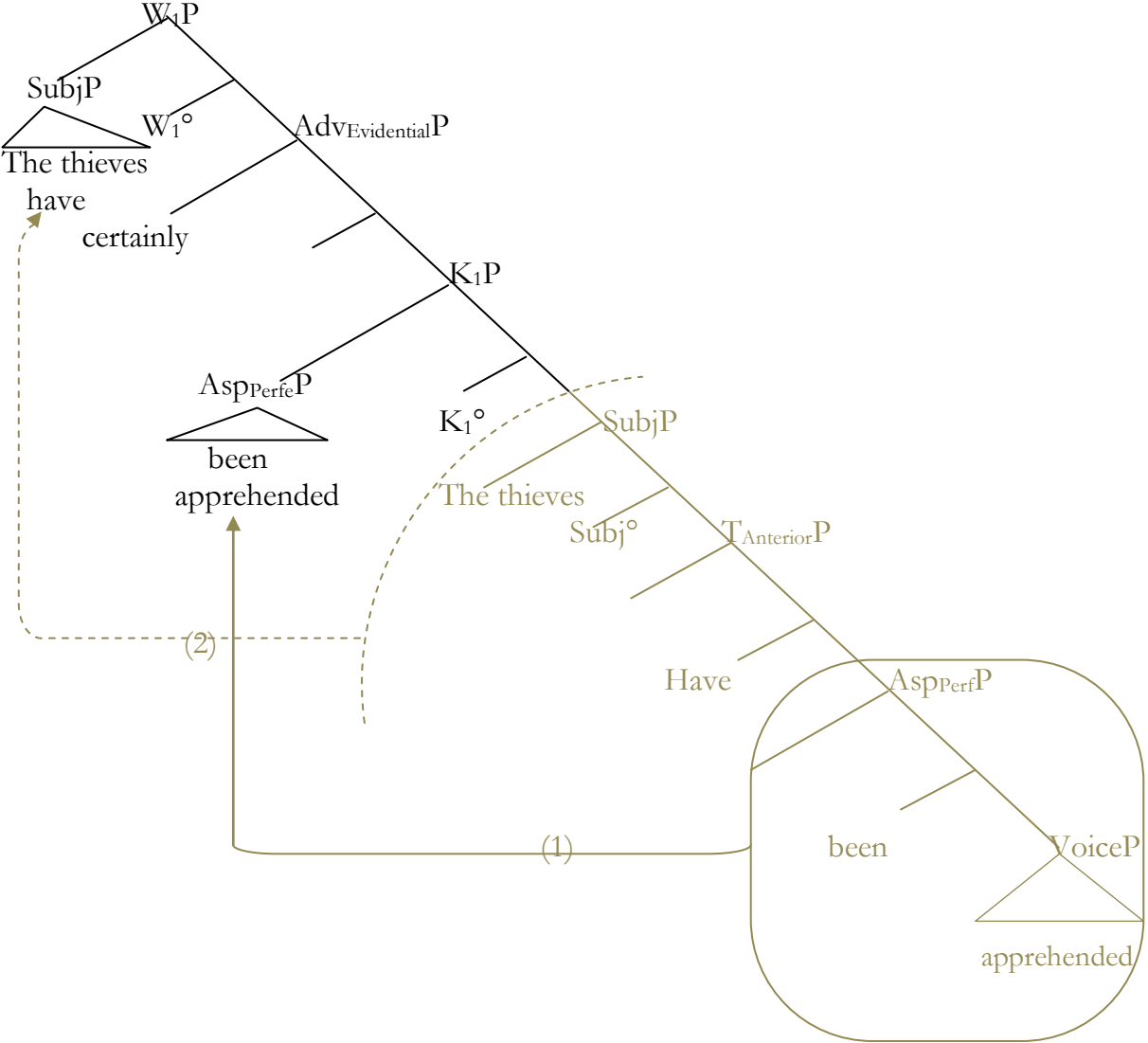


Fig. 6.1: The derivation of (37a): part I

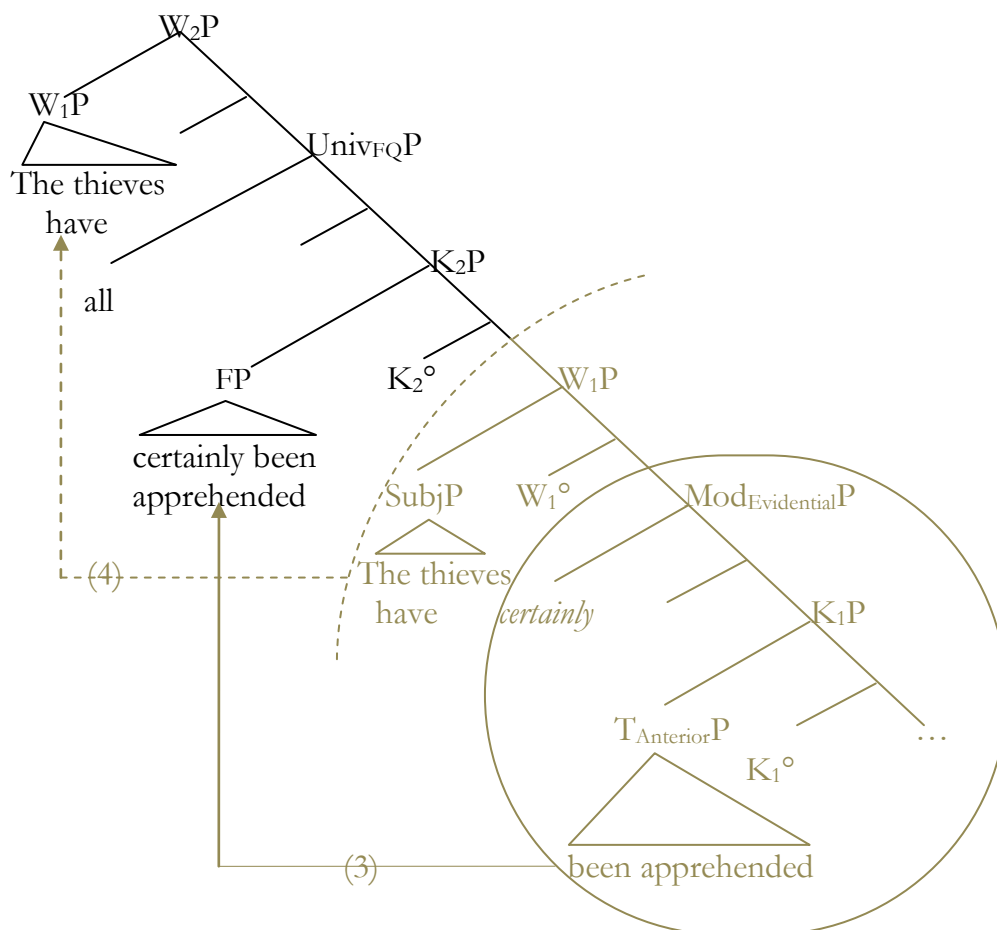


Fig. 6.2: The derivation of (37a): part II

(38a), with the epistemic reading for *easily*, would be derived in the same way as (37a).

(38) a. The thieves could *all easily* have opened the safe. (modal *easily*)

The chunk *have opened the safe* would be attracted by the criterial head associated with *easily*, which would merge in the next Spec, followed by remnant movement of *The thieves could*. Next, the probing head associated with *all* would attract *easily opened the safe* to its Spec. *All* would merge next and a further movement would place the remnant, namely, *the thieves could* to the left of the floating quantifier.

On the other hand, if the higher AdvP—merged before the FQ, given that it follows the quantifier in the hierarchy—is not attracted to the Spec of the probing head associated with the FQ, but moves within the remnant past the FQ, the output is the reverse order (cfr. (37b))

and (38b), repeated below). It gives the illusion that modal adverbs are freely ordered with respect to FQs.

(37) b. The thieves have *certainly all* been apprehended. (Bobaljik 1995: 31)

The derivation of (37b) resembles that of (37a). The difference is that what is attracted to the Spec of the probing head associated with the FQ is K_1P , i.e. the projection headed by the criterial head associated with the (higher) adverb, not the chunk including the adverb. As stated above, the adverb moves further, as part of the remnant.²⁰¹

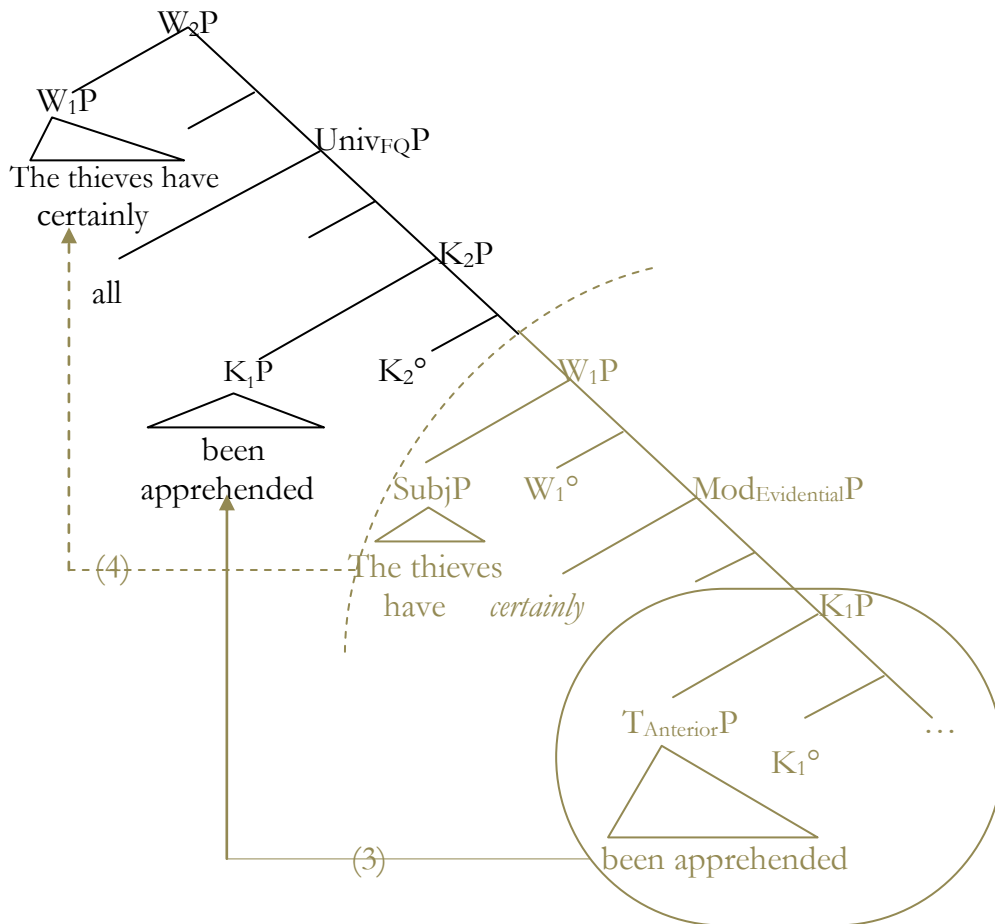


Fig. 6.3: The derivation of (37b)

²⁰¹ There is no violation of the Criterial Freezing here given that what is being moved to the specifier of the probing head associated with the FQ is not the chunk already moved to the Spec of the criterial head associated with the adverb, previously merged, but a whole projection made by the chunk under the scope of the adverb plus the probing head associated with it.

As far as (38b), repeated below, is concerned, its derivation resembles that of (37b): the probing head associated with the modal adverb *easily* attracts the chunk “*have opened the safe*”, and after remnant movement, the probing head associated with the FQ attracts the functional projection containing the chunk *have opened the safe* in its Spec to the Spec of the criterial head associated with the floating quantifier. The FQ is merged in a Spec to the left and further movement places the remnant, namely, *the thieves could easily* to the left of the FQ. As this derivation resembles that of (37b) represented in fig. 6.3 above, I will not represent it.

(38) b. The thieves could *easily all* have opened the safe. (Bobaljik 1995: 31)

As mentioned above, there is an interesting fact about the data in (38a,b). Sentence (b) is only true in a context where the easiness at issue refers to the ability of the thieves to open the safe all together and not to the individual ability of each thief. (a), on the other hand, is ambiguous, thus allowing these two readings, i.e. (i) a collective reading, where it would only be easy to open the safe if the thieves worked together, and (ii) also an individual reading, where each thief could have opened the safe with no difficulty.

The apparent freedom that FQ *all* seems to enjoy with respect to other higher AdvPs (cfr. (37-40), above) can be linked to its scope-inducing status. Before its merger, as we noted, a probing head attracts a chunk (containing the constituent to be under the scope of this FQ) to its Spec. Next, the FQ merges on the immediate left. Movement of the remnant places the associated nominal to the left of the FQ. The allegedly free ordering in (37-40) would be explained on the grounds of what is attracted to the Spec of the probing head. If the higher AdvP is attracted together with the predicate, it will give the base order of (51) as output (see (37a, 38a, 39a and 40a)). On the other hand, if the higher AdvP is not attracted but moves together with the remnant past the FQ, the output is the reverse order (see the “b” examples of (37)-(40)). It gives the illusion that modal AdvPs are freely ordered with respect to FQs.

Last but not least, competitive analyses would have nothing to say on the data given in (41) and (45), repeated below. Why should we expect speech act adverbs (*honestly*) and mirative adverbs (*amazingly*) to precede FQ *all*, in English, but the adverbs, which, as shown here, follow FQ *all* should be able to precede it?

- (41) a. The police honestly all left. (Brisson 2000)
 b. *The police all honestly left.
- (45) a. The girls amazingly all quit smoking.
 b. (??)The girls all amazingly quit smoking. (D. Pesetsky, p.c.)

4. Why is Universal FQ *all* a scope-inducing element?

The main motivation for treating universal FQ *all* as other scope-inducing elements (focusing adverbs (e.g. *only*), negation, etc. (cfr. Longobardi 1992, Kayne 1998)) derives from the observation that they usually have scope over the constituent to their right, as focalizers generally do. Thus, even if in both (52a) and (52b) the FQ is associated with the nominal preceding it (by means of binding (Fitzpatrick 2006), see also section 2.2.1, above), these sentences differ in interpretation. While in (52a) it is the PP following the FQ that gets focused ('the children were invited to the party, not to the ceremony'), in (52b) it is the whole VP that is focalized ('the invitation to the party concerns all').²⁰²

- (52) *Italian* (G. Cinque, p.c.)
- a. I bambini sono stati invitati tutti alla festa.
 The children have been invited all to the party
- b. I bambini sono stati tutti invitati alla festa.
 The children have been all invited to the party

In section 2.2, it was shown that floating quantifier *all* can be associated with DPs with which it cannot have formed a single constituent at any level of representation. (19a) and (19b), which illustrate this, are repeated below:

- (19) a. Os garotos comeram *todos* aquelas três pizzas.
 The guys ate all those three pizza.
 'the guys all ate THOSE THREE PIZZA'
- b. A água saiu *toda*/[*tudo*—A.T.N] pelo ladrão da caixa.
 The water left all from the tank overflow pipe
 'the water escaped completely from the tank overflow pipe'

²⁰² I would like to thank Guglielmo Cinque (p.c.) for bringing this important issue to my attention.

In (19a) *todos* modifies the ‘event’ in this sentence. As mentioned in section 2.2, *todos* links the material found to its left, i.e. the *Os garotos (comeram)* to the DP on its right. *Todos* establishes this maximizing relation by pinpointing the way the DP-complement, i.e. *aquelas três pizzas* is affected by the event “three guys eating”). The same is the case for (19b), where *toda/tudo*, though being associated to the DP *a água* ‘the water’, takes the PP *pelo ladrão da caixa* ‘from the tank overflow pipe’ under its scope, i.e. the event of water escaping took place exclusively from the tank overflow pipe. Thus, the data above, discussed in Pinto Jr. (2007) also favor an analysis which treats FQs as scope-inducing (i.e. focalizers) in BP. How could a stranded approach *à la* Sportiche (1988) account for these data?

It is worth mentioning that this treatment of FQs is the same we have extended to scope-inducing AdvPs (see chapter 5). The advantage of extending Kayne’s analysis to FQs—thus treating them as other scope-inducing elements (focalizers, NegPs, scope-inducing adverbs)—is to better capture the belief that “syntax is strongly invariant” (Sportiche 1998), at least as far as the assignment of scope is concerned.

5. The interaction of FQ *all* and ambiguous adverbs

In the sections 3.2 and 4, we showed some facts on the distribution of universal FQ *all* which would otherwise remain unexplained under the traditional ‘adverbial approach’, namely, its invariant position relative to speech act and mirative adverbs (§ 3.2) and its scope-inducing nature (§ 4). However, there are more facts on the placement of FQ *all* which could not be accounted for by the stranding approach but are, rather, easily explained by the traditional adverbial approach (Bobaljik 1995, Brisson 1998, 2000, Fitzpatrick 2006, chapter 2). In this section, I readdress one of these facts, namely, the interaction of ‘ambiguous’ adverbs and FQ *all*, to show that they can also be accounted for under the revisited version of the adverbial approach proposed here.

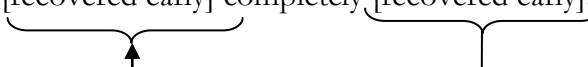
Bobaljik (1995) attributes to (a personal communication by) D. Pesetsky the observation that the ambiguity found in (53), where the adverb *easily* could either have a manner (cf. the paraphrase (53’a)) or a modal reading (cf. (53’b)), has to do with the position of *easily* relative to the auxiliary and the lexical verb.

- (53) The thief could have *easily* opened the safe. (Bobaljik 1995: 229)
 (53') a. The thief could have opened the safe without any difficulty
 b. It is quite plausible that the thief could have opened the safe.

If *easily* occurs in a higher position in the clause, only the modal reading is favored (cf. (54)):

- (54) a. The thief could *easily* have opened the safe.
 b. The thief *easily* could have opened the safe. (Bobaljik 1995: 229)

There is one reason why both the modal and the manner readings are possible in (53) but only the modal reading is possible in (54). From Jackendoff's seminal work, it is known that lower (*VP²-) adverbs in English can appear between the auxiliary *have* and the past participle. This suggests that the active past participle raises relatively less in English (if compared, e.g. with Italian—see Cinque 1999, chapter 1, 2 and appendix 1; see also Tescari Neto 2012; and Chapter 3 of this dissertation). See also the data below on (lexical) V raising in English.

- (55) He (*well) works well with traditional elements. (Haumann 2005: 130)
 (56) a. *He recovered completely early.
 b. He completely recovered early.
 c. He [recovered early] completely [~~recovered early~~]. (Cinque 1999: 214, endnote 7)
- 

- (57) a. George will have read the book *completely*.
 b. *George will have read *completely* the book. (Radford 1988: 241, his (46))

These data would suggest that the lexical finite V obligatorily raises a little in English (Cinque 1999: 214, endnote 7) (namely, to the left of *early*, *little/much* (G. Cinque, p.c.) and *well* (except in passives with the latter two) (see (55)).

The conclusion is that movement of whatever has been generated to the right of *completely* is possible if and only if the entire chunk raises, i.e. if the participle pied-pipes everything following it. This is illustrated by the data given in (56) and (57). In (56), raising of *recovered*

past *completely* is ruled out (cfr. (56a,b)). (56c) is only possible because the V, in its movement past *completely*, pied-pipes *early*.

Returning to the data discussed in (53), the evidence shown above suggests that the participle does not move past manner adverbs. Thus, *easily* in (53) can either be a manner or modal adverb. The ambiguity is thus accounted for.

As far as (54) is concerned, only the modal reading is available for *easily*. Modal *easily* is merged to the left of *could* and *have*. Being a scope-inducing element, it attracts *have opened the safe* in (54a) and *could have opened the safe* in (54b). The manner reading is not available for *easily* in (54) because the auxiliaries *have* and *could* are undoubtedly generated to the left of manner adverbs, excluding any possible manner reading.

Let us now bring FQ *all* to the discussion of the sentences above. Remember that (53) above is ambiguous. In this sentence, *easily* can either be an epistemic modal or a manner adverb. By putting the FQ *all* into the equation, it can appear either to the left or to the right of the adverb *easily* in (53) (cf. (58a,b)). The difference once again regards the interpretation of *easily*. In (58a), where *all* precedes *easily*, the latter retains its ambiguity. Thus, it can receive either the modal or the manner reading. (58b) precludes the manner reading; only the modal reading is available.

- (58) a. These thieves could have *all easily* opened the safe. (Bobaljik 1995: 229)
b. These thieves could have *easily all* opened the safe.
(^{OK} *easily* = epistemic modal; * *easily* = manner)²⁰³

²⁰³ In Harwood (2011: 6), it is shown that manner adverbs like *loudly* cannot appear to the left of FQ *all*. The same is true for the completive adverb *completely* which is higher than manner adverbs in the hierarchy:

- (i) a. The buildings were all loudly destroyed.
b. *The buildings were loudly all destroyed.
c. The buildings were all completely destroyed.
d. *The buildings were completely all destroyed. (Harwood 2011: 6)

Thus, (ia,b), though involving copula *be* instead of a modal and the auxiliary *have* (cfr. (58), in the text) would suggest that the same process is at hand and an explanation should be provided. Under a traditional view, it could be argued that the FQ adjoins to a position on the left-edge of the *v*P, given that it necessarily appears to the left of the manner adverb. Harwood's explanation is that the FQ only adjoins later in the derivation, namely, to [Spec, Asp_{Progressive}P]. His idea is that the lower phase in English is not *v*P but Asp_{Progressive}P. The idea is sound, I believe, if Chomsky's phases for the clause, namely, *v*P and CP are translated into their Cartographic avatars. Thus, under a cartographic view, phases could vary crosslinguistically.

Under the proposal approached here, the manner reading of *easily*, which is only available for the (a) sentence, can be derived by attracting the chunk containing the manner adverb to the Spec of the probing/criterial head associated with *all*, and merged before it. After the merger of FQ, movement to the Spec of the next projection places the associated nominal (which is part of the remnant) to the left of the FQ (see fig. 6.4).

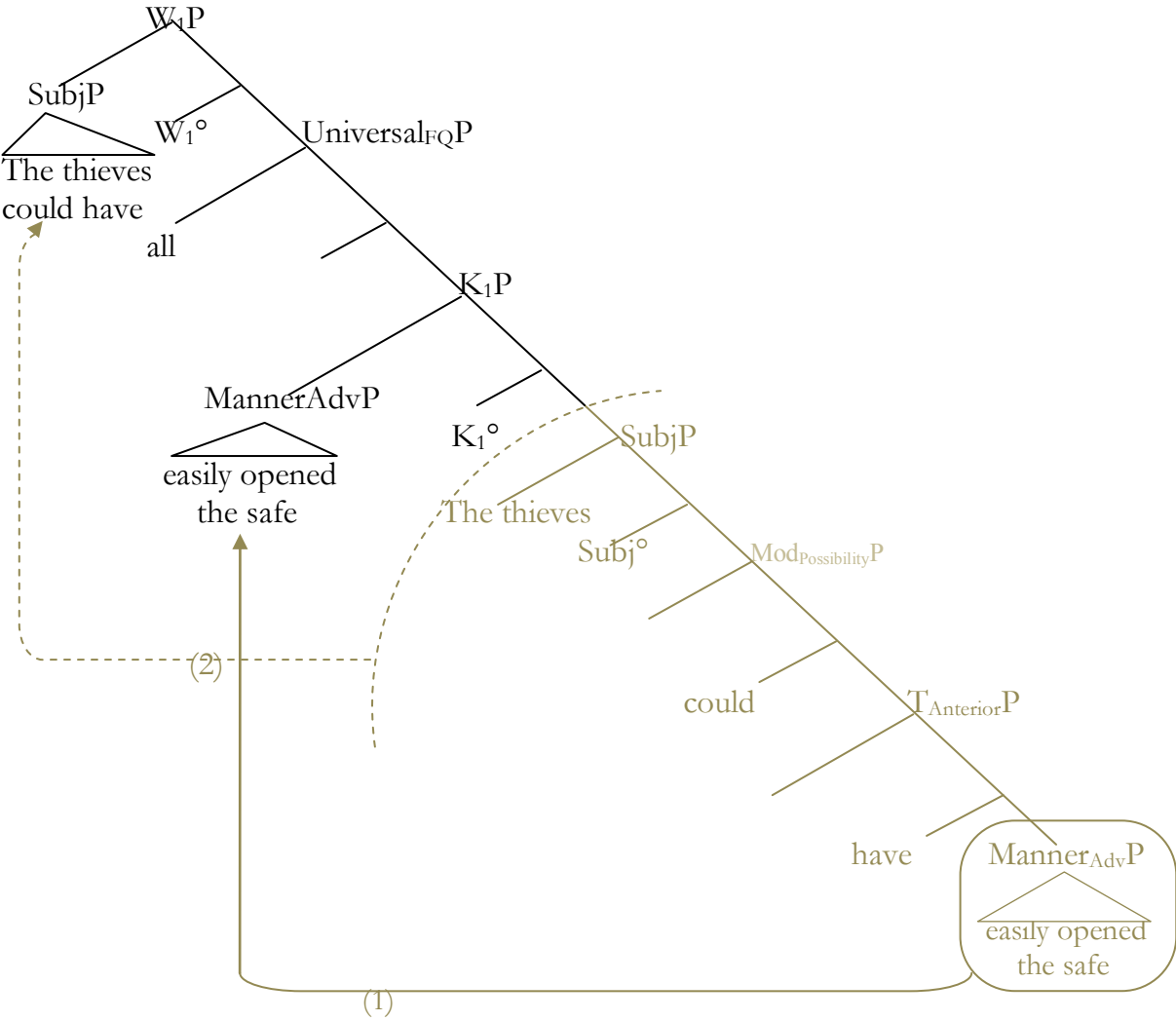


Fig. 6.4: The derivation of (58a): the manner reading

As for the epistemic reading in (58a), its derivation involves attraction of *opened the safe* to the Spec of the probing head associated with the modal adverb, merger of *easily*, and remnant movement of *These thieves could have* past the adverb (fig. 6.5 below). In the sequence, the probing head associated with the FQ attracts the chunk *easily opened the safe* to its Spec, followed by merger of *all* to the left and remnant movement past it (see fig. 6.6).

(58) a. These thieves could have *all easily* opened the safe. (Bobaljik 1995: 229)

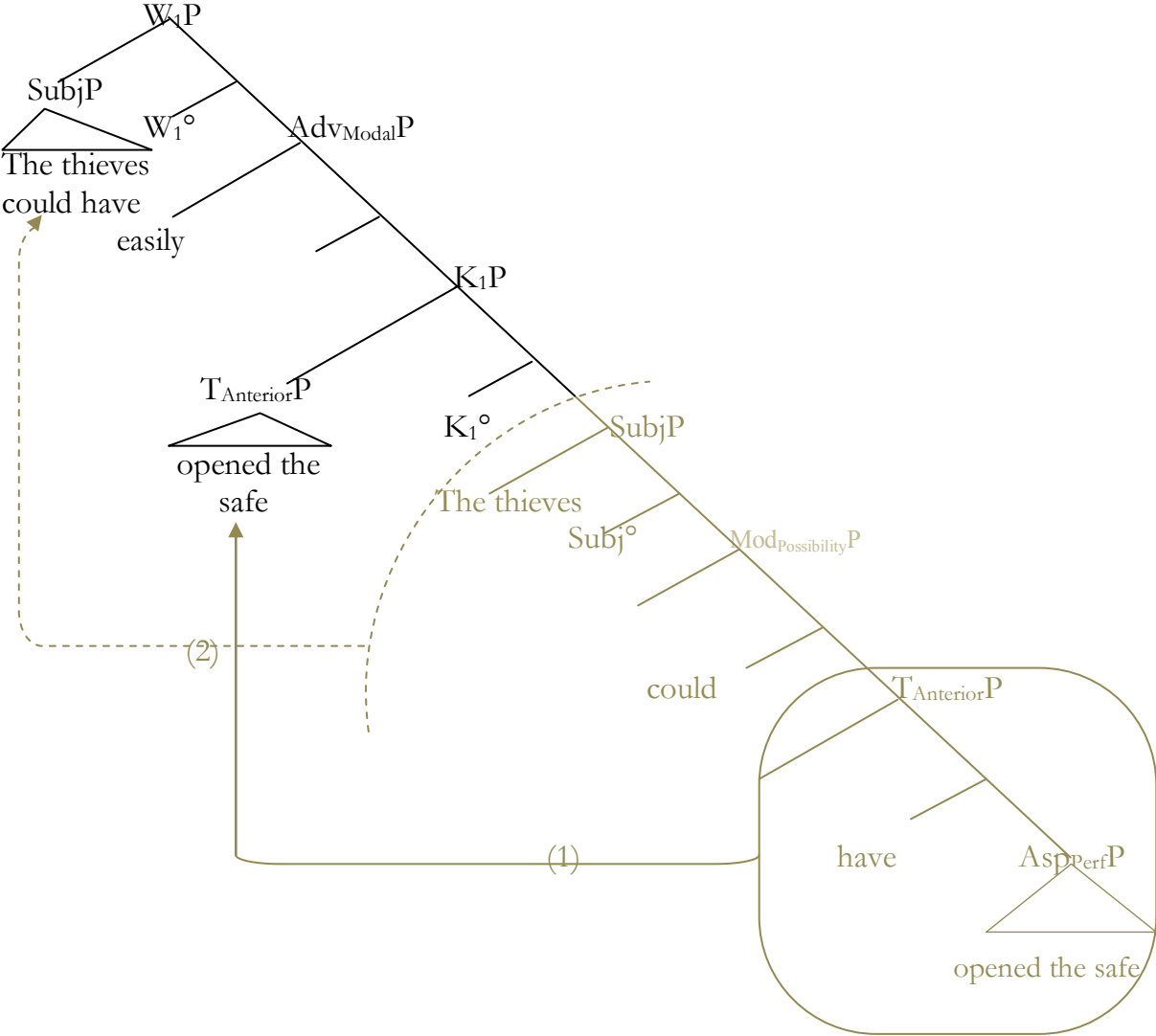


Fig. 6.5: The derivation of (58a): the modal reading of *easily*, part I

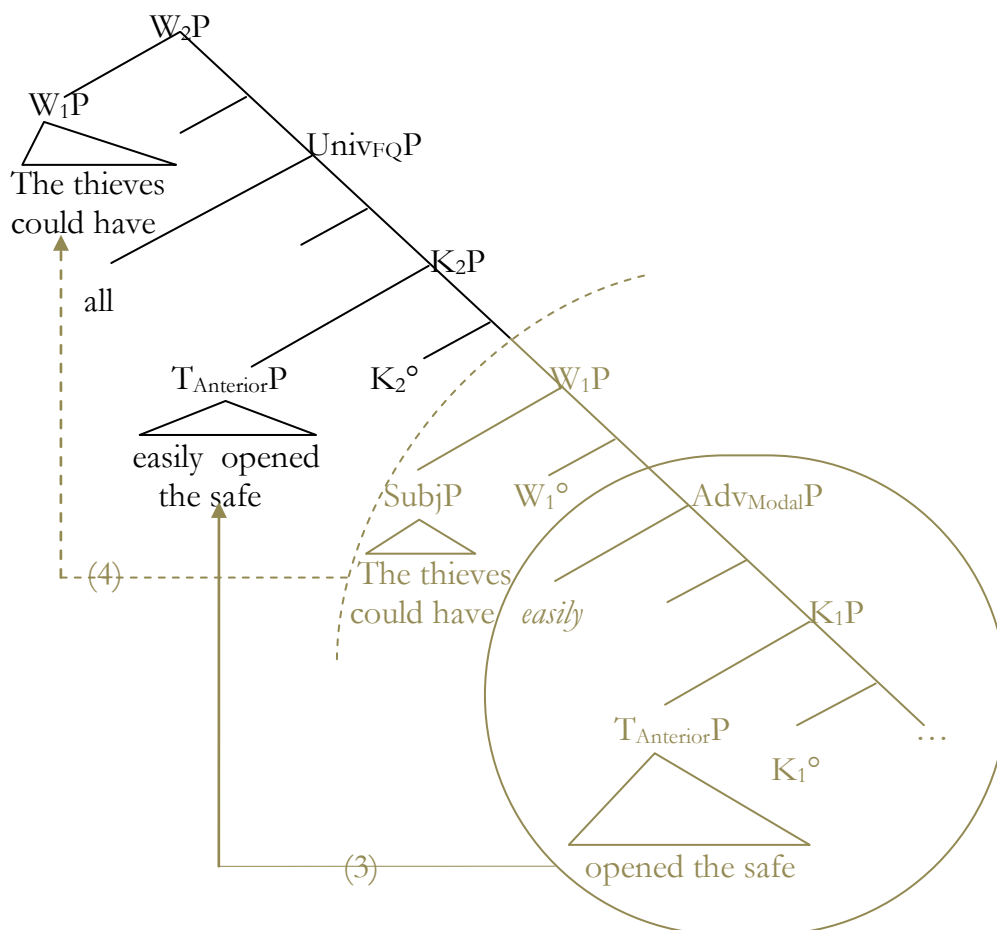


Fig. 6.6: The derivation of (58a): the modal reading of *easily*, part II

As for (58b), repeated below,

- (58) b. These thieves could have *easily all* opened the safe.
 (^{OK} *easily* = modal; * *easily* = manner)

only the modal reading is available. The first steps of its derivation resemble those of the modal *easily* in (58a). The difference concerns what is attracted to the Spec of the probing head. While in (58a), it is the chunk *easily opened the safe* which is attracted to the Spec of the probing head, in (58b) only part of that chunk is, namely, *opened the safe*.²⁰⁴

²⁰⁴ Here, again, there is no violation of Criterial Freezing. The probing head associated with the FQ attracts not the chunk already moved to the Spec of the criterial head associated with the adverb, previously merged, but the whole projection made by the chunk under the scope of the adverb plus the probing head associated with it.

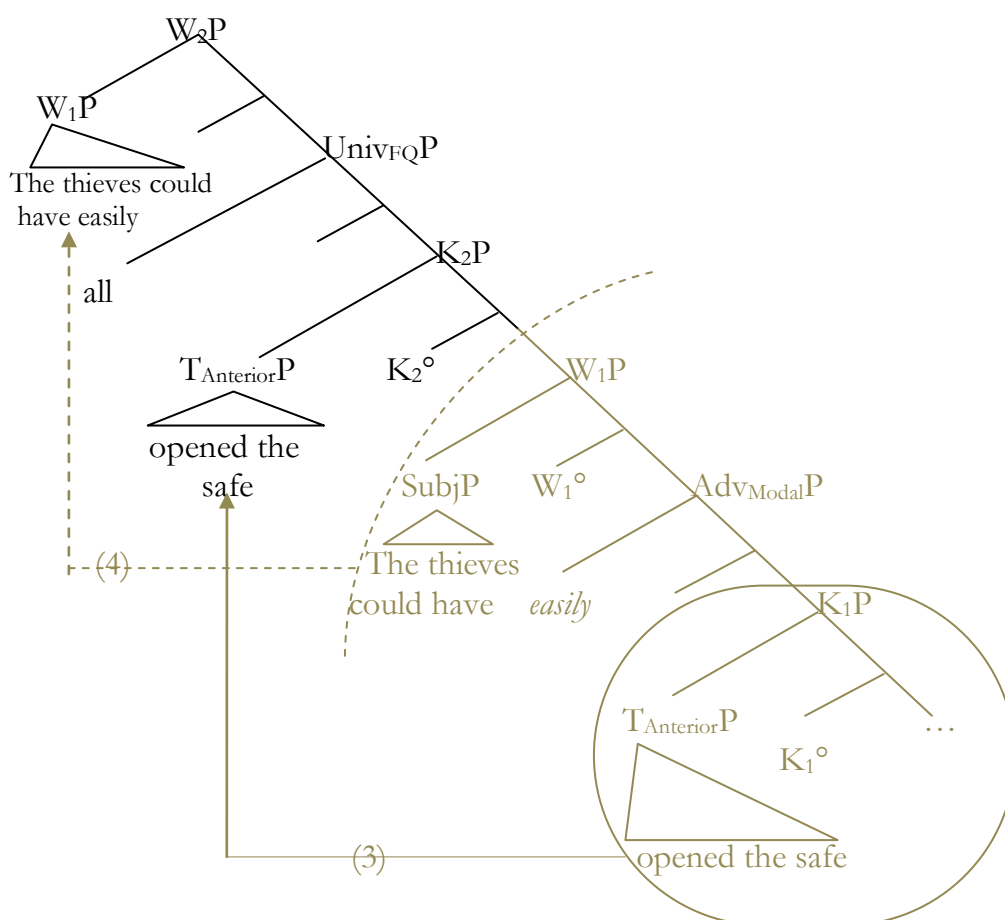


Fig. 6.7: The derivation of the modal reading of *easily* in (58b)

As Bobaljik (1995: 230) points out, the fact that only the modal reading is available for *easily* in (58b) is unexpected under the stranding approach to floating quantification, if one assumes that manner adverbs are ‘adjoined’ to VP. Under the stranding approach to floating quantification, after the movement of the subject to [Spec,IP], the FQ *all* should be found to the left of a manner adverb (which he takes to be adjoined to VP). Thus, the manner reading should still be expected in (58b), contrary to the fact. (58b) suggests that the stranding approach undergenerates.

Bobaljik’s proposal represents the traditional adverbial theory, which proposes that FQs adjoin to VP or to some functional projection of the IP. As I have already pointed out, though, this variant of the adverbial approach states that FQs are freely ordered with respect to modal adverbs. This is, as we have noted in section 3.2, above, one of the important ways in which I depart from the traditional ‘adverbial’ theory.

6. Universal FQ *todos* in Brazilian Portuguese

Until now, we have discussed the so-called “stranding” and “adverbial” approaches to the phenomenon of floating quantification. We provided evidence affirming the superiority of the latter. We have also provided arguments suggesting some modifications in the adverbial approach. FQs—at least the universal FQ *all*—are not adjuncts of VP/*v*P. They are not adjuncts of XP either, i.e. they do not freely adjoin to any XP category. If they are modifiers of the clause, they are rather merged in a higher specifier within IP, namely, to the right of Mood_{SpeechAct}P and Mood_{Mirative}P and to the left of Mod_{Evaluative}P. Their rigid, fixed position was arrived at on the basis of English data (§ 3.2). One way to interpret this setting is by suggesting that universal FQs have a fixed position in the clausal template and that such position is invariably the same for all languages. I take this strongest position to be on the right track. So, the correspondent of *all* in BP, namely *todos/tudo* would also merge in that position. In this section, I will succinctly show the distribution of universal FQ *todos* ‘all’ in BP. In § 6.1, I begin by showing why *todos*, in BP, is not useful to help us pinpoint the position *universal floating quantifiers* occupy in terms of cartographic structures. This is the reason why I turned to the English data in section 3.2. Section 6.2 discusses the prohibition of *todos* sentence-finally, linking this to the position universal floating quantifiers are merged in the IP as well as to their scope-inducing nature. Section 6.3 shows the distribution of FQ *todos* within the sentence. Finally, in section 6.4, I review the data displaying the theoretical-conceptual and empirical adequacy of the proposal made here on the syntax of universal floating quantifiers.

6.1. Why is BP floating quantifier *todos* not of help (from a Cartographic point of view)?

Laenzlinger & Soare (2005b: 117) show that, in Romanian, speech act, evaluative and evidential adverbs must have a parenthetical intonation, which suggests that, whenever they appear sentence-initially, they occupy a derived position in the left-periphery (see (59), which shows that the evaluative *din fericire* ‘happily’ is parenthetically set off from the rest of the

sentence):

(59) *Romanian* (Laenzlinger & Soare 2005b: 117)

- a. Din fericire, Ion a citit cartea.
'Happily Ion read the book.'
- b. Ion, din fericire, a citit cartea.

In BP, speech act adverbs (*sinceramente* 'sincerely') as well as mirative AdvPs (*surpreendentemente* 'surprisingly') and evaluative adverbs (e.g. *felizmente* 'happily') must also have a parenthetical intonation. Assuming that they are merged in higher positions within the IP (Cinque 1999), their parenthetical intonation would indicate that, whenever they appear sentence initially (cfr. 60a,b,c), they sit in a derived position, achieved by their raising to the left-periphery.

- (60) a. Sinceramente *(,) o Zé leu a carta.²⁰⁵
Sincerely, Zé read the letter.
'Sincerely, Zé read the letter.'
- b. Surpreendentemente *(,) o Zé leu a carta.
Surprisingly, the Zé read the letter.
'Surprisingly, Zé read the letter.'
- c. Felizmente *(,) o Zé leu a carta.
Happily, Zé read the letter.
'Happily, Zé read the letter.'

Thus, BP is not the appropriate language to test the position of the universal FQ. This explains why we turned to English in section 3.2 to justify the position of universal FQs in terms of cartographic hierarchies. Remember that the English data given in (41) and (45-46), and repeated below, helped us pinpoint the position that the universal FQ *all* occupies in the clausal spine. Since it must follow *honestly* (speech act) (cfr. 41) and *amazingly* (mirative) (cfr. (45)), but not necessarily *evaluative* adverbs, the conclusion achieved in § 3.2 was that they are merged between Mood_{Mirative}P and Mood_{Evaluative}P.

- (41) a. The police honestly all left.

²⁰⁵ The comma the examples given in (60) merely indicates the presence of a parenthetical intonation, whatever it is. Thus, following the convention, “*(,)” indicates that the sentence is ungrammatical if no parenthetical intonation is assigned to the adverb.

- b. *The police all honestly left.
- (45) a. The girls amazingly all quit smoking.
 b. (??)The girls all amazingly quit smoking.
- (46) a. The girls have unfortunately all left.
 b. (?)The girls have all unfortunately left.

Since speech act, mirative and evaluative adverbs must move to the left-periphery in BP (see (60a,b)), this language cannot help us pinpoint the position that universal FQs like *all* occupy in the hierarchy of the IP.

In the following two sections, we revisit data taken from BP, previously discussed in the literature on V-movement and floating quantification, to readdress the issue of their distribution under the analysis we proposed in § 3.2, which is actually a generalized application of Kayne’s (1998) approach to scope-inducing elements. I will begin by presenting the data on the prohibition of universal floating quantifiers sentence-finally.

6.2 Why is universal FQ *todos* forbidden sentence-finally?

According to Lacerda (2012: 35), *todos* cannot appear sentence-finally with transitive verbs in BP:²⁰⁶

- (61) *Os alunos leram duas revistas *todos*. (Lacerda 2012: 35)
 The students read.3.PLU two magazines all
 ‘All the students read two magazines’

²⁰⁶ The very fact that the distributive FQ *cada um* ‘each one’ can appear sentence-finally in BP (cfr. (i)) would indicate, under the approach presented here, that it is merged in a position within the lower zone of the IP space, i.e. in a position interspersed among lower adverbs. See the discussion which follows in the text.

- (i) Os alunos; ganharam duas revistas *cada um* t. (Lacerda 2012: 34)
 The students won two magazines each one
 ‘The students were given two magazines each.’
- (ii) *Os alunos; ganharam duas revistas *todos* t. (Lacerda 2012: 34)
 The students won two magazines all
 ‘The two students were all given two magazines.’

(i), but not (ii), is possible, in spite of having a FQ in the sentence final position. The suggestion presented in this section is that Universal FQs are merged in too high a position in the IP for the V to be able to raise past them.

Galves (1994 [2001: 105]) provides (62) as an example, which is marginal for most of her informants. For me, (62) is ungrammatical and the only way to save this sentence is by making a pause before *todos* and stressing it emphatically.

(62) *Os alunos deram flores ao professor *todos*.^{207,208,209} (Galves 1994[2001: 105])

²⁰⁷ Bobaljik (1995: 212) also gives (i), where the universal FQ *all* is impossible sentence-finally in English:

(i) Larry, Darryl and Darryl came into the café **all*.

See also the sentences given in (10), above, and repeated below as (ii), from Fitzpatrick (2006), which shows that FQ *all* is impossible sentence-finally, independent of the type of V (whether passive, unaccusative, etc.). Linking this prohibition to the position in which universal FQs are merged (i.e. in a very high position within the IP) seems to be the best option, given that higher adverbs are also forbidden sentence-finally.

- (ii)
- | | | |
|----|---------------------------------------|------------------------|
| a. | *The suspects have been arrested all. | (Passive) |
| b. | The suspects have all been arrested. | |
| c. | *The students have arrived all. | (Unaccusative) |
| d. | The students have all arrived. | |
| e. | *The finalists have danced all. | (Unergative) |
| f. | The finalists have all danced. | (Fitzpatrick 2006: 39) |

²⁰⁸ The same fact seems to hold in French, though there appears to be some variation among speakers (see, e.g. sentence (11), given above in the text). Christopher Laenzlinger (p.c.) considers (i) ungrammatical and (ii) marginal. *Tous* ‘all’ occurs sentence-finally there.

- (i) *Les garçons arriveront bien/calme^{nt} tous. (French)
 The guys will-arrive well/calmly all.
- (ii) ??Les garçons arriveront calmement presque tous.
 The guys will-arrive calmly almost all

Thus, in French there seems to be some prohibition for both FQs and higher adverbs sentence-finally as well (cfr. (iii)), where a higher adverb is forbidden sentence-finally, unless parenthetically marked; see also Laenzlinger (2002, § 4.2) on sentence-final adverbs in French). As C. Laenzlinger (p.c.) points out, (ii) becomes possible if one adds *en même temps* after the quantifier (see (iv)):

- (iii) Les garçons avaient été invites à une fête (*,) probablement. (Cristopher Laenzlinger, p.c.)
 ‘The guys had been invited to a party, probably’
- (iv) Les garçons arriveront calmement presque tous en même temps. (French)
 The guys will-arrive calmly almost all at the same time

As stated above, modifiers of the higher portion of the clause (namely, higher AdvPs) are forbidden sentence-finally. If universal FQ *tous* is also a modifier merged in the higher portion of the clause (see §3.2), its patterning like higher adverbs in sentence final position should not be surprising. (iv) seems to suggest that the floating quantifier has an associated probing head merged before it, which attracts the XP under its scope, namely, *en même temps*. Hence, the appearance of the V to the left of the FQ is the result of remnant-movement.

²⁰⁹ Vicente (2006: 129) also gives (i) as ungrammatical in PB:

The students gave flowers to-the teacher all
'The students all gave flowers to the teacher.'

I would like to link the impossibility of universal FQ *all* sentence-finally to the fact that it occupies a very high position within the IP, being placed among Cinque's 'higher adverbs' (see the two previous footnotes), and to their scope-inducing nature (§ 4). Remember, from the previous chapter, that higher adverbs cannot appear sentence-finally, unless de-accented (Cinque 1999: 15). (63) illustrates this with the BP data. The same judgment is given to (64), which has universal FQ *todos* sentence-finally.

- (63) a. *A Mara mente provavelmente.
Mara tells-lies probably
'Mara tells lies, probably'
b. A Mara mente, provavelmente.
M. tells-lies, probably
- (64) a. *Os moleques mentem todos.^{210,211}

-
- (i) *Os alunos tiraram notas altas todos.
The students got marks high all
'all the students got good marks'

and says, in her fn. 109, p. 129, that this sentence is only possible in a "very marked context", attributing the observation to Heloisa Sales, in a personal communication to her. In the same footnote, Vicente also cites an observation she attributes to Acrisio Pires, according to whom (i) becomes acceptable "only if there is some kind of modifier adjacent to 'todos'", as in (ii) below.

- (ii) ?Os alunos tiraram notas altas todos nesta prova.
The students got marks high all in-this examination.
'The students got good marks all in this examination.'

What she calls "modifier", in the present context, is the adjunct "nesta prova".

Once again, see the previous footnote, where I discuss the same effect in French. Cristopher Laenzlinger only accepted final *tous* if it precedes an adjunct (see example (ii) of the previous footnote). Both in the French case and in the Brazilian example given in (ii) of the present footnote, gathered from Vicente (2006: 129), the universal quantifier precedes an adjunct suggesting that, under the analysis proposed in this dissertation, the adjunct is attracted to the specifier of the probing head associated with the FQ, followed by merger of the quantifier (in the Spec, to the left), and remnant movement. The advantage of my analysis is that it naturally deals with both the prohibition of universal FQ *todos* sentence-finally and with its taking under its scope some sentence material ((cfr. (i) of this footnote and (ii) of the previous footnote) if that material is focalized. The degraded status of (i) disappears if sentence material is placed to the right of *tous* because the addition of this material has the effect of taking the neutral focus stress (Cinque 1993) out of the quantifier. Being merged in a higher position, *todos/tous/all* cannot appear sentence-finally with flat intonation, because it would happen to be the (neutral) focus.

²¹⁰ Modesto (2000: 29) gives (i), also with an unergative V, as ungrammatical in BP:

- (i) Os caras viajaram (*todos).
The guys traveled all.

- The guys tell-lies all.
 ‘All the guys tell lies’
 b. Os moleques mentem TODOS.
 The guys tell-lies ALL

Although there seems to be a prosodic difference between (63b) and (64b)—in (63b), the adverb is de-accented, in (64b) the FQ is stressed—what unifies (63) and (64) is the impossibility of having a higher adverb or a floating quantifier sentence-finally with ‘flat’ intonation. This is so because, being scope-inducing elements, both higher adverbs and universal FQ *todos* require that the constituent under their scope remain in their c-command domain. In (63a) and (64a), the constituent under the scope of the scope-inducing element is not in their c-command domain. Thus, the sentence is ruled out.

Still regarding the appearance of the universal FQ and/or a higher adverb sentence-finally, Galves (1994 [2001: 106]) gives (65) as marginal in BP. For me, it is strongly degraded.

- (65) ?/(*)Que tarefa os alunos fizeram *todos*? (Galves 1994[2001: 106])
 Which homework have the students done all?
 ‘Which homework have all the students done?’

Once again, I would like to link the marginality/degradedness of (65) to the fact that universal FQs occupy a (very) high position within the IP (see also the last five footnotes). Remember from chapter 3, section 6, that when a constituent appears to the right of V and is focalized by a higher adverb (see (66a)), it cannot be wh-extracted (cfr. (66b)).

- (66) a. O Zé comeu provavelmente uma banana.
 The Zé ate probably a banana

I also share Modesto’s judgment for this sentence.

²¹¹ As Guglielmo Cinque notes (p.c.), (i) is possible in Italian, without any particular focus.

- (i) I ragazzi mentono tutti/partono tutti/hanno mangiato la pizza tutti.
 The boys tells-lies all/left all/have eaten the pizza all

But, as he explained to me, it seems that *tutti* in (i) is used emphatically, as *lui* in (ii):

- (ii) Gianni viene lui (, a prenderti)
 G. come he (to pick you up)
 ‘G. will come to pick you up’

- ‘Zé ate probably a banana.’
 b. *O que_i o Zé comeu provavelmente t_i?
 What_i Zé ate probably t_i?
 ‘What did Zé eat probably?’

Also, remember from section 4 that we are treating universal FQs as scope-inducing elements. *Todos*, in (65’) below, takes *a tarefa* under its scope (see section 4 above), by linking the material found to its right, i.e. the DP *a tarefa* ‘the homework’ to the DP on its left, *os alunos* ‘the students’. *Todos* establishes this maximizing relation by pinpointing the way the DP-complement, i.e. *a tarefa*, is affected by the event described in the sentence.

- (65’) Os alunos fizeram todos *a tarefa*.
 The students have-done all the homework
 ‘The students all have done the homework’

Now, if *todos* is a scope-inducing element in (65’), we may understand why (65), repeated below, is ungrammatical in BP. Being a scope-inducing element, *todos* has an associated probing head which is merged in the projection immediately dominated by it. When the probing head attracts the constituent under the scope of the FQ (see fig. 6.10), that constituent can no longer be further extracted, given Criterial Freezing (see the discussion on sections 2.4, 2.5, 3 and 5 of chapter 4). Wh-extraction of the constituent under the scope of *todos* in (65) gives rise to its ungrammaticality (fig. 6.11).

- (65) ?/(*)Que tarefa os alunos fizeram *todos*? (Galves 1994[2001: 106])
 Which homework have the students done all?
 ‘Which homework have all the students done?’

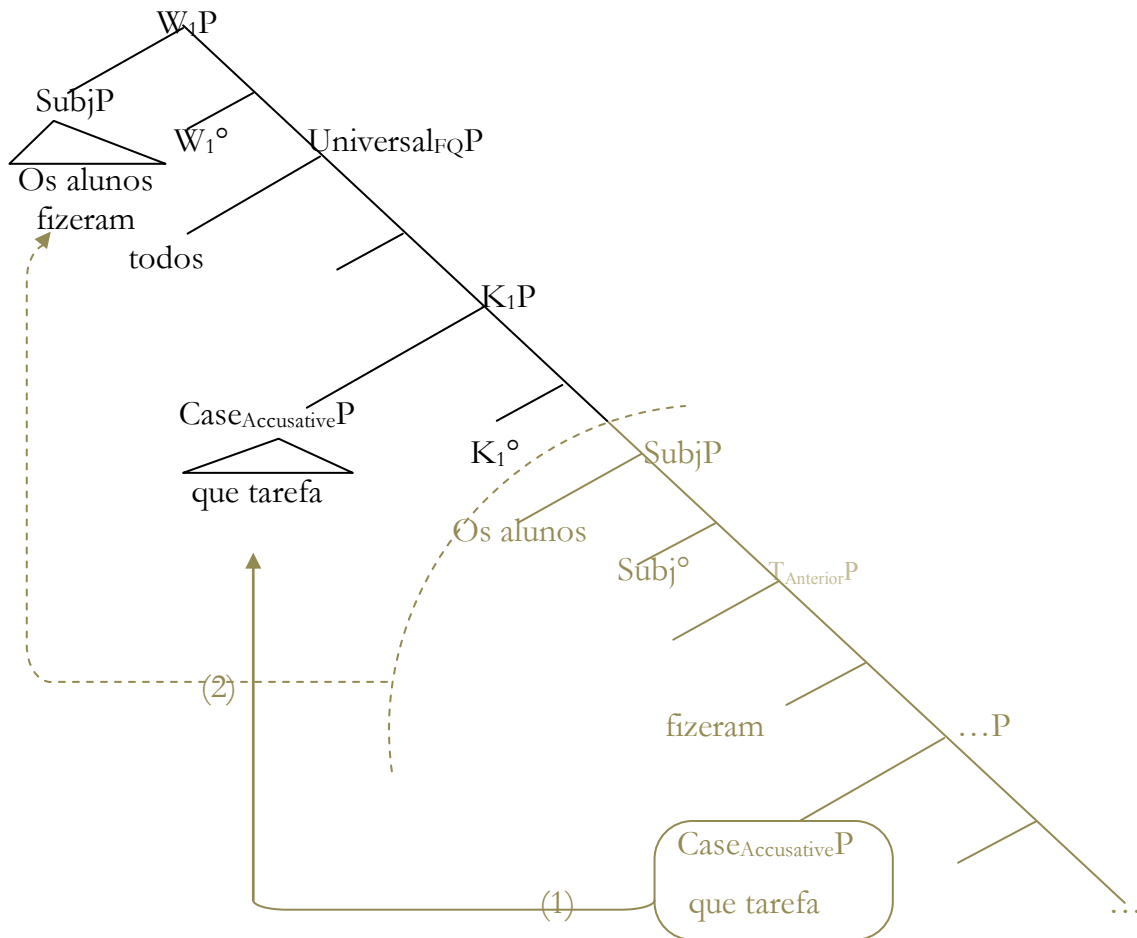


Fig. 6.8: The derivation of (65): first part

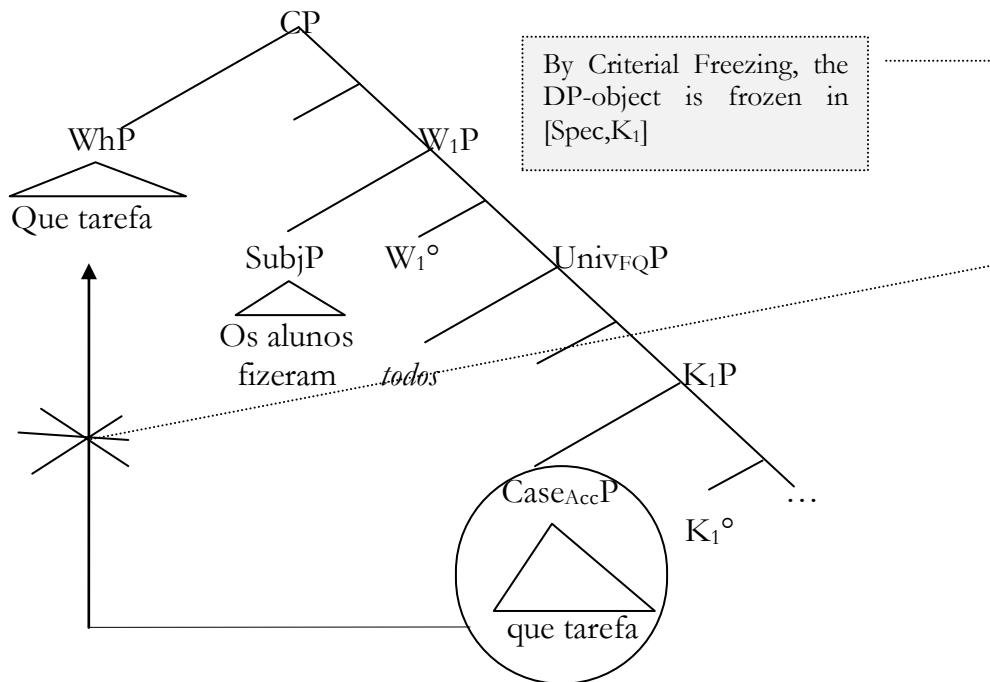


Fig. 6.9: Why the derivation of (65) crashes

All in all, something in common is happening for both adverbs and the universal floating

quantifier. I have illustrated that a Cartographic explanation is called for, given that under competitive analyses no explanation could be attributed to the obligatory appearance of speech act and mirative adverbs to the left of FQ *all* in English (see section 3.2). I have also shown that floating quantifiers are scope-inducing elements, suggesting that they should also be treated *à la* Kayne (1998) (see § 4). Treating universal floating quantifiers and adverbs along the lines of Kayne (1998) seems to be the best alternative to explain their distribution. It also has the effect of unifying the analysis of those scope-inducing elements which the generative post-Pollockian tradition has taken as diagnostics for verbal raising.

Before discussing the position of floating quantifiers IP-internally, I would like to quote Vicente's (2006) data on the appearance of FQ *todos* in sentence-final position. She considers that sentence-final *todos* is grammatical in sentences with unergative (67(a)) and unaccusative (67(c)) verbs. With transitive verbs, sentence-final *todos* is forbidden (67(b)), and with passives (67(d)), speaker's judgments vary.

- (67) a. As meninas telefonaram todas.
 The girls telephoned all
 b. *Eles leram a revista todos.
 They read the magazine all.
 c. Os mágicos desapareceram todos.
 The magicians disappeared all.
 d. ^{OK/?}/*Os votos foram contados todos.
 The votes were counted all
- (Vicente 2006: 131)

For me, sentence-final *todos* is ungrammatical or at least marginal in BP. I also consider (b) and (d) strongly ungrammatical. (a) and (c) would at most receive a “??” and the only way to save these sentences is by uttering *todos* emphatically. Remember also, from footnote 210, that in Modesto (2000), sentence-final *todos* is ungrammatical with unergative Vs. I will briefly comment on Vicente's proposal in the following paragraphs.

Vicente (2006) assumes (a modified version of) the ‘stranding approach’. In her analysis, (67b) is ungrammatical because BP would lack (generalized) object shift (Vicente 2006: 137). (67a) is not ruled out because the Subject, being generated in [Spec,VP], leaves the FQ stranded in that position; the V moves to I; and the derivation does not crash. She suggests that BP has a restricted type of object shift, which is only possible with passives and unaccusatives. In these cases, the object moves to [Spec,AgrOP]. This explains the grammaticality of (c) and (d) in (67): in (c), before moving to [Spec,AgrSP], the DP-argument

moves to [Spec,AgrOP], stranding the FQ there; in (d), the participle moves to AgrO°, and the DP moves to [Spec,AgrO] (before raising to [Spec,AgrSP] stranding the quantifier in its position of merger (i.e. in the complement of V)).

It is important to notice that the varying judgments reported in (67) are important for Vicente’s analysis. According to her proposal, it is not the fact that a given position is in a θ -environment which precludes quantifier stranding. What is crucial in her analysis is the internal structure of the nominal expression and the movements performed by clausal constituents (V and its arguments). According to her, those languages which allow the stranding of the quantifier to the right of the lexical V can be divided into two types: those where the quantifier is stranded in a θ -position, like BP, and those where the quantifier is not stranded in that position, like Romanian. Vicente observes that in Romanian the quantifier could be stranded in a θ -position but, since (she assumes that) the movement of the V is to a high position in Romanian,²¹² the quantifier is stranded in a position to the left of the θ -position. She assumes Costa and Galves’s (2002) analysis of subject and verbal movements in BP, according to which there is V movement only to a medial position within the IP. Thus, in BP, the quantifier could be stranded in a higher position but there is no movement of sentential constituents to higher positions in this language. Her conclusion is that, being stranded or not in a theta-position “depends only on the assumption that certain languages allow more movements than others.” (Vicente 2006: 148, translation mine) Hence, in Vicente’s analysis, the fact that English disallows sentence-final *all* while BP allows it would be due to the θ -environment but rather to movements of V and its arguments and to the internal structure of FQs. BP allows the order DP-FQ while English does not, except with pronouns (e.g. *I saw them all*).

In addition to the problem regarding the judgments reported in (67)—the grammaticality of (67a) is very dubious, since in Marcelo (2000: 29), sentence-final *todos* is ungrammatical with unergative Vs as well (see fn. 202, and also section 6.3, below)—there is another puzzle that the version of the stranding analysis proposed in Vicente (as well as all the other competitive

²¹² Such an assumption is very dubious, nonetheless. In Romanian, higher adverbs cannot appear sentence-finally (i), unless de-accented (see (ii)). This is an indication that the V cannot move to a higher position in that language as well.

- (i) * Ion minte probabil (Romanian – Adina Camelia Bleotu, p.c.)
 I. tells-lies probably
- (ii) Ion minte, probabil.
 I. tells-lies, probably

analyses cited in this chapter) would have to solve. Remember that in § 3.2 we showed the distribution of the universal floating quantifier *all* relative to adverbs, in English. Competitive analyses would have to explain why universal FQ *all* must follow speech-act and mirative adverbs (cfr. (41) and (45), repeated below) while apparently being freely ordered with respect to the adverbs in (46) and (37-40), also repeated below.

- (41) a. The police honestly all left.
 b. *The police all honestly left.
- (45) a. The girls amazingly all quit smoking.
 b. (??)The girls all amazingly quit smoking.
- (46) a. The girls have unfortunately all left.
 b. (?)The girls have all unfortunately left.
- (37) a. The thieves have *all certainly* been apprehended.
 b. The thieves have *certainly all* been apprehended.
- (38) a. The thieves could *all easily* have opened the safe. (modal *easily*)
 b. The thieves could *easily all* have opened the safe.
- (39) a. The girls all bravely fought the lions (bravely: ^{OK} subject-oriented; ^{OK} manner)
 b. The girls bravely all fought the lions (bravely: ^{OK} subject-oriented; *manner)
- (40) a. The players all skillfully climbed the wall. (bravely: ^{OK} subject-oriented; ^{OK} manner)
 b. The players skillfully all climbed the wall. (skillfully: ^{OK} Subject-oriented; *manner)

Competitive analyses would have to find an explanation for these data. They should explain why FQ *all* must follow speech-act and mirative adverbs ((41) and (45)) in the order AdvP > (universal) FQ_{all}. The explanation follows naturally from the approach proposed here, in section §3.2. What precedes universal FQ *all* in the hierarchy given in (51) (and repeated below) must always precede it in the sentence. Thus, (41) and (45) are explained. What follows it in the hierarchy can either precede or follow it (cfr. (46) and (37-40)).

- (51) Mood_{SpeechAct}P > Mood_{Admirative}P > FQ_{all} > Mood_{Evaluative}P > Mod_{Epistemic}P > ... > V

In section 6.4, I present an additional problem for those approaches which are based on Sportiche's (1988) stranding analysis or a modified version of it. Before doing so, I will show in section 6.3 the distribution of FQs within the IP.

6.3. On the Placement of Universal Floating Quantifier *todos* in the 'middle' of the Sentence

Since Galves (1994) and Figueiredo e Silva (1996), scholars working on BP Syntax have refused to take floating quantifiers as diagnostics for V-movement (see, for instance, Figueiredo Silva 1996: 46ff.; Modesto 2000: 28). This ‘refusal’ is due to the fact, initially noticed—as far as I aware—by Galves (1994[2001]), that universal quantifier *todos* can also appear to the right of the associated nominal within the nominal expression/DP (see (68, 69)) (cfr. Galves 1994[2001: 106-107]; Figueiredo Silva 1996: 46-47; Modesto 2000: 28; Vicente 2006: 91, Lacerda 2012: 49ff.).

- (68) A professora castigou os alunos todos. (Galves 1994 [2001: 107])
 ‘The teacher punished the students all’
- (69) a. Eu vou convidar os caras todos.
 I will invite the boys all.
 b. Eu vou convidar todos os caras.
 I will invite all the guys. (Figueiredo Silva 2006: 46)

Though we are not assuming Sportiche’s (1988) stranding analysis, we also refuse to take universal FQs as diagnostics for V-movement in BP. We actually go further by proposing that universal FQs, being merged in a high position within the IP, can no longer be considered reliable diagnostics for verbal raising (at least in English, French, Italian, and Portuguese). This is due to the aforementioned fact that the lexical V cannot move past higher adverbs. If the universal floating quantifier is merged between Mood_{Mirative}P and Mood_{Evaluative}P it cannot be taken as reliable diagnostics, as the V cannot move by itself past those higher adverbs (see the previous chapter).

Let us now review some sentences with universal floating quantifiers in BP, previously discussed in the literature. In (70), I give my impressions on the data, taken from Modesto (2000: 29), who gathered most of them from Figueiredo Silva (1996: 46). I report their judgments, when different from mine, in footnotes. The judgment on the placement of the floating quantifier sentence-finally is given in Modesto, but not in Figueiredo Silva. I share his impressions: all the sentences, in (70), having an universal floating quantifier sentence-finally are ungrammatical.

- (70) a. (Todos) os caras (todos) viajaram (*todos).
 (all) the guys (all) traveled (all).

- b. (Todos) os caras (todos) amam (?todos)²¹³ a Maria.
(all) the guys (all) love (all) Mary.
- c. (Todos) os caras (todos) tinham (todos)²¹⁴ viajado (*todos).
(all) the guys (all) had (all) traveled (all)
- d. (Todos) os caras (todos) tinham (todos)²¹⁵ amado (?todos)²¹⁶ a Maria.
(all) the guys (all) had (all) loved (all) Maria. (Modesto 2000)

I retain Modesto's examples in (70). Thus, I also maintain the placement of quantifier before and after the associated-DP. As shown in Galves 1994[2001: 106-107]; Figueiredo Silva 1996: 46-47; Modesto 2000: 28; Vicente 2006: 91 and Lacerda 2012: 49ff., universal quantifier *todos* 'all' can also be placed on the right of its associated nominal. I assume that in these cases, the universal quantifier is merged within the extended projection of the N, as one of its highest Specifiers below appositive relative clauses, in Cinque's (2012 [class lectures]) framework, and the DP has moved to a higher Spec, within the nominal expression, past them (as in Lacerda 2012). The assumption that universal quantifiers may be found within both the extended projection of V and the extended projection of N is not a puzzle for a Cartographic approach (see section 2.2, above).

(70a,c) show that universal FQ *todos* is forbidden sentence-finally. These are Modesto's judgments and I share his intuitions.²¹⁷ In the present context, such a prohibition should be attributed to the position occupied by *todos*. It is merged in the higher portion of the IP, namely, to the left of Mod_{Evaluative}P. Given that the lexical V cannot move past higher adverbs (see chapters 1 and 4), universal FQs cannot be crossed over by the lexical V (by means of head movement or phrasal movement of the sole projection containing the V). Thus, their ungrammaticality in sentence-final position is expected.

In fig. 6.10, below, I represent the derivation of (70b).

²¹³ Figueiredo Silva (1996: 46) and Modesto (2000: 29) both judge ungrammatical the quantifier in this position, i.e., between the V and its complement. For me, it is only marginal, but not ungrammatical.

²¹⁴ I share the same judgment reported in Figueiredo Silva (1996: 46) for the FQ placed between the auxiliary and the main verb in this sentence. Modesto (2000: 29) gives a "?" for the floating quantifier in this position.

²¹⁵ For Modesto (2000: 29), the quantifier located between the auxiliary and the transitive verb is "?". Figueiredo Silva (1996: 46) gives a "?*" for the quantifier in this position.

²¹⁶ For both Modesto (2000: 29) and Figueiredo Silva (1996: 46) the quantifier between the participle and its complement gives rise to ungrammaticality.

²¹⁷ Remember, though, that Vicente reports that sentence-final *todos* is possible with unergatives, unaccusatives and (marginally with) passive Vs. As mentioned before, I do not share her judgments for sentence-final *todos* with unergatives and unaccusatives. Note that in (70) Modesto also does not accept

(70) b. Os caras amam ?todos a Maria.

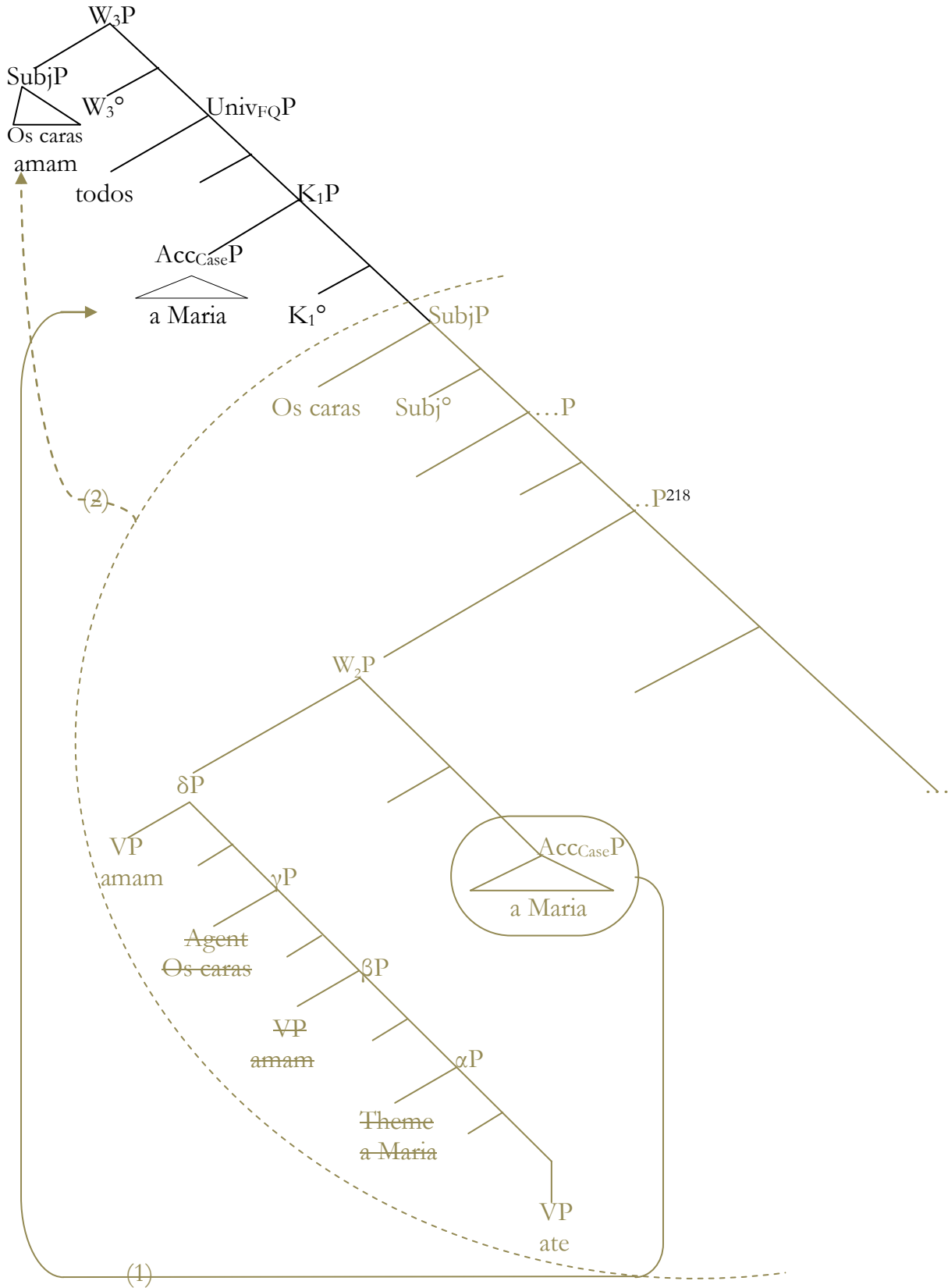


Fig. 6.10: On deriving (70b)

sentence-final *todos* not only with transitive V's but also with unergatives.

²¹⁸ This FP is probably T_{Anterior}P (see chapter 4, sections 2.2 and 4).

(70b) is derived by attracting *a Maria* to the specifier of the probing head associated with *todos* (see previous chapter). *Todos* merge in the sequence and then further movement places the remnant in the Spec to the immediate left of the quantifier (as illustrated in fig. 6.10 above, whose derivation is similar to the derivation represented in fig. 5.1 of the previous chapter, on the narrow scope reading of the epistemic AdvP).

As far as the placement of the FQ *todos* between the auxiliary and the participle in (70c,d), repeated below, is concerned,

- (70) c. Os caras tinham (todos) viajado.
 the guys had all traveled
 d. Os caras tinham todos amado a Maria.
 the guys had all loved Maria.

I assume that the probing head associated with *todos*, and merged before it, attracts *viajado* in (70c) and *amado a Maria*, in (70d) to its Spec. The FQ is merged in the Specifier of the next head, to the left, followed by remnant movement. See fig. 6.11 below.

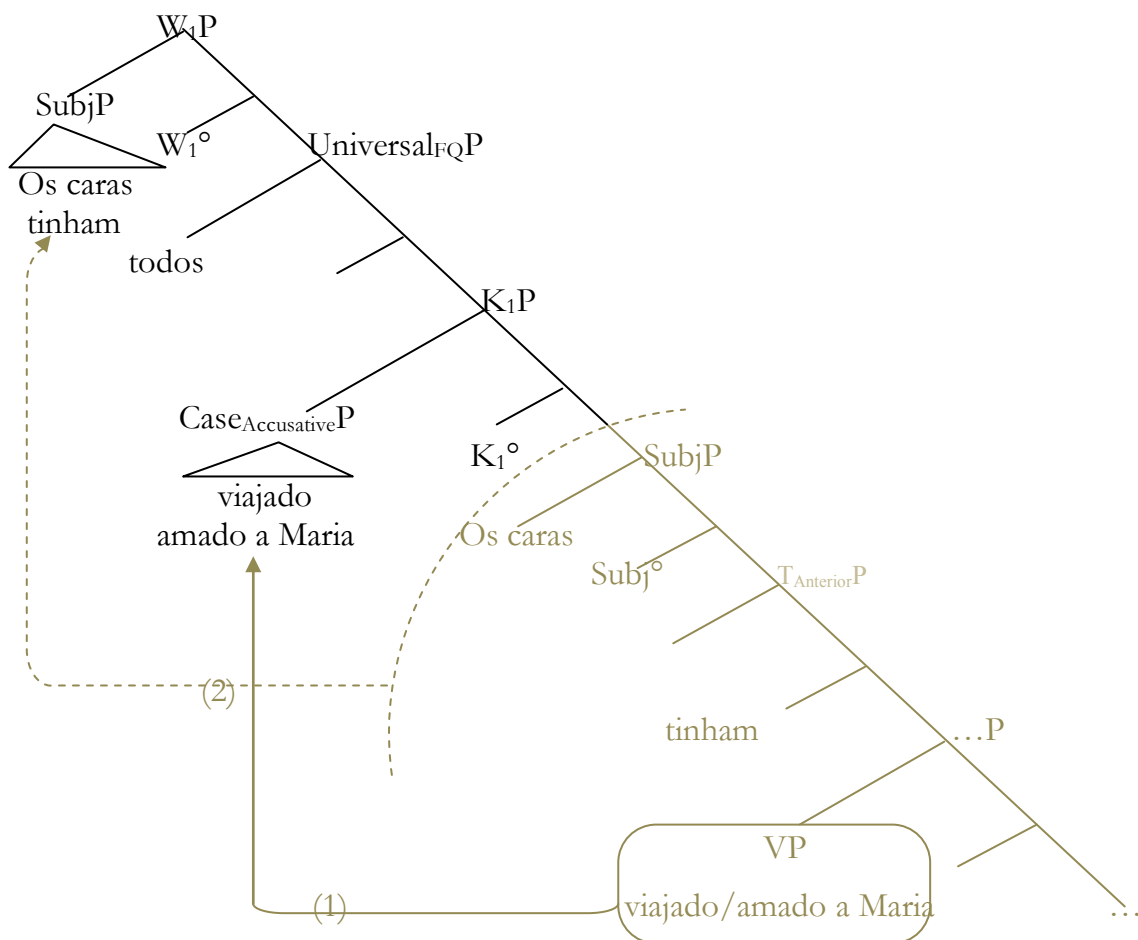


Fig. 6.11: The derivation of (70c,d) in the order *todos* + participle

The derivation of (70d) in the version having the FQ *todos* between the participle and the complement “a Maria” (repeated below) is similar to the one represented in fig. 6.15, found above. The difference is that now “a Maria” is attracted to the Spec of the probing head associated with *todos*, followed by movement of the remnant “Os caras tinham amado” to the left of *todos*.

(70d). Os caras tinham amado ?todos a Maria.

The similarity in placement of the quantifier in the sentences given in (70) and in the placement of the adverb in the sentences discussed in § 3 of the previous chapter (for the narrow reading of scope-inducing (medial/higher) AdvPs) should not merely be taken as accidental. Something is happening both in the syntax of adverbs and in the syntax of the universal floating quantifier *all/todos*. Table 6.2 below shows that the universal floating quantifier *todos* and the epistemic adverb *provavelmente* can actually occur in the same positions. Their similar distribution strongly suggests that a uniform analysis is called for.

Table 6.2: The distribution of the epistemic adverb *provavelmente* and FQ *todos* in BP

Os alunos	___	vão	___	ter	___	rasgado	___	os cadernos	___
(The students		will		have		torn		the copybook)	
<i>provavelmente</i>	OK		OK		OK		OK		*
FQ _{Univ} <i>todos</i>	DP-int ²¹⁹		OK		OK		?		*

The suggestion made here is that the similar placement of epistemic *provavelmente* ‘probably’ and universal floating quantifier *todos* ‘all’ can be captured by generalizing Kayne’s (1998) treatment of scope-inducing elements for both adverbs and universal FQs.

Remember, from table 6.1, that the FQ *all* and the modal *easily* overlap in distribution in English. The same situation also seems to be true of French. Table 6.3, found below, shows

²¹⁹ DP-int stands for “DP-internal”, meaning that, in the post-nominal position of the universal FQ *todos* in the sentence given in table 6.2, the quantifier is not the “clausal” one, i.e., the one merged in a very high position within the IP, but the one merged (also in a very high position) within the extended projection of

that French universal FQ *tous* and the epistemic adverb *probablement* ‘probably’ also overlaps in distribution.

Table 6.3: The distribution of the epistemic AdvP *probablement* and the FQ *tous* in French²²⁰

	Les garçons	___	avaient	___	été	___	invités	___	à une fête	___
	‘The guys had probably been invited to a party’									
<i>probablement</i>		*221		OK		OK		OK ²²²		*223
FQ _{Univ} <i>tous</i>		*166		OK		OK		OK		*

All in all, evidence coming from English, BP and French would strongly suggest a uniform approach for universal FQ *all* and AdvPs. Following the Cartographic tenet that the constituents of the clause would have fixed positions of Merge, I have shown that universal FQs do enter the derivation in a specific position, which is to the right of Mood_{SpeechAct}P and Mood_{Mirative}P. This conclusion allows us to reinterpret the apparent “freedom” that universal FQs seem to enjoy with respect to other evaluative, evidential, epistemic, and subject-oriented adverbs. That freedom is only an illusion created by internal merge. In § 6.4, below, I illustrate how the approach pursued here naturally deals (both empirically and theoretically) with the placement of adjuncts to the right of universal floating quantifier *all* when it surfaces in the ‘post-complement’ space.

6.4. An additional puzzle for the Stranding Analysis

Bobaljik (1995: 212ff.) observes that the “trace theory” (here, ‘stranding approach’) would predict that FQs would be ungrammatical in positions with no trace. Thus, (71) and (72) are puzzling for the stranding approach:

N.

²²⁰ I would like to thank Christopher Laenzlinger (p.c.) for giving his impressions on these data.

²²¹ If the adverb or the floating quantifier are parentheticals, the adjacency subject-first auxiliary may be broken (Christopher Laenzlinger, p.c.).

²²² Christopher Laenzlinger (p.c.) explained to me that this position favors the narrow scope reading of “*probablement*”.

²²³ This sentence is possible if *probablement* receives a parenthetical intonation (Christopher Laenzlinger, p.c.).

- (71) a. Larry, Darryl and Darryl came into the café all [_{PP} at the same time].
 b. Larry, Darryl and Darryl came into the café all [_{PP} very tired]. (Bobaljik 1995: 212)
- (72) a. The magicians disappeared all [_{PP} at the same time].
 b. The voters arrived all [_{PP} exactly at six].
 c. The voters were cast all [_{PP} in alphabetical order]. (Bobaljik 1995: 213)

(71-72) are not problematic for the adverbial theory since it assumes that floating quantifiers can be adjoined to the left-edge of any XP, at least in Bobaljik's system.

The ungrammaticality of (73) is explained in Bobaljik's proposal: the FQ *all* is not adjoined to the left-edge of an XP:

- (73) a. *The magicians have arrived all.
 b. *The votes have been counted all. (Bobaljik 1995: 205)

We have seen in § 3.2 that, under the analysis proposed here, being merged in a higher position in the IP, FQs—as other modifiers merged in that zone, namely higher adverbs—cannot appear sentence-finally. Under the generalization of (our revisited version of) Kayne's (1998) analysis to adverbs and FQs, this is due to the fact that they (or their associated probing head) have (has) not attracted any constituent under their scope. Thus, no derivation can generate (73)—or (10), given above, and repeated below. Being scope-inducing elements, universal FQs require the constituent under their scope to be in their c-command domain.

- (10) a. *The suspects have been arrested all. (Passive)
 b. The suspects have all been arrested.
 c. *The students have arrived all. (Unaccusative)
 d. The students have all arrived.
 e. *The finalists have danced all. (Unergative)
 f. The finalists have all danced. (Fitzpatrick 2006: 39)

Let us review Vicente's (2006, § 4.2.5) data and arguments on BP sentences like (71) and (72) above. I will show that an analysis of FQs *à la* Kayne (1998), besides having the advantage of deriving (71-72) naturally, it is theoretically and conceptually superior, in that it uniformizes the analysis of scope-inducing attractors, and deals only with leftward movements, as

opposed to Vicente’s analysis which, to account for the data given in (74a’) and (75), has to assume that the adverbial theory is necessary in some cases, and has to turn to “rightward movements”. The analysis proposed here has an advantage if compared with Bobaljik’s. In his analysis, the universal FQ *all* adjoins to the XP found on its right. Here, the universal FQ *all* has a fixed position in the clause. Hence, if the quantifier modifies a clausal constituent, it will always be merged in the same position within the IP, namely, to the right of $\text{Mood}_{\text{SpeechAct}}\text{P}$ and $\text{Mood}_{\text{Mirative}}\text{P}$ and the different scope domains will be achieved transformationally (see the previous chapter on the analysis of scope-inducing adverbs). It has the desired effect of restricting the complexity of the architecture of the grammar, which is one of the main goals of Minimalism.

Remember that Vicente (2006) reports sentence-final *todos* as ungrammatical with transitive Vs. (74a) illustrates this.

- (74) a. *Eles leram a revista todos.
 They read the magazine all.
 ‘All of them read the magazine.’
 a’. Eles leram a revista todos ao mesmo tempo.
 They read the magazine all at the same time.
 ‘They read the magazine all at the same time.’ (Vicente 2006: 141)

(74a’) is problematic for Vicente’s (2006) approach, which assumes a modified version of Sportiche’s (1988) Stranding Analysis. How could (74a’) be explained by the Stranding Approach?

In § 6.2, it was shown that, according to Vicente (2006: 137), BP would lack (generalized) object shift. Only a restricted type of object shift, with passives and unaccusatives, would be available in BP. This is not the case in (74a’). This sentence should be ungrammatical, since the object could not move (at least under Vicente’s assumptions). The question is: how could the presence of the floating quantifier to the left of the direct object be explained?

To account for the data in (74a’), Vicente turns to Kato & Nascimento (1993)—cit. in Vicente (2006)—, which also assumes Sportiche’s (1988) ‘Stranding Approach’ and proposes an alternative explanation for sentences like (74a’) and (75), below. The universal quantifier would bind a PRO within a small clause (76):

(75) *As mulheres comeram lagosta todas com as mãos.* (Vicente 2006: 142)
 The women ate lobster all with the hands.
 ‘All the women ate lobster with her hands.’

(76) [... [PP todas [PP PRO_i [P' com as mãos]]]]

This PRO within the small clause would be bound by the floating quantifier, thus patterning like an anaphor, and would corefer with the subject DP, thus satisfying the double requirements of PRO. Vicente suggests that in the cases of (74a') and (75) *todos* would bind a PRO which is the subject of a small clause.

There are two problems with her analysis of (74a') and (75), i.e., for the assumption of (76). First, assuming (76) means turning to the adverbial theory to account for the facts, since the FQ, in (76), is not the product of stranding. Second, to explain (74a') and (75) Vicente has to make an assumption which is currently problematic on theoretical grounds, namely, resort to rightward movements, which are banned by the LCA (Kayne 1994). She has to assume what she calls “postposition” of the PP “[PP todas [PP PRO_i [P' com as mãos]]]” to the right of the object in (75). The same rightward movement should be assumed for the PP “*todos ao mesmo tempo*” in (74a'), since, according to her, there is no evidence for a possible movement of the direct object in BP. I will return to this point in *Appendix 2*.

In my analysis, there is no need for assuming rightward movements nor the existence of a small-clause for those adjuncts found on the right of the quantifier in (74a') and (75). The same process which takes place with adverbs also takes place in the syntax of floating quantification, since both adverbs and FQs are scope-inducing elements. Assuming Doetjes (1997, chapter 8), I argue that, on its movement to [Spec,SubjP], the subject leaves a trace. The Subject and the FQ are co-indexed. Thus, the FQ is also co-indexed with the variable left by the movement of the subject. To derive, for instance, (75), there is no need for rightward movements. In a restrictive theory which assumes Cartography and Antisymmetry, there is no space for rightward dislocations. I assume, with Cinque (2006, chapter 6) and Schweikert (2005), that circumstantial DPs are merged to the left of the VP, in dedicated Specifier positions hierarchically organized. Thus, before the merger of *todas*, in a higher position within the IP, the probing head associated with *todas* attracts the PP *com as mãos*, followed by remnant movement past the FQ. I will represent the derivation of this sentence

step by step in *Appendix 2* of this chapter. Given its complexity, it would take us too far from our main concern which is to show how the unifying analysis for both AdvPs and universal FQs is superior to Vicente’s ‘rightward dislocation’.

So, to get (75), prior to the merger of the FQ *todas*, the probing head associated with it attracts the PP *com as mãos* ‘with hands’ to its Spec. Then, *todas* merge in the next Spec and a further displacement puts the remnant *as mulheres comeram a lagosta* to the left of the FQ.

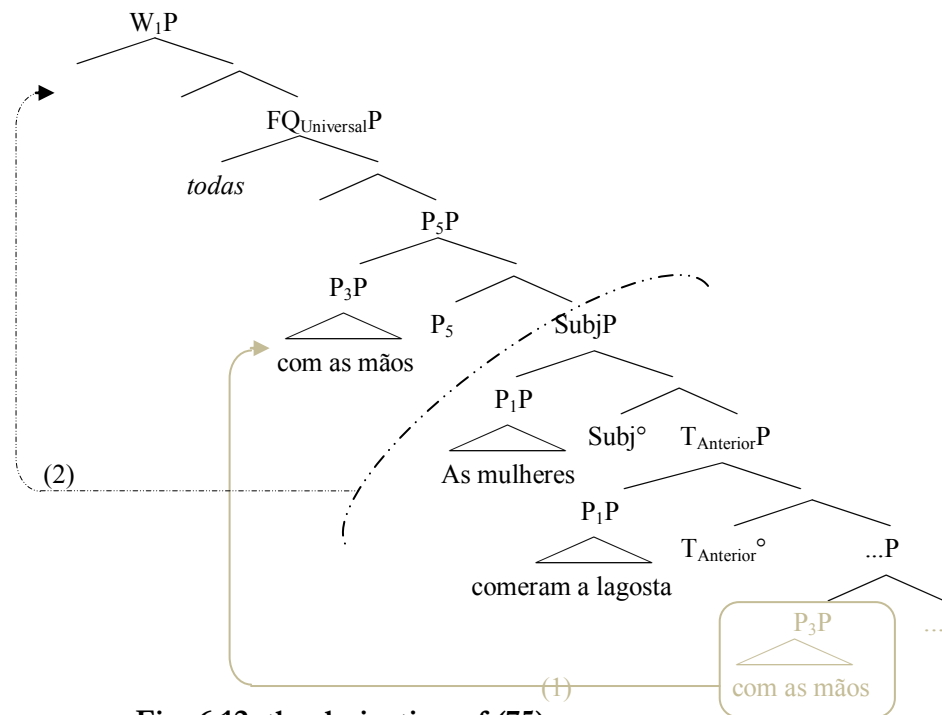


Fig. 6.12: the derivation of (75)

I invite the reader to have a look at the detailed derivation of this sentence, in *Appendix 2*, so as to understand where the instrument-DP *as mãos* is merged in the structure and how it comes to be the (ultimate) complement of P (along the lines of Kayne 2005, Schweikert 2005 and Cinque 2006). What is important here is that the PP *com as mãos* is not lying on a right adjoined position. It never occupies an adjoined position in the derivation nor a righthand Specifier.

In summary, the approach proposed here has the advantage of unifying the analysis of both adverbs and floating quantifiers (at least *universal FQs*). The BP data involving universal FQ *todas* may be approached in the same way data involving scope-inducing AdvPs is.

6.5 Conclusion

Since the main goal of this dissertation is to provide an analysis of verbal-raising in BP, this chapter was devoted to the investigation of the syntactic mechanisms enhancing floating quantification in Syntax, for one specific reason: FQs have been traditionally taken as diagnostics for verbal raising, independent of the theory of floating quantification adopted (see Ambar 1987, 1989, 2008; Belletti 1990; Costa 1998, 2004; Costa & Galves 2002; Figueiredo Silva 1996; Galves 1994; Pollock 1989; a.o.). By assuming the Cartographic Framework, the fundamental question made in this chapter was: where do FQs (or, to be more precise, universal FQs) merge in the derivation?

Two main theories have been developed in the last twenty years to explain the phenomenon of floating quantification: the ‘stranding approach’ and the ‘adverbial approach’. As we have noted, in both theories the FQ enters the derivation in a position to the left-edge of the VP. For this reason, it has been taken as diagnostics for V-raising. The stranding approach proposes that floating quantification is the result of the stranding of the quantifier by the movement of its associated-nominal. The quantifier would be merged together with its associated nominal. If the floating quantifier is associated with the DP-subject, their position of merger is [Spec, ν P]. Movement of the DP to [Spec,IP] could leave the FQ stranded in [Spec, ν P]. Thus, FQs would be taken as diagnostics for V-to-I raising. Proponents of the adverbial approach believe that FQs are adverbial elements that, in some sense, do not directly quantify over their related nominal (Bobaljik 1995, Brisson 1998, 2000). They are rather merged as adjuncts of VP, thus, again as adjuncts of the ν P-phase. As such, they would also indicate the presence or absence of V-to-I raising.

In § 2, I presented the main tenets of both approaches. Given the advantages of the ‘adverbial approach’—especially regarding the placement of (higher) AdvPs and FQs, which is virtually the same—, I assume, with the scholars of this framework, that FQs are modifiers merged in the extended projection of V. The assumption of the Cartographic Framework made me wonder if FQs are indeed merged in the left-edge of the ν P-phase (as defended both by the stranding and the adverbial approaches). The English data presented in § 3.2 suggests that (at least) *universal FQs* are not merged as VP-adjuncts. They are rather merged in a very high position within the IP, namely, to the left of Mod_{Evaluative}P, but necessarily to the right of Mood_{SpeechAct}P and Mood_{Mirative}P. As such, FQs are **not** reliable diagnostics for V-

raising, given the fact that they—at least FQ ‘all’ in English and its Romance counterparts—merge in a very high position. For our primary concerns, i.e. the analysis of V-raising in BP, universal FQ todos ‘all’ is not of help either.

Though I assumed the main ideas of the ‘adverbial approach’, I proposed a new based on Kayne’s (1998) theory of scope-assignment. FQs have also been treated as scope-inducing elements. We argued against the contention that FQs would be freely ordered with respect to higher modal AdvPs, a common assumption made by scholars of the adverbial approach (see Bobaljik 1995; Brisson 1998, 2000; Fitzpatrick 2006, chapter 2). We noted that their apparent free ordering is due to the fact that the familiar series of movements for the purpose of scope-assignment (*à la* Kayne 1998) gives us the illusion that they do not have a fixed position of merge.

By approaching FQs in the same way we approached scope-inducing adverbs (see chapter 4), i.e., extending Kayne’s (1998) treatment to them, it was possible to explain the distribution of FQs in BP. As we have seen in section 6.3, FQs overlap in distribution with higher adverbs in BP, a positive indication not only of their adverbial-like nature, but also of the position where they are merged in the structure, i.e. one of the highest positions within the IP. Their position of Merge together with their scope-inducing nature have been taken to be the reason for their prohibition sentence-finally. I also examined alternative proposals to the phenomenon of floating quantification, in BP, suggesting that the approach proposed here, besides being the same suggested for the syntax of higher adverbs (see chapter 4), has a plethora of theoretical-conceptual advantages as well (section §6.4). Furthermore, the advantage of generalizing Kayne’s analysis to FQs—thus treating them as other scope-inducing elements (on par with focalizers, NegPs, scope-inducing adverbs)—is that it captures the belief that “syntax is strongly invariant” (Sportiche 1998), at least as far as the assignment of scope is concerned.

Two appendices follow. *Appendix 1* discusses the question of the agreement on FQs. Based on Doetjes (1997) and Fitzpatrick (2006), I show that the adverbial approach can also account for this fact. *Appendix 2* presents the (complete) derivation of sentence (75) of § 6.4, *step by step*.

Appendix 1: Agreement on Adverbial FQs

French, Spanish, European Portuguese, Standard Brazilian Portuguese and many other languages showing agreement between the ‘adjectival’ quantifier and their associated nominal may also show agreement patterns on floated quantifiers.

The following examples illustrate this for French.

French (Fitzpatrick 2006: 64)

- (1) a. [Tous les étudiants] sont arrivés.
[all-MASC.PL the students] are arrived
‘All the students arrived.’
b. *[Toutes les étudiants] sont arrivés.
[all-FEM.PL the students] are arrived
Intended: ‘All the students arrived’
c. [Les étudiants] sont *tous* arrivés.
[the students.MASC] are all.MASC.PL arrived
‘The students all arrived.’
d. *[Les étudiants] sont *toutes* arrivés.
[The students.MASC] are all.FEM.PL arrived
Intended: ‘The students all arrived.’
- (2) a. [Toutes les filles] sont arrivées.
[all-FEM.PL the girls] are arrived
‘All the girls arrived.’
b. *[Tous les filles] sont arrivées.
[all-MASC.PL the girls] are arrived
Intended: ‘All the girls arrived’
c. [Les filles] sont *toutes* arrivées.
[the girls] are all.FEM.PL arrived
‘The students all arrived.’
d. *[Les filles] sont *tous* arrivées.
[The girls] are all.MASC.PL arrived
Intended: ‘The girls all arrived.’

The Stranding Theory for floating quantification takes (1a) and (2a) to support the stranding analysis. According to them, the agreement patterns which arise between the FQ and its associated DP is a consequence of the fact that the DP and the FQ start out as phrase-mates. That would explain the ungrammaticality of (1 b,d) and (2 b,d) where the FQ fails to agree with its associated DP, and the grammaticality of (1c) and (2c) where, in spite of the fact that the FQ is ‘stranded’ in [Spec,*v*P], it agrees with its associated nominal, given the fact that they were merged as clause-mates before.

The stranding approach claims that these agreement facts are a strong argument against any theory which does not turn to transformations.

Remember, from § 2.2.1, that Doetjes (1997: 205) suggests that the internal structure of FQs is [QP Q [DP *pro*]]. Thus, in her ‘adverbial’ analysis—as well as in Fitzpatrick’s analysis of FQs in English and French—the agreement which arises on the FQ should be seen as “a reflex of the binding relation between the FQ and the DP trace” (Doetjes 1997: 205) left by the movement of the DP-argument to IP. In Doetjes’s analysis, the FQ is merged as an adjunct of VP. She adopts Koopman & Sportiche’s (1991) ‘VP-internal Subject Hypothesis’. Hence, in its movement to [Spec,IP] the subject would leave a trace in that position. This trace is bound by the QP, given that they are co-indexed. This binding relation explains, according to Doetjes, the agreement between the FQ and their nominal associated.

Defendants of the adverbial approach argue that there are many other instances of Agreement in number, gender and case which can be observed between elements which seem to not be related syntactically (Fitzpatrick 2006: 65ff.). One such example is the agreement of a bound pronoun and its binder/antecedent in gender and number. The examples are given below.

(2) *Spanish* (Fitzpatrick 2006: 65)

- a. [Ninguna de las mujeres]₁ cree que *ella*_{1/2}/*él*_{2/*1} esté culpable.
None-FEM of the-FEM women thinks that she/*he is guilty
‘None of the women₁ thinks that she₁ is guilty’
- b. [Las mujeres]₁ creen que *ellas*_{1/2}/*ellos*_{2/*1} van a llegar tarde.
The-FEM women think that they-FEM/*MASC are going to arrive late
‘The women₁ think that they₁ will arrive late.’

Fitzpatrick also cites the case of secondary predicates which agree in number and gender with the subject in Spanish:

(3) *Spanish* (Fitzpatrick 2006: 65)

- a. Ella llegó *borracha*/**o*/**as*/**os*.
She arrived drunk-FEM.SG/*MASC.SG/*FEM.PL/*MASC.PL
‘She arrived drunk’
- b. Ellas llegaron *borrachas*/**os*
they-FEM arrived drunk-FEM.PL/*MASC.PL
‘They(fem.) arrived drunk.’

Fitzpatrick (2006: 65-66) also provides evidence from Russian. Depictives in that language can agree in case with the associated argument, see (4):

(4) *Russian* (Fitzpatrick 2006: 66)

- a. Vadim vermul's'a iz bol'nicy zdorovij.
V-NOM returned from hospital healthy-NOM
'Vadim returned from the hospital healthy.'
- b. Ja zakazala rybu-ACC syruju.
I ordered fish raw-ACC
'I ordered the fish raw.'

The fact that secondary predicates and pronouns—at least under some analyses—have never formed a constituent together with their associate could be taken to support the view that the agreement facts observed between the FQ and its nominal associate are not to be taken as a weakening point for the adverbial theory. Furthermore, Fitzpatrick (2006: 66) agrees with Doetjes (1997) in that the null *pro-form*, which has been proposed to be part of the FQ phrase, could be responsible for the agreement (see (5)).

(5) *French* (Fitzpatrick 2006: 66)

- [Les étudiants]₁ sont [VP [tous *pro*₁] [VP arrivés]]
[the students] are [VP all] [VP arrived]]
'the students have all arrived'

Conclusively, the agreement between the FQ and its nominal associate also receives an explanation from the adverbial approach. I assume Doetjes's (1997) internal structure for universal FQs (see § 2.2.1). Thus, the agreement facts discussed in this *appendix* are also valid for the version of the adverbial approach proposed here.

Appendix 2: Back to the derivation of (75)

In section 6.4, I quoted sentence (75), repeated below, given in Vicente (2006), to discuss her analysis of FQ *todos/todas* in BP. Vicente assumes the ‘stranding approach’ (Sportiche 1988) and proposes a modified version of it to account for the BP and the English data. The assumption of the stranding approach would nonetheless leave (75) unexplained. Vicente realizes that (75) would thus be puzzling for her analysis. As I argued in §6.4, not only is (75) problematic for the stranding theory (and, consequently, for Vicente’s analysis which assumes that theory), but also for the explanation that she provides for this sentence.

Remember, from § 6.2, that Vicente (2006: 137) assumes that BP would lack (generalized) object shift. Only a restricted type of object shift, with passives and unaccusatives, would be available in BP. This is not the case in (75). The DP would raise from [Spec,*v*P] to [Spec,IP] leaving the FQ stranded in that position. Hence, (75) should be ungrammatical, since the object could not move (at least under Vicente’s assumptions).²²⁴ How could the presence of the floating quantifier to the left of the direct object be explained?

- (75) As mulheres comeram lagosta todas com as mãos. (Vicente 2006: 142)
The women ate lobster all with the hands.
‘All the women ate lobster with her hands.’

As shown in § 6.4, Vicente assumes Kato & Nascimento’s (1993) analysis, according to which *todos* would be adjoined to the PP *com as mãos*. Being a quantifier, the FQ would have to bind a variable in its c-command domain. Thus, Kato & Nascimento propose (and Vicente agrees with them) that *todos* would be co-indexed with a PRO, which would be the subject of the small clause [PRO *com as mãos*]. *Todos* would thus satisfy the anaphoric requirement of PRO.

I have already discussed the problems of this assumption. Assuming that *todos* would be an adjunct of the PP would mean that the stranding approach is not sufficient to account for the

²²⁴ If the object cannot move in BP, the question is: how could Vicente’s approach explain the grammaticality of (i), below?

- (i) Os meninos fizeram a tarefa cuidadosamente.
The boys did the homework carefully

data. The aim of the stranding approach (as mentioned in § 2.1 and 2.1.1) is to account for the phenomenon of floating quantification transformationally. Scholars of the stranding view believe that the FQ and the DP would be phrase-mates in a step of the derivation and movement of the associated DP would leave the FQ stranded, giving rise to floating quantification. The problem is that, to explain (75), Vicente has to assume that, in some cases, there are instances of floating quantification which can only be explained through adjunction, i.e. she must also turn to a type of adverbial analysis.²²⁵ The second problem is theoretical-conceptual. To explain (75), she has to assume that the FQ, which is adjoined to [PRO *com as mãos*] is moved, together with the PP, to the right of the direct object.

As shown in § 6.4, these problems do not arise for my analysis. The PP *com as mãos* is attracted to the Specifier of the probing head associated with the FQ, and merged before it, followed by merger of the quantifier and remnant movement. I have already sketched the derivation of (75), glossing over some details like the position where the PP would merge in the derivation, or, better, how one would obtain this PP derivationally. Now, it is time to represent this derivation *step by step*, from the merger of each one of the verbal arguments and the circumstantial DP to the merger of the floating quantifier and remnant movement past it.

Remember, from chapter 2, that all the arguments as well as circumstantial adjuncts are merged in dedicated Spec positions, hierarchically organized, to the left of the VP, in

²²⁵ The adverbial approach does not deny the possibility that an universal quantifier can appear within the extended projection of the N. Actually, at least in the version of the adverbial theory proposed here, universal quantifiers appear both in the extended projection of V and in the extended projection of N. Remember from § 2.1.2, that the assumption that both the extended projection of V and the extended projection of N have a universal quantifier as part of their functional structure is not a problem for the ‘adverbial approach’, at least for the version of this framework proposed here (§ 3.2), since it provides a positive explanation under the view of the (partial) parallels between the nominal expression and the clause (argued, for instance, in Abney 1987, Giusti 2006 and Laenzlinger 2011).

(12) *Italian* (G. Cinque, p.c.)

- a. Tutti i bambini sono usciti tutti alle 5.
All the children have left all at 5.
‘All the children have left [_F at 5].’
- b. Tutti i ragazzi volevano uscire tutti con Maria.
All the guys wanted to go-out all with Mary.
‘All the guys wanted to go out [_F with Mary].’
- c. Tutti i ragazzi sono usciti tutti con Maria.
All the guys have gone-out all with Mary.
‘All the guys have gone out [_F with Mary].’

The adverbial approach does not predict that the two quantifiers in each one of these sentences given in (12) are part of the extended projection of V. Rather, one comes from the extended projection of V and

accordance with the left-right asymmetry (Cinque 2006). Thus, in (72) the V projects the VP, then the bare NP_{Theme}, namely *lagosta* ‘lobster’ merges in the sequence, in the Spec of the next head. The VP (phrasal-)moves to the left of NP_{Theme}. Then, the DP_{Agent}, namely, *as mulheres*, merges in the next Spec followed, again, by the movement of the VP past it. Next, the DP_{Instrument} *as mãos* ‘the hands’ merges in the next Spec, to the left, followed, again, by VP movement past it. See fig. 6.17.

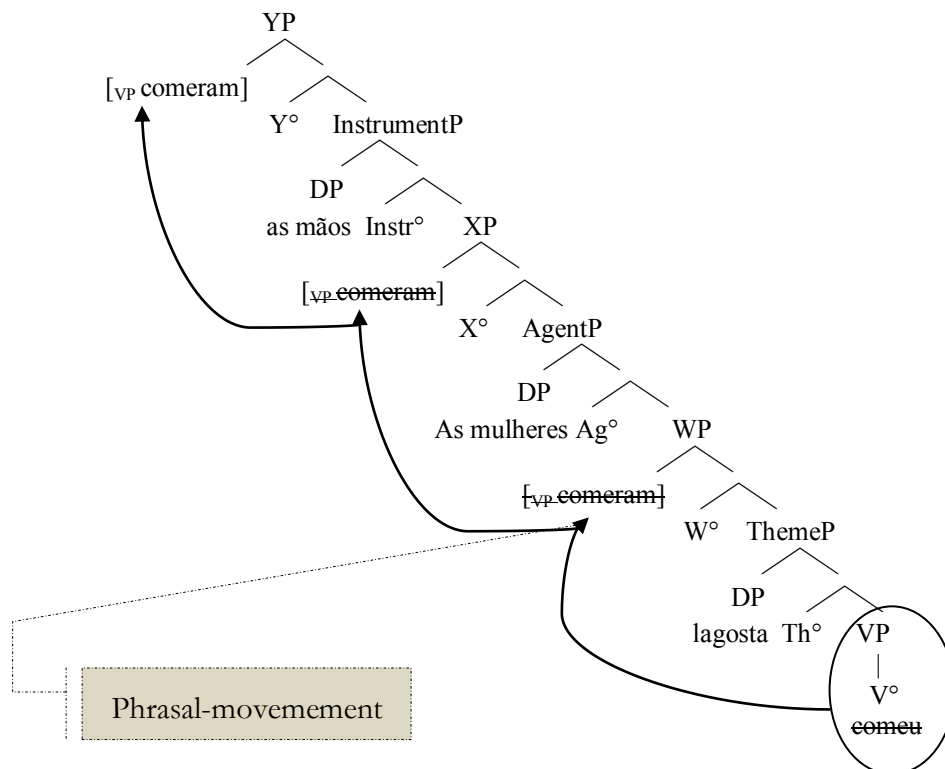


Fig. 6.13: Merge of the arguments and the adjunct of (75)

I follow Cinque (2006, chapter 6) in that the derivation continues by merging Kayne’s Case-related projections whose merge intersperse the hierarchy of clausal modifiers (Cinque 1999, 2006, etc.). The first ‘case-related’ projection to merge is an Accusative-Case licensing Head which attracts the Theme-DP (here, *lagosta* ‘lobster’) to its Spec. An abstract P head merges in the sequence and further movement places the remnant in its Spec. (cf. figs. 6.14 and 6.15).

the other from the extended projection of N.

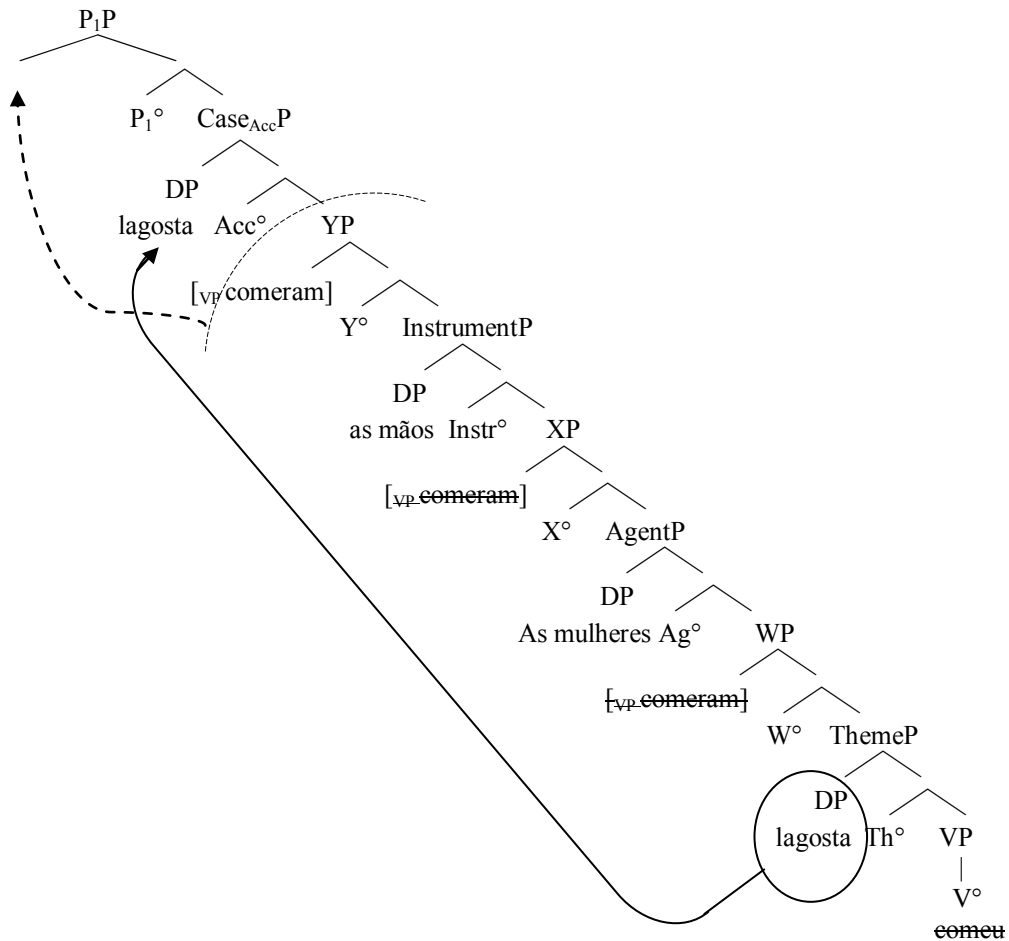


Fig. 6.14: Movement of the DP_{Theme} for Case reasons

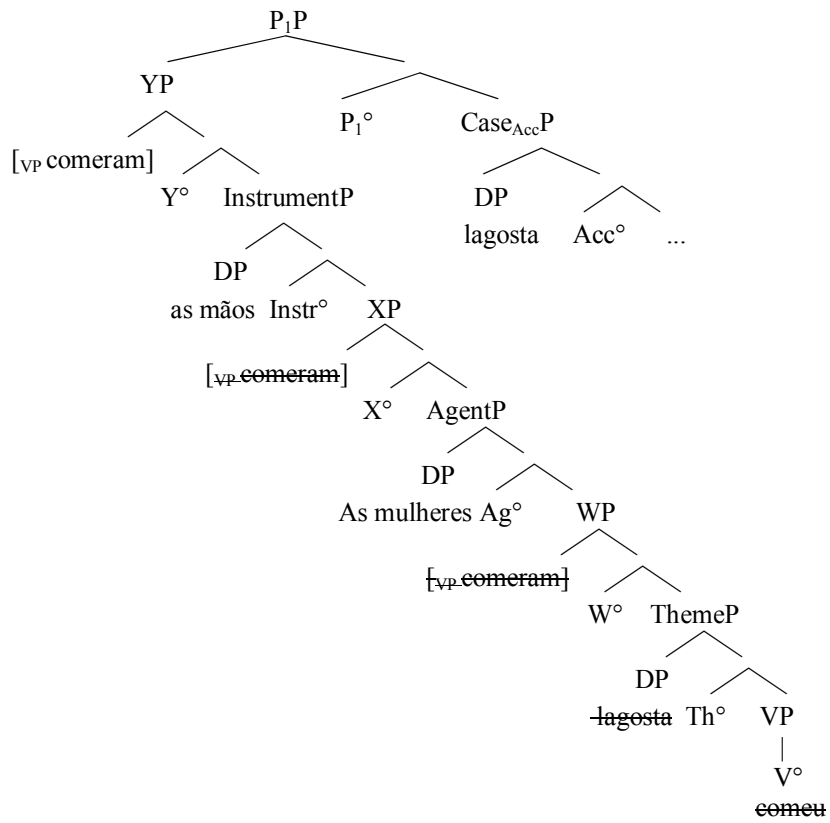


Fig. 6.15: Remnant movement

In the sequence, a head checking/matching/assigning Nominative Case is merged and the Agent-DP, *as mulheres*, is moved to its Spec, followed by movement of VP-DP_{Instrument-Case_{Accusative}P} to the next Spec (fig. 6.16 and 6.17).

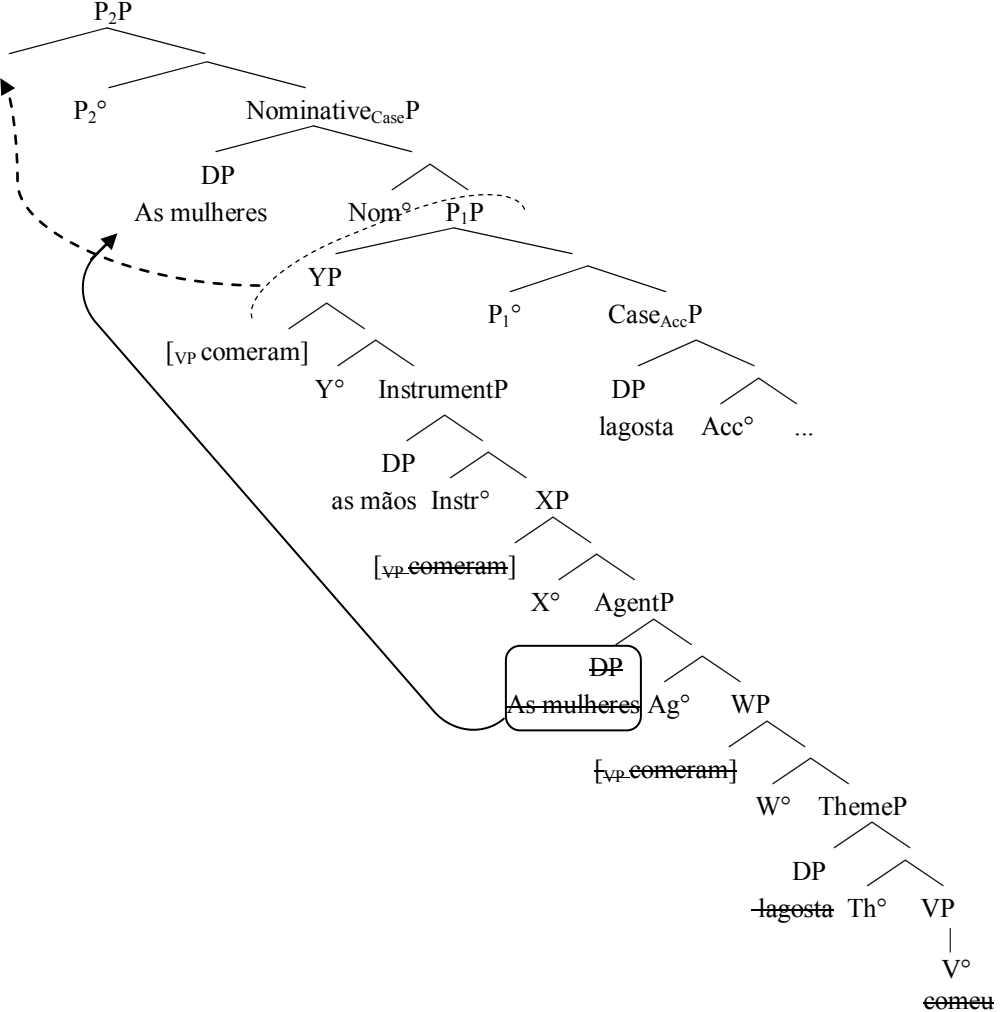


Fig. 6.16: Raising of the Agent-DP to the Specifier of the Nominative Case-assigning head

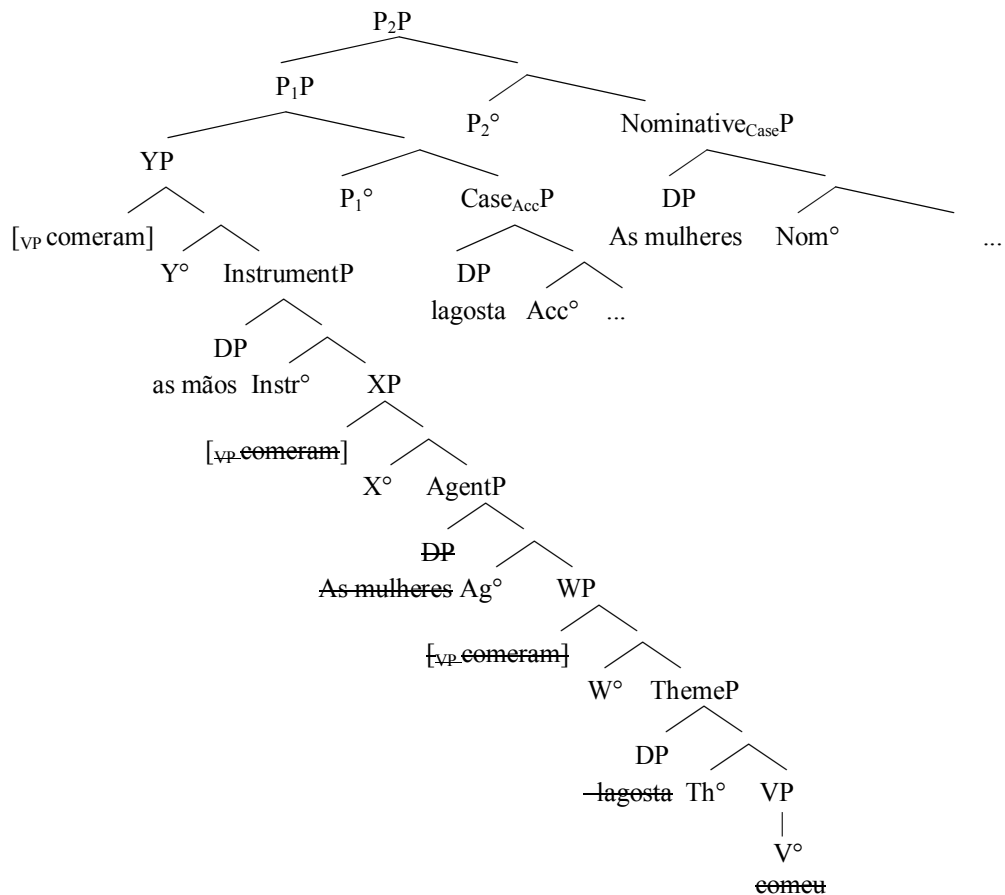


Fig. 6.17: Remnant movement

The $DP_{Instrument}$ has to move to check Case, say, in $[Spec, Instrument^\circ]$. Next, the preposition *com* is merged in a head to the left, after which remnant movement takes place. Now, the question is: does this remnant move to $[Spec, com]$? Remember Koopman’s (1996) “*Generalized Doubly Filled Comp Filter*”, according to which “*No projection has both an overt specifier and an overt head at the end of the derivation.*” (Koopman & Szabolcsi 2000: 40). Thus, if we assume this generalized version of the “Doubly Filled Comp Filter”, the remnant in $[Spec, com]$ cannot stay in that position, not even a part of it, at the end of the derivation. Since we also assume only phrasal-movements here, there is no way to move the preposition *com* to the left, since it is a head. To avoid ‘vacuous’ movement of the remnant to an FP to the left, I would like to turn to Kayne’s (2005: 330, § 12.5.5. and fn. 97) analysis of “postpositions”, which proposes that it involves (what I called in footnote 63) “adpositional shells”, i.e., a set of two FPs dominating the FP headed by a case-assigning/checking head. Remember (also from footnote 63) that in the case of doubles of prepositions I suggested that a radical interpretation of Kayne’s “adpositional shells” analysis would be that—even in “prepositional-like languages” (Italian, BP, English, etc.)—P’ would always be present but it

would never involve movement to its Spec, be it silent (in the non-doubling constructions), be it pronounced. Movement would necessarily be triggered to the Spec of the highest preposition, namely, to [Spec,P]. I believe we have a way to elegantly answer the question raised above, namely, where would the remnant move to, after the Merge of *com*? We could assume that *com* is merged in P' (i.e. the lower head of the “adpositional shell”) and the remnant would move to the Specifier of the next head, merged in the projection immediately above the FP headed by P'. See fig. 6.22.

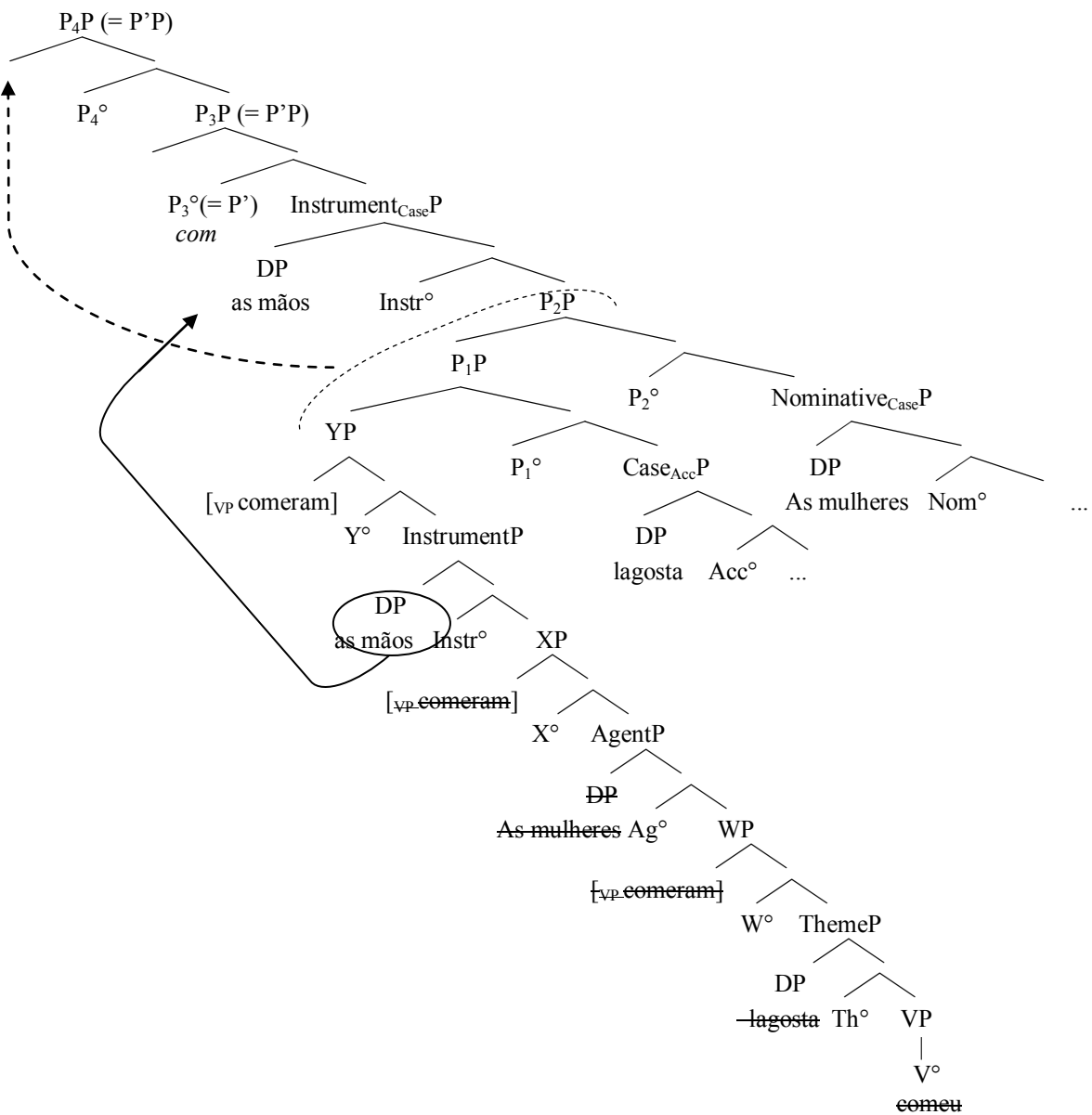


Fig. 6.18: Merge of *com*, P' and remnant movement

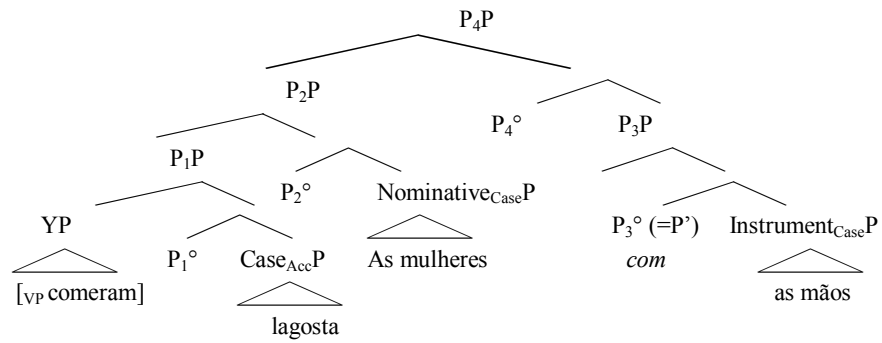


Fig. 6.19: Configuration after remnant-movement

The verb now has to move (obligatorily) to a lower projection within the IP, namely, to the left of $Asp_{SingCompleitive(I)P}$. Remember, from chapter 4, that V raising is limited in BP to $[Spec, T_{Anterior}P]$. I assume that P_1P extracts out of P_2P (see fig. 6.20 and 6.21, below). That this movement is possible is noticed by the fact that this chunk (P_1P ‘comeram a lagosta’) can be clefted (cfr. 75’):

(75’) Foi comer lagosta que as mulheres fizeram...

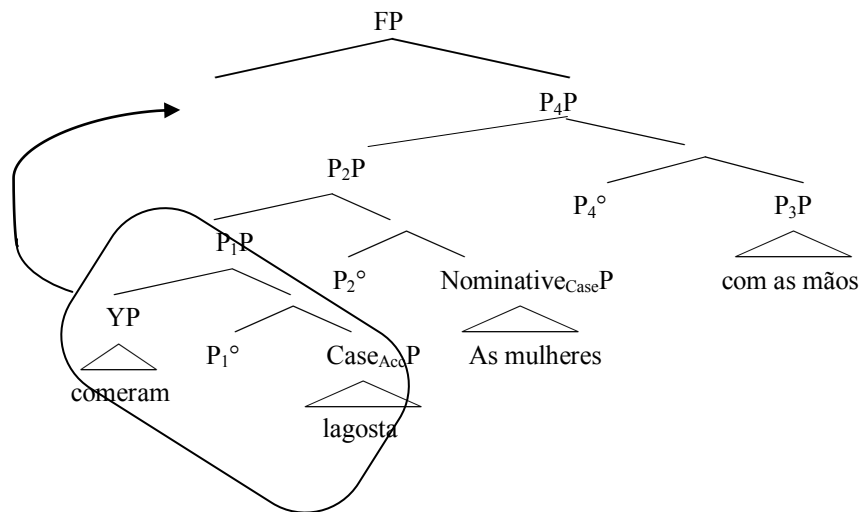


Fig. 6.20: Extraction of *comeram lagosta* (I)

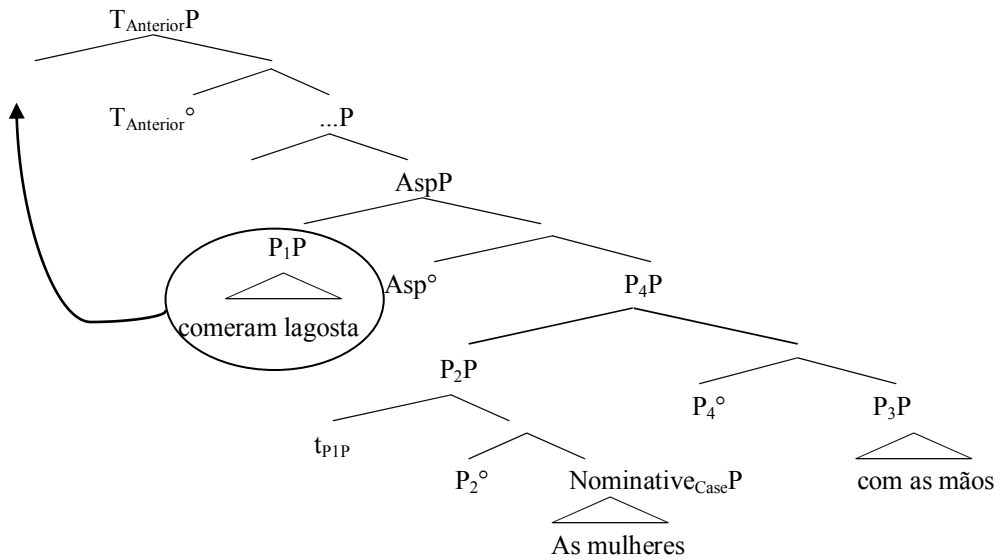


Fig. 6.21: Extraction of *comeram lagosta* (II)

Since there is no possible “V-movement” from [Spec, $T_{Anterior}$] on, in BP) (see chapter 3), the subject is extracted and raised to [Spec, SubjP].

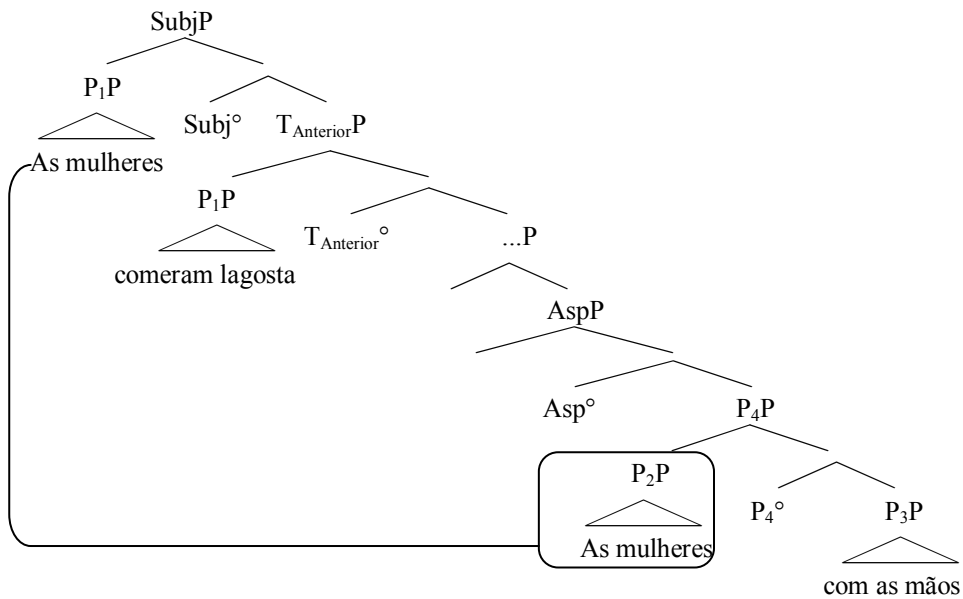


Fig. 6.22: Movement of the subject to [Spec, SubjP]

This raising of the subject (see fig. 6.22) leaves an unpronounced copy/trace behind. The subject and, consequently, its unpronounced lower copy, are co-indexed with the FQ (which is going to be merged in the sequence). The QP cannot license a variable, given that within its internal structure there is a *pro* (Doetjes 1997, chapter 8). Yet, coindexation of the FQ with the subject makes binding possible. It is the subject which licenses the variable.

Thus, we have now reached a point in the derivational history of (75) which allows us to extract the PP *com as mãos*. The derivation is the same as presented in section 6.4. Before the Merge of the quantifier *todos*, *com as mãos* raises to the specifier of the probing head associated with the quantifier, after which the quantifier merges in the sequence and further movement puts the remnant *as mulheres comeram a lagosta* to the left. Below, I repeat the representation of these steps, already given in fig. 6.12, § 6.4.

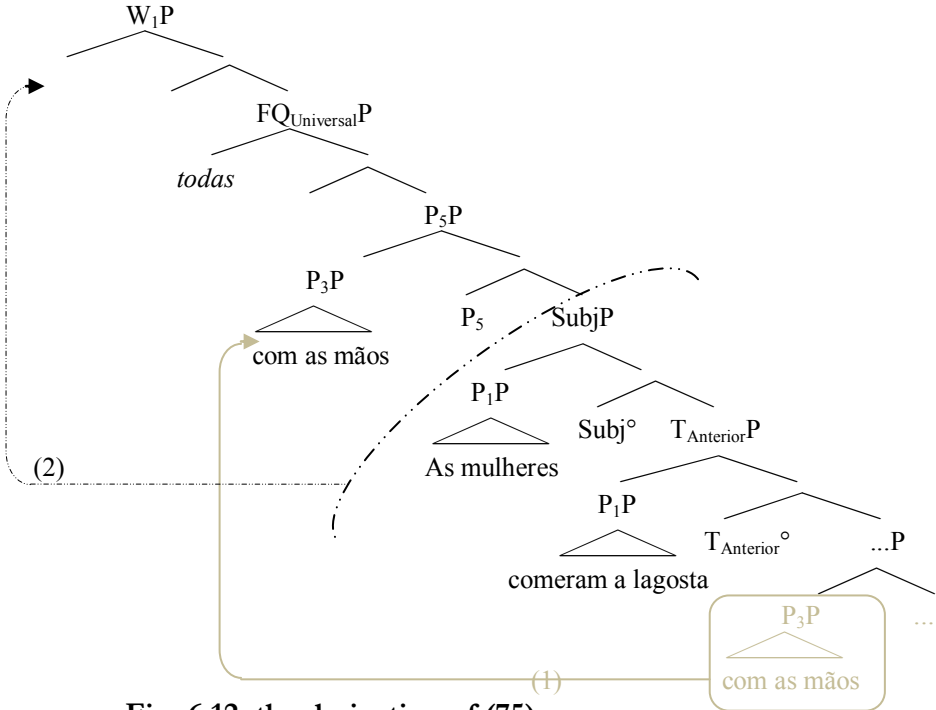


Fig. 6.12: the derivation of (75)

One could criticize the derivation we have proposed for (75) by arguing that the extensive use of movements, especially remnant movements, are unusual and “complex”. Remember, however, that Koopman & Szabolcsi (2000: 37) justify their (also) “complex” system by saying that such a complexity “in a well defined sense (...) is in fact extremely simple”. I assume that this is indeed the case. First, we start by assuming Cinque’s (2005, 2007, 2010a,b, 2011) *left-right* asymmetry, according to which nothing is merged to the right of V. We have assumed the strongest Cartographic tenet that each constituent of the clause has a fixed position in the clausal structure. We have also assumed that these tenets are cross-linguistically valid. Since all languages would share the same inventory of functional projections, the crosslinguistic differences would be reduced to pronunciation or non-pronunciation of functional elements (much in the spirit of Kayne 2005) and the type and extension of internal merge operations. All this has been done to derive (75). The reader will

have realized that, although apparently complex—given the amount of (functional) structure generally assumed—, the derivation proposed for (75), as well as the derivations proposed for each sentence in this dissertation, are always designed in the same way, by being built up from a “unique, everrepeating design” (Koopman & Szabolcsi’s 2000). For us, it means computational simplicity. The assumption of these cartographic structures and this massive use of movements also have an obvious theoretical-conceptual advantage: “the basic building blocks of syntax [can] be simplified to a unique structural design, which we take to be the basic unidirectional [specifier [head complement]] configuration, as in Kayne 1994.” (Koopman & Szabolcsi 2000: 37). Hence, the (Cartographic) system approached here is elegant and computationally simple.

Chapter 7:

Conclusion

This dissertation investigated the issue of verb movement in Brazilian Portuguese, from a Cartographic perspective, mainly based on Cinque's recent works (1999, 2004, 2005, 2007, 2009, 2010a,b, 2013, *f.c.*).

In chapter 1, I introduced a paradox, largely ignored in the literature in spite of its relevance to a proper understanding of the verb raising phenomenon. That is, the fact that although higher adverbs (2), as opposed to lower adverbs (1), cannot appear in the post-verbal space, unless 'deaccented' (compare (2) with (3)) (Belletti 1990: 57, 133, fn.43; Cinque 1999: 15, 31; Laenzlinger 2002: 94, 2011, a.o.), they can appear in that space whenever they are followed by some sentential material (cfr. (4)).

- (1) a. O Zé mente ainda/bem/sempe/etc. (*Brazilian Portuguese*)
The Zé tells-lies still/well/always/etc.
'Zé still/well/always/etc. tells lies'
- b. Gianni mente ancora/bene/sempe/ecc. (*Italian*)
G. tells-lies still/well/etc. (= a)
- (2) a. *O João mente provavelmente/normalmente. (*Brazilian Portuguese*)
The J. tells-lies probably/usually
'J. tells lies probably/usually'
- b. *Gianni mente probabilmente/di solito. (*Italian*)
G. tells-lies probably/usually (= a)
- (3) a. O João mente, provavelmente/normalmente. (*Brazilian Portuguese*)
the J. tells lies, probably/usually
'J. tells lies, probably/usually'
- b. Gianni mente, probabilmente/di solito. (*Italian*)
G. tells lies, probably/usually (= a)
- (4) a. O José comia provavelmente arroz. (*Brazilian Portuguese*)
J. used-to-eat probably rice
'It was probably rice that José used to eat'
- b. Gianni mangiava probabilmente la pasta. (*Italian*)
G. used-to-eat probably the pasta
'It was probably pasta that José used to eat'

These data are puzzling for theories which take adverbs as diagnostics for verb raising. This is so because if one were to turn to V raising to explain the appearance of the V to the left of the higher adverb in (4), the ungrammaticality of (2) would remain unaccounted for. If V raising is instead taken to explain the ungrammaticality of (2), the appearance of the adverb to the right of V in (4) should not be due to this type of displacement. Every attempt to explain the phenomenon of V raising should take these facts into account.

In chapter 2, I presented the theoretical approach on which I based my analysis, namely, the Cartographic framework, with special attention to Cinque's recent developments on a pervasive asymmetry of natural languages word order that he calls *the left-right asymmetry* (Cinque 1996, 2005, 2006, 2007, 2008, 2009, 2010a,b, 2013, *forthcoming*).

In chapter 3, I introduced Kayne's (1998) theory of scope-assignment whose analysis was generalized not only to focus-sensitive adverbs but to all adverbs of the Cinque Hierarchy. In section 6, in particular, I slightly modified the derivations proposed in Kayne (1998), based on Kayne's (2005) analysis of prepositions as attractors, to make the analysis compatible with Cinque's (2005, 2007, 2010a,b, 2013, *f.c.*) conjecture that UG would only allow instances of phrasal movements.

The above mentioned paradox—namely, that higher adverbs cannot appear sentence-finally but rather can appear in the post-complement space if they are followed by sentential material—, as well as the assumption of cartographic fine-grained structures, motivated the investigation reported in chapters 4 and 5, where the 'adverbial test' (traditionally used to detect the presence or absence of V movement) was put under scrutiny. I tried to show that 'lower adverbs' are reliable diagnostics for V raising, given the fact that the V(P) must raise past (at least) some of them (in BP, Italian and English) (chapter 4). As a conclusion, the adverbial test should not be abandoned completely. In particular, I showed (§ 2.1 of chapter 4) that, in BP, in its movement, the VP must pied-pipe some of the lowest 'lower adverbs' of the Cinque Hierarchy, if present, in the *whose-picture* type of pied-piping, i.e. in a snowball fashion, thus reversing their order in the hierarchy. These adverbs are *cedo* 'early' (Asp_{Celerative(II)}) and all the other adverbs which follow it in the Cinque Hierarchy, namely, *do nada* 'out of nowhere' (Asp_{Inceptive(II)}), *de novo* 'again' (Asp_{Repetitive(II)}), and *com frequência* 'often' (Asp_{Frequentative(II)}). The way that Cinque (1999, 2007, 2010b, 2011) approaches the 'left-right asymmetry' of natural languages would provide an immediate answer for this. BP would select the "movement" option (from Cinque's (2005, 2007, 2010b) *parameters of movement*)

which would have to be performed in the *whose-picture* type of pied-piping at least up to VoiceP, i.e. the projection immediately above $Asp_{Celerative(II)}$, thus necessarily reversing the order of these elements in the universal hierarchy. There seems to be no way to get this so naturally under alternative frameworks.

These lowest ‘lower adverbs’ are all recovered by the elliptical VP, in VP-ellipsis constructions in Portuguese, as we saw in §5 of chapter 4. The VP-ellipsis interpretation for the gap in the second element of the coordination represents the preferential reading, although the gap can also be interpreted as a null object. The other ‘lower adverbs’ found above *cedo* ‘early’ ($Asp_{Celerative(II)}$) in the hierarchy can also be recovered by the elliptical VP, but the VP-ellipsis is no longer the preferential reading for the gap in the second element of the coordination. Hence, there is a non-accidental association between the position where the VP moves and the interpretation of the gap in coordinated structures. The adverbs which must be pied-piped by the VP are those for which the gap is preferentially interpreted as VP-ellipsis. The other lower adverbs which do not have to be pied-piped by the VP can be recovered by the elliptical VP, although the VP-ellipsis interpretation for the gap is not preferential. Such correlation would hardly be captured, say, by an adjunction analysis. Under Cinque’s conclusions on the left-right asymmetry of natural languages, which, besides acknowledging a hierarchy for adverbs of different classes, assumes that attested orders can obtain on the basis of different types of phrasal movements applied to one and the same structure, this correlation naturally comes for free.

As for the issue of crosslinguistic variation regarding V raising and the Cinque Hierarchy, the VP raises no higher than $T_{Anterior}P$ in BP, since it cannot move past *já* ‘already’. Instead, in European Portuguese, the V(P) can raise across *já*. There is a long tradition in the study of BP syntax which associates some syntactic changes which took place in the grammar of this language (and makes it every time more distant from European Portuguese and other Romance languages) to the weakening of the inflectional verbal paradigm. I take another direction (chapter 4, § 4), by motivating this crosslinguistic difference on the basis of the weakness/richness of Tense, based on Ambar’s (2008) and Cyrino’s (2011) contention that Tense is weak in BP and rich in European Portuguese.

In chapter 5, I provided an explanation to the paradox mentioned above for the sentences (1-4) on the basis of Kayne’s (1998) treatment of focusing adverbs like *only* (introduced in chapter 3), which I generalized to all adverbs. In their focusing use, higher adverbs still

comply with the Cinque hierarchy, that is, they always occupy the same position in the clausal spine which complies with the IP hierarchy. There is no need for generating the adverb in a lower position or directly attaching/adjoining it to non-spinal constituents. Before their merge in the corresponding position of the Cinque Hierarchy, a probing head attracts the constituent under their scope to its Spec, after which the adverb is merged in the Spec to its immediate left (in accordance with the Cinque Hierarchy) and further movement places the remnant above it. This explains why the V appears to the right of the adverb in (4). This is not the result of V movement past the adverb—otherwise, (2) should be grammatical—but the result of V being moved within a remnant, which gives us the illusion that V can move past higher adverbs. In section §5 of chapter 5, I showed that, in the case of VP-ellipsis, a higher adverb, if present in the first element of the coordination, cannot be recovered by the elliptical VP. This follows directly from our proposal if one assumes that the adverb is merged in a higher position in the Cinque hierarchy. Since V raising past higher adverbs is not possible (cfr. (2)), the adverb cannot be recovered by the elliptical VP. Consequently, higher adverbs cannot be taken as diagnostics for V-raising.

The generativist tradition has also taken floating quantifiers as diagnostics for V raising. Given that the main goal of this dissertation was to provide an analysis of verb movement in BP, I also investigated the relevance of the floating quantifier test for V raising (chapter 6). I reviewed the pros and cons of the ‘stranding’ and the ‘adverbial’ approaches to the phenomenon of floating quantification, opting for the latter, but proposing a new version based on Kayne’s (1998) theory of scope-assignment. Thus, FQs were also treated as scope-inducing elements. In line with the Cartography tenet that UG makes available one and only one structure of Merge for the clause and its main phrases (Cinque 1999, 2005, 2006), I argued against the contention that FQs are freely ordered with respect to higher modal AdvPs, a common assumption made by the supporters of the adverbial approach (see Bobaljik 1995; Brisson 1998, 2000; Fitzpatrick 2006, chapter 2). I proposed rather that their apparent free ordering is due to the fact that the familiar series of movements for the purpose of scope-assignment (*à la* Kayne 1998) gives us the illusion that they do not have a fixed position to merge. On the basis of the English data involving higher adverbs and universal floating quantifiers, I showed that universal floating quantifiers do have a fixed position to merge within the Cinque Hierarchy, which is below Mood_{SpeechAct}P and Mood_{Mirative}P, but necessarily higher than Mod_{Evaluative}P and all the adverbs c-commanded by it. That is, in contrast to the predictions made traditionally (by both the “stranding” and the “adverbial”

theories), universal FQs are merged very high in the structure. All those theoretical lucubrations had the effect of suggesting, against the traditional post-Pollockian view, that (universal) FQs *cannot* be used as diagnostics for V-raising. Based on these theoretical findings, I analyzed the BP data on FQs in section 6 of chapter 6.

The main contribution of the present work to the theory of grammar is to provide an explanation for the paradox presented on the basis of the data (1-4) above. Our approach to the problem suggests that there is no escape from the Cinque hierarchy. Even in those cases where a higher adverb is being used as a focusing adverb (Cinque 1999, § 1.6), it still complies with the Cinque hierarchy. The generalization of Kayne's theory of scope assignment to all adverbs makes it possible to explain the puzzling distribution of higher adverbs without turning to any *ad hoc* solution, but only to one and the same type of movement which should be assumed every time an adverb enters the derivation, namely Kayne's (1998) displacements for scope assignment. This analysis should extend to universal floating quantifiers (which, as mentioned above, are merged very high within the IP) in Romance and English. That is, being scope-inducing elements, universal floating quantifiers should also receive a Kaynean treatment.

In conclusion, the results arrived at in this research should not only contribute to the understanding of BP Syntax but also to a better understanding of adverbial syntax and the phenomenon of floating quantification.

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Estratto per riassunto della tesi di dottorato

L'estratto (max. 1000 battute) deve essere redatto sia in lingua italiana che in lingua inglese e nella lingua straniera eventualmente indicata dal Collegio dei docenti.

L'estratto va firmato e rilegato come ultimo foglio della tesi.

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Ciclo: 24°

Titolo della tesi²²⁶ : *On Verb Movement in Brazilian Portuguese: A Cartographic Study*

Estratto:

Questo studio si occupa della salita del verbo in portoghese brasiliano. L'approccio teorico assunto è quello Cartografico (Cinque 1999). Siccome la tradizione generativista considera che gli avverbi e i quantificatori fluttuanti sarebbero un test diagnostico per la salita del V, il punto di partenza di questa indagine è quello di verificarne la validità in vista delle strutture funzionali più ricche della Cartografia. Si suggerisce che gli avverbi detti 'bassi' possono essere usati come dei test diagnostici affidabili per la salita del V, considerato il fatto che, anche in inglese, il verbo deve scavalcare alcune delle posizioni più basse. Avverbi 'alti' e i quantificatori fluttuanti universali non sono dei criteri diagnostici affidabili data la loro posizione nella gerarchia ed il processo di assegnazione di 'scope' (Kayne 1998) a loro. La tesi suggerisce, da un punto di vista cartografico, che in portoghese brasiliano V si sposta ad una posizione mediale della frase.

Abstract:

This thesis investigates the issue of Verbal raising in Brazilian Portuguese, from a Cartographic perspective, mainly based on Cinque (1999). Since adverbs and floating quantifiers have been traditionally taken as diagnostics for V-movement, the starting point of this investigation is to test the validity of such diagnostics from a Cartographic lens. This is achieved on the basis of Romance and English. It is suggested that 'lower (left-edge) adverbs' are reliable diagnostics for V-raising, given the fact that, even in English, the V must raise past (some of) them. It is also explained why 'higher adverbs' and Universal Floating Quantifiers are not (reliable) diagnostics,

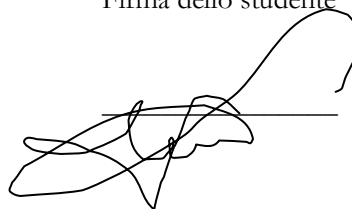
²²⁶ Il titolo deve essere quello definitivo, uguale a quello che risulta stampato sulla copertina dell'elaborato consegnato.

on the basis of their position of Merge in the Cinque Hierarchy and the assignment of scope to them (*à la* Kayne 1998). The thesis suggests, from a Cartographic perspective, that Brazilian Portuguese has Verbal Raising which is limited to a medial projection in the clause, namely, T-Anterior.

Resumo em Português:

Este trabalho investiga o movimento do verbo em português brasileiro. Assume-se a proposta cartográfica de Cinque (1999 e trabalhos sucessivos). Visto que a tradição gerativista tem considerado os advérbios e os quantificadores flutuantes como diagnósticos para a subida do verbo, o ponto de partida deste estudo consiste na verificação da validade desses testes, haja vista as estruturas funcionais enriquecidas que caracterizam as representações cartográficas. Sugere-se que os advérbios 'baixos' podem ser utilizados como diagnósticos confiáveis para o movimento de V, visto que, mesmo em inglês, o verbo deve mover-se a uma posição baixa de IP. Advérbios 'altos' e quantificadores flutuantes universais não são diagnósticos confiáveis, dada a sua posição na hierarquia e o processo que lhes atribui escopo (Kayne 1998). Sugere-se que V se move a uma posição medial da sentença em português brasileiro.

Firma dello studente

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke, positioned below the text 'Firma dello studente'.