The role of prosody

6.1 Introduction

The properties of Italian contrastive focalization uncovered in the previous chapters raise the question of why they are as they are. We now know that contrastive foci generally occur in situ, but not why they do so. We know that discourse-given constituents generated lower than focus can raise above it (an operation henceforth labeled ‘left-shift’), but not why they can do so, nor why the same movement is unavailable if focus is absent or the lower constituent is itself focused. We know that evacuated foci do not occur in situ, but not why such apparent exceptions to in-situ focalization are possible rather than ungrammatical.

This chapter addresses these questions. Building on Zubizarreta (1998), Costa (1998), Szendröi (2001, 2002, 2003), and Samek-Lodovici (2005) amongst others, I will claim that prosody is the fundamental driver of these phenomena, not feature-driven movement. Specifically, I will claim that contrastive foci occur in situ because this is the best available position for the associated stress, i.e. the position amongst the possible ones that best complies with the constraints governing the location of prosodic prominence, which in Italian require main stress to occur as close as possible to the clause right edge.

The same prosodic constraints will be shown to trigger the left-shift of lower unfocused constituents above higher foci. This operation is possible because it, too, improves the alignment of main stress with the clause right edge. When the moving constituent is focused, and hence stressed, left-shift is no longer possible because it no longer improves stress alignment. Similarly, when the higher constituent is unfocused, and hence unstressed, left-shifting lower constituents cannot improve stress alignment and it is thus unavailable.

Later in the chapter, the same prosodic constraints will be shown to also account for more complex patterns of left-shift that I believe are examined here for the first time. The proposed analysis was inspired by Cinque’s (1999) discussion of left-shift within the adverbial hierarchy, where a lower unfocused phrase may only left-shift above a higher focus if it pied-pipes the material to its right. Cinque’s observation will be shown to generalize well beyond adverbs and to follow from the same constraints.
that account for the simplest instances of left-shift. Specifically, I will show that the internal structure of post-focus constituents affects their prosodic representation, which in turn determines which of their internal sub-constituents can left-shift because this improves stress right-alignment, and which cannot because it brings no stress-alignment improvement. Besides providing further support for the overall model presented in this chapter, the presented analysis reveals finer grained effects of the interaction of syntax and prosody than currently known.

Finally, I will examine right dislocation and the associated focus evacuation operation responsible for creating left-peripheral foci. I will propose a few simple constraints concerning the position and prosody of right dislocation and show how their interaction with the other prosodic constraints proposed in this chapter accounts for focus evacuation as well as the wrapping of right-dislocated items in separate intonational phrases observed in Frascarelli (2000) and Bocci and Avesani (2011). Focus evacuation will be shown to be triggered by the need to keep focus stressed and right-dislocated phrases stress-free. In other words, contrastive foci move out of right-dislocating constituents because otherwise they could not receive main stress. When the right-dislocating constituent is a TP, this process yields the left-peripheral data examined in Rizzi (1997, 2004) and many works since then. But as argued in detail in Chapter 4, Rizzi’s data—and the position of focus within them—have no special status, since contrastive foci can be evacuated, and hence occur left-peripherally in linear terms, also with respect to smaller, sub-clausal constituents such as VP and PP. The property shared across all these instances of focalization and genuinely characterizing them is the right-dislocated status of the post-focus constituent and the fact that focus has been evacuated from that constituent.

A formal characterization of the prosody–syntax interactions just described requires an optimality theoretic analysis where the notion of minimal violation of stress alignment can be precisely defined (Prince and Smolensky 1993, 2004; McCarthy and Prince 1993). The proposed optimality analysis will extend the model of crosslinguistic focalization adopted in Samek-Lodovici (2005) to the operations and properties described above. As a result, in-situ focalization, left-shift, focus evacuation, and specific prosodic properties of marginalization and right dislocation need not be formalized as stipulated grammatical properties of Italian (whether parametric or not). Rather, they inevitably follow from the interaction of very simple and independently motivated constraints concerning only the position of stress and the position of discourse-given constituents. In this respect, the analysis supports the claim of Horvath (2010) that movement driven by information structure notions cannot be feature based.

The proposed analysis also strengthens the central claim of an increasing set of studies that prosody and its optimality-theoretic interaction with syntax is key to an accurate understanding of focalization paradigms, a view that questions the
6.2 General assumptions

The structures considered in this chapter will be assessed for their syntactic and prosodic wellformedness. Prosodic structure, it is argued, is organized in hierarchical layers as per Nespor and Vogel (1986) and Selkirk (1984, 1986, 1995). Words are grouped in phonological phrases (pp), which are grouped into intonational phrases (ip), which are grouped into an utterance phrase (up). I will assume that ips match syntactic clauses (i.e. TPs and CPs) and ups entire sentences, and I will only discuss in detail, in Section 6.6.2, the less intuitive constraints matching pps with maximal lexical projections (Selkirk 1984, 1986, 1995; Truckenbrodt 1995, 1999).

Following the considerable phonological literature on stress (e.g. Halle and Vergnaud 1987; Hayes 1995; Truckenbrodt 1995), sentential stress is analysed as a

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1 While the works mentioned here are cast in optimality theoretic terms, I have always thought that Minimalism, with its stated goal of an interface driven syntax, should in principle welcome any attempt to understand syntactic movement in terms of prosodic requirements, since this provides an excellent example of interface driven movement. For more reflections on the not necessarily mutually exclusive relation between Minimalism and Optimality Theory, see Samek-Lodovici (2013a, 2013b).

2 Costa (1998) repeatedly observes how the position of new-information foci and scrambled discourse-given objects in European Portuguese could be analysed as emerging from the pressure of prosodic constraints. The provided optimality analysis, however, does not involve any prosodic constraints, thus remaining a syntactic analysis.
prosodic phenomenon rather than a syntactic one, thus departing from any syntactic analysis of stress based on an independent and separate nuclear stress rule however defined (e.g. Cinque 1993; Zubizarreta 1998; Nava and Zubizarreta 2010; Kahnemuyipour 2004. For further discussion of the inadequacies of syntactic approaches to stress, see Samek-Lodovici 2005: 741 and Costa 2010).

Main stress is held to emerge naturally from the local prominence contours of prosodic phrases. As (1) shows, each prosodic phrase contains an item—called its prosodic head—associated with a local peak in prosodic prominence, here represented as ‘x’. Higher prosodic constituents select their head amongst the heads of the prosodic constituents they dominate. The head of the utterance phrase corresponds to sentential main stress, cumulating prosodic prominence across all prosodic layers. In the example here the item carrying main stress is *granchi* ‘crabs’.

(1) Marilù pescherà granchi.
Marilù will fish crabs
‘Marilù will fish crabs.’

As mentioned, the analysis is cast in optimality theoretic terms (Prince and Smolensky 1993, 2004). In this framework, grammars are defined as a set of ranked universal constraints, with different grammars corresponding to distinct rankings of the same constraints. Constraints may conflict with each other, in which case higher ranked constraints take precedence over lower ranked ones.

Linguistic structures are generated freely and compete with each other. A structure is grammatical in a specific language when it meets the demands of the corresponding constraint ranking optimally, i.e. better than any competitor (or more precisely, not worse than any other competitor, so that competitors performing identically on all constraints are equally grammatical). Specifically, a structure $S_1$ meets the demands of ranking $R$ better than a competitor $S_2$ if and only if the highest ranked constraint on which $S_1$ and $S_2$ differ is one that favours $S_1$ over $S_2$, i.e. one that $S_2$ violates more times than $S_1$.

---

3 Does this mean that Optimality Theory is unworkable because it involves an infinite number of structures and even more competitions? No. The definitions provided ensure that for any set of constraints, any ranking of those constraints, and any set of competing structures assessed against such rankings, the set of grammatical structures is well defined. The search for the actual optimal structure for a specific constraint ranking and a specific set of competitors can however profit from general searching algorithms that work in finite time and create just a subset of the competitors (namely, those that are optimal for the other rankings of the same constraints). This has been repeatedly proven true within the literature on computational OT; see for example Riggle (2004) who provides an algorithm that efficiently calculates the optimal structures for any ranking and any set of constraints that can be translated into finite state automata. See also Tesar (1995), and Samek-Lodovici and Prince (1999, 2002).
In the following, I will assume that syntactic and prosodic structures are freely generated and combined. My discussion will only concern Italian, leaving any cross-linguistic implications beyond those already examined in Samek-Lodovici (2005) open for further research.

6.3 Prosody shaping the distribution of Italian focus

Leaving right dislocation temporarily aside, consider again the distribution of Italian contrastive focalization summarized in the table in (2) from Chapter 2. Each box shows two alternative patterns involving two post-verbal constituents, marking them for grammatical or ungrammatical status. The underlying base generated order is <Adv1, Adv2, S, V, O, CP> but be aware that Italian moves finite verbs to T and past-participles to a higher aspectual projection, so that all considered patterns start with a verb. The subscript ‘M’ identifies marginalized constituents, i.e. in-situ unstressed discourse-given phrases. ‘F’ marks contrastive focus. The column headers mention the property shared by all patterns in that column as well as the chapter and sections in this book where the related data are presented.

(2) The distribution of contrastive focus when right dislocation is absent

<table>
<thead>
<tr>
<th>Subject and object</th>
<th>Higher-generated phrase is focused (Sec. 3.4, Ch. 3)</th>
<th>Lower-generated phrase is focused (Sec. 3.3 and 3.5, Ch. 3)</th>
<th>Movement across marginalized phrases (Sec. 2.3, Ch. 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject and infinitival CP</td>
<td>V S F O M</td>
<td>V S O F * V O F S M</td>
<td>V F S M O M * V F O M S M</td>
</tr>
<tr>
<td>Object and infinitival CP</td>
<td>V CP O F</td>
<td>V S CP F * V CP F S M</td>
<td>V F S M CP M * V F CP M S M</td>
</tr>
</tbody>
</table>

The patterns in (2) are summarized in more abstract form in (3) where A and B represent two postverbal constituents with A generated above B. Cast in this fashion, these patterns of grammaticality offer two remarkable observations. First, as (3)(d) shows, lower constituents may not raise when focused, consistently with the claim that focalization occurs in situ established in Chapters 2 and 4 (but with the important exceptions of evacuated foci and focused verbs caused by the optimality nature of constraint interaction, as discussed later on). Second, left-shift, in (3)(b), cannot be understood as an operation triggered by a property or feature inherent to the moved constituent. If this were the case, the same movement should be possible in (3)(f) where left-shift affects the same unfocused constituent B moved in (3)(b). Instead, it is the focused vs. unfocused
status of the higher constituent \( A \) that determines whether movement of \( B \) is possible or not (see also van der Wal’s 2009 discussion of altruistic movement in Makuva).

(3) a. \( V \quad A_F \quad B_M \)
   b. \( V_B \quad A_F \quad t_i \)
   c. \( V \quad A \quad B_F \)
   d. \( *V \quad B_{F,i} \quad A_M \quad t_i \)
   e. \( V_F \quad A_M \quad B_M \)
   f. \( *V_F \quad B_{M,i} \quad A_M \quad t_i \)

Both observations receive a unified principled explanation once we view the entire paradigm as emerging from the need to align focus with the clause right edge, as required by the constraints governing Italian prosodic prominence. Intuitively, focalization occurs in situ because this places the associated stress in the rightmost possible position available to the focused item. Any movement leftwards increases the distance between stress and the clause right edge, thus increasingly violating the constraints on prosodic prominence.

Similarly, raising lower unfocused constituents above higher focused ones improves stress alignment because the moved constituent no longer intervenes between the stress on the focused item and the clause right edge, thus decreasing the violations of the prosodic prominence constraints. But this is only true when an unstressed unfocused constituent moves above a stressed focused one. In all other cases—when both constituents are focused, both unfocused, or the lower one is focused and the higher one unfocused—stress alignment is not improved and hence movement is not allowed.

The rest of this section presents the analysis formally, showing how the patterns in (3) emerge from the independent prosodic constraints requiring stressed foci and rightmost stress.

6.3.1 Constraints

The focalization patterns in (3) follow from the following constraints.

The constraint Stay penalizes movement and is violated once by each movement trace (Grimshaw 1997). Stay could also be defined in terms of copy theory (Chomsky 1995) by assuming one violation per copy (for a more sophisticated analysis where Stay is decomposed into simpler constraints that derive at once economy of movement and economy of structure, see Grimshaw 2001, 2002, 2006).

(4) Stay—No traces.

The constraint Stress-Focus, or ‘SF’, requires focused constituents to be prosodically prominent.\(^4\) The focus domain mentioned in the definition contains the focus and

\(^4\) Proposing a constraint like SF that requires focus to be prosodically prominent is not the same as asserting the generalization that focus is universally maximally prominent (and consequently Downing
the related background information (Truckenbrodt 1995: 165). In the data considered here the focus domain will coincide with the clause and therefore SF simply requires that the focused constituent carry main stress. SF is also appealed to under slightly different definitions in Truckenbrodt (1995: 11), Zubizarreta (1998: 21), Schwarzschild (1999: 170), Selkirk (1995: 563), and Samek-Lodovici (2005).

(5) **Stress-Focus (SF)**—For any focused phrase XP\textsubscript{F} and for any YP in the focus domain of XP\textsubscript{F}, XP\textsubscript{F} is prosodically more prominent than YP.

The constraint Head-of-intonational-phrase (Hd-ip), from Truckenbrodt (1995), requires main stress to occur rightmost in its intonational phrase. Italian TPs are contained into an intonational phrase \textit{ip} whose boundaries coincide with the TP’s boundaries (Nespor and Vogel 1986: 189; Frascarelli 2000). Main stress identifies the \textit{ip}’s prosodic peak or head (Truckenbrodt 1995; Selkirk 1995). The constraint Hd-ip demands that the \textit{ip}’s head—i.e. main stress—be placed rightmost in \textit{ip}. When main stress falls on focus, in observance to the SF constraint just introduced, the effect is to require focus to occur rightmost in its TP (but see Féry 2013 for a different approach where focus alignment with the \textit{ip}-boundary is encoded directly and not mediated by stress).\footnote{As far as I can see, adopting Féry’s analysis would affect the formal details of the analysis but not the main claim that focalization in-situ, focus evacuation, left-shift, and the other properties discussed here follow from the optimality-theoretic interaction of syntactic and prosodic constraints. Prosody would play its role through the claimed direct relevance of prosodic phrasing for focus alignment.}

(6) **Head-of-intonational-phrase (Hd-ip)**—Align (ip, R, Head(ip), R). Align the right boundary of every intonational phrase with its head.

Finally, the constraint Marginalization (Marg) requires discourse-given phrases to remain in situ, thus describing the position of marginalized phrases but not stipulating their unstressed status, which will be derived.

(7) **Marginalization (Marg)**—Phrases marked as discourse-given remain in situ.

As the contrast in (3)(a)–(b) shows, unfocused constituents following a higher focus may either marginalize in situ or left-shift above the focus. To account for this optional alternation, I will assume that speakers can acknowledge or ignore the discourse-given status of a constituent. Constituents whose discourse-given status is acknowledged will...
be marked with the ‘M’ subscript, while constituents with non-acknowledged discourse-given status will be left unmarked: they are treated as unfocused but not as discourse-given. Therefore, the Marg constraint applies non-vacuously only to M-marked constituents and it is this property that will cause the alternation between marginalization and left-shift. The reasons for this analytic choice are examined in Section 6.4.1, as they are more easily considered after the analysis has been provided.

The focalization patterns in (3) and all additional patterns examined in this chapter will be shown to follow from the ranking in (8), which identifies the grammar of Italian as far as these constraints are concerned. In other words, focalization in situ, focus evacuation, left-shift are all useful descriptions of attested operations but the operations themselves are not part of the formal model of the grammar of Italian. They are just epiphenomena emerging from the simple constraints described above when they interact as dictated by the ranking in (8).

(8) \{SF, Marg\} >> Hd-ip >> Stay

The following sections only examine stress alignment within the intonational phrase encompassing the clause. Phonological phrases and the related constraints are intentionally omitted at this stage to avoid cluttering the analysis with unnecessary complexity. The interested readers can check that phonological phrasing is indeed irrelevant for the claims made here in Appendix C, where the tableaux considered in this section are all proposed again with the addition of phonological phrasing and the associated constraints. Crucially, all ranking conditions in (8) remain valid and necessary.

In all tableaux to follow round brackets represent the boundaries of the intonational phrase encompassing the clause, while its head—expressing main stress—is represented as ‘x’. Constraint violations are marked as ‘*’. Stay violations caused by finite verbs raising to T are omitted because identically repeated across all candidates. The optimal structure is identified by the symbol ‘\(\Rightarrow\)’.

6.3.2 Marginalization and raising of lower unfocused phrases

We may now examine how the above constraints determine the patterns in (3), accounting for the data summarized in table (2). I will continue to identify the higher-generated constituent as ‘A’ and the lower-generated one as ‘B’. When one of them is focused, the four cases in (9) obtain depending on whether the constituent left unfocused is acknowledged as discourse-given and hence M-marked, or not. In optimality terms, each case corresponds to a distinct input, i.e. a distinct competition potentially leading to a distinct optimal syntactic realization.

(9) Inputs: i. \(V A_F B_M\)
    ii. \(V A_F B\)
    iii. \(V A_M B_F\)
    iv. \(V A B_F\)
The first input gives rise to the grammatical pattern (3)(a), repeated in (10), where a higher focus is followed by lower marginalized constituents.

(10) \[ V \ A_F \ B_M \]

The different syntactic–prosodic realizations that compete as potential optimal realizations of this input are listed in the tableau in (11). The marginalization of B in post-focal position, in (a), wins the competition because it best complies with the proposed constraints by ensuring that focus gets stressed at the minimal possible cost. Specifically, (a) satisfies the higher ranked constraint SF at the cost of Hd-ip, which is violated once because the prosodic head ‘x’ is not aligned with the ip’s right boundary (the missed slot is shown as an underscore ‘_’). Any alternative that does satisfy Hd-ip must violate a higher-ranked constraint, thus proving suboptimal. Placing stress on B, as in (b), leaves focus unstressed, violating SF. Raising B above A, as in (c), violates Marg.

The analysis shows that marginalization need not be conceived as an independent operation of grammar mandating the in-situ destressing of discourse-given constituents. The destressed status of marginalized phrases already follows from the interaction of Hd-ip, Marg, and SF just described, even though none of these constraints mentions destressing in their definition.

(11) Marginalization of lower discourse-given constituents

<table>
<thead>
<tr>
<th>Input: V A_F B_M</th>
<th>SF</th>
<th>Marg</th>
<th>Hd-ip</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>( ^{#} ) a. V</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( x \ ) _i p</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>A_F</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>B_M</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. V</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A_F</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B_M</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. V</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B_{M,i}</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A_F</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>t_i</td>
<td></td>
<td></td>
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</tbody>
</table>

The second input in (9) gives rise to the left-shift pattern (3)(b), repeated in (12), where lower unfocused constituents raise above a higher focus.

(12) \[ V \ B_i \ A_F \ t_i \]

The movement of B improves the right-alignment of stress. The corresponding structure, in (13)(c), violates Stay, but it does not violate Marg because B in this input is not M-marked. Any alternative structure performing better on Stay inevitably violates a higher constraint and is thus suboptimal. Marginalization in situ, in (a), violates Hd-ip because stress is not right-aligned. Placing stress on B, as in (b), violates SF.

Intuitively, structure (c) constitutes an instance of Zubizarreta’s (1998) \( p \)-movement, since the lower object moves to let focus occur in the canonical position for stress, i.e. clause-rightmost (cf. Neeleman and Reinhart 1998; Costa 1998; Szendröi 2001;
Samek-Lodovici 2005). Even the term ‘p-movement’, however, must only be interpreted as a helpful descriptor, not as the name of an actual operation encoded in the grammar, since the observed movement emerges from the interaction of constraints that do not explicitly target the movement of unfocused phrases in their definitions.

(13) Left-shift of lower unfocused constituents

\[
\begin{array}{|c|c|c|c|}
\hline
\text{Input: V A}_F \text{ B} & \text{SF} & \text{Marg} & \text{Hd-ip} & \text{Stay} \\
\hline
\text{a. V A}_F \text{ x } \text{ B} & & * & \\
\text{b. V A}_F \text{ x } \text{ B} & * & & \\
\text{c. V B}_i \text{ A}_F \text{ t}_i & & & * \\
\hline
\end{array}
\]

The third input in (9), namely ‘V A}_M \text{ B}_F’, focalizes the lower constituent B, giving rise to the pattern in (3)(c) and the observed ungrammaticality of pattern (3)(d), both repeated in (14).

(14) a. V A B F
b. *V B F, A}_M t_i

The optimal structure, in (15)(a), leaves both constituents in situ while placing stress on the lower focused constituent. This satisfies all constraints because focus is stressed, stress is rightmost, there is no movement, and the discourse-given constituent A is in situ as required by Marg.

Raising B while stressing the unfocused A, as in (b), is not optimal because it leaves focus unstressed, violating SF. More interestingly, raising B before A while leaving A destressed in situ as in (c), which corresponds to the ungrammatical pattern (14)(b), is also suboptimal, since it causes unnecessary violations of Stay and Hd-ip. The suboptimal status of (c) explains why focused constituents cannot move leftwards: all other factors being equal, foci cannot raise because it costs Stay violations and worsens stress alignment.

(15) No raising of lower foci (with A M-marked)

\[
\begin{array}{|c|c|c|c|}
\hline
\text{Input: V A}_M \text{ B}_F & \text{SF} & \text{Marg} & \text{Hd-ip} & \text{Stay} \\
\hline
\text{a. V A}_M \text{ x } \text{ B}_F & & * & \\
\text{b. V B}_F, \text{ A}_M \text{ t}_i & * & * \\
\text{c. V B}_F, \text{ A}_M \text{ t}_i & * & * \\
\hline
\end{array}
\]
The competition for the final input in (9), namely ‘V A B F’, again selects structure (a) as optimal. As tableau (16) shows, the competing candidates and constraint violations are identical to those discussed for the previous tableau and yield an identical outcome. This parallelism is expected because the only change from the previous input concerns the removal of M-marking from A. The only constraint sensitive to the presence or absence of M-marking is Marg, but Marg is satisfied across all competing candidates in both tableaux because A never moves. Since the constraint violations are identical, so is the selected optimal structure.

\[(16) \text{ No raising of lower foci (with no M-marking)}\]

<table>
<thead>
<tr>
<th>Input: V A B F</th>
<th>SF</th>
<th>Marg</th>
<th>Hd-ip</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>(\varphi)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. V A B F</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. V B F A t_i</td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>c. V B F A t_i</td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

Overall, the interaction of the proposed constraints under the ranking proposed in (8) ensures that raising a lower constituent B is optimal only when it improves the right alignment of focus in its ip, as this also improves the alignment of the associated stress.

6.3.3 Lack of movement when constituents share the same discourse status

The proposed constraints also account for why movement is prevented when A and B are constituents sharing the same discourse status, i.e. when they are both unfocused, as in patterns (3)(e)–(f) repeated in (17), but also when they are both focused or both part of a larger focus as in (18) and (19). These last two patterns constitute new predictions of the analysis and the corresponding data will be presented later.

In all these cases B is realized in situ and movement is ungrammatical. Once again, the key factor is stress alignment. Raising B above A in (17)–(19) has no effect on stress alignment. Since the additional violation of Stay caused by B’s movement has no benefit, the corresponding structure is suboptimal, explaining why movement is ungrammatical across all these cases.

\[(17) \text{ a. } V_F A B \]
\[\text{b. } *V_F B_i A t_i \]
\[(18) \text{ a. } V_F A_F B_F \]
\[\text{b. } *V_F B_{F,i} A_F t_i \]
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(19) a. \([V \ A \ B]_{F/NewF}\)
b. \(*[V \ B_i \ A \ t_i]_{F/NewF}\)

Pattern (17) is examined in tableau (20). The input involves a focused verb while A and B are unfocused constituents, whether M-marked or not (the round parentheses represent optional M-marking). All structures violate Hd-ip twice because A and B intervene between the stress on the focused verb and the ip’s right edge. Structure (a), lacking movement, satisfies all other constraints, including Stay. Structure (b), with B moved, violates Stay and, when B is M-marked, Marg as well. Since moving B does not benefit any other constraint, structure (b) is suboptimal relative to (a), accounting for the ungrammaticality of movement when A and B are both unfocused.

(20) No movement when A and B are both unfocused

<table>
<thead>
<tr>
<th>Input: (V_F A_M B_M)</th>
<th>SF</th>
<th>Marg</th>
<th>Hd-ip</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ((x \ _ \ <em>)</em>{ip})</td>
<td>**</td>
<td></td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>b. ((x \ _ \ <em>)</em>{ip})</td>
<td>(*)</td>
<td>**</td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

Movement is also predicted to be impossible when A and B are both foci, since in this case, too, it does not improve stress alignment. As (21) shows, whichever order A and B take, one of the two will occur non-rightmost and violate SF whenever stress falls rightmost. Structure (a), however, lacks movement and therefore satisfies Stay, whereas (b) violates it. This leaves (a) optimal and (b) suboptimal, accounting for the absence of movement in this case.

(21) No movement when A and B are both focused.

<table>
<thead>
<tr>
<th>Input: (V A_F B_F)</th>
<th>SF</th>
<th>Marg</th>
<th>Hd-ip</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ([V \ A_F \ B_F])</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. ([V \ B_{F,i} \ A_F \ t_i])</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note that the analysis is not contingent on whether multiple foci can express sentence-level stress, yielding multi-stressed clauses. As tableau (22) shows, allowing for multi-headed ips and having both foci stressed at ip-level does not affect the outcome. Both structures satisfy SF but add a violation of Hd-ip for the stress not aligned with the ip’s right edge. Movement still penalizes (b) relative to the base-generated order in (a).
6.3 Prosody shaping the distribution of Italian focus

(22) No movement when A and B are both focused and stressed.

<table>
<thead>
<tr>
<th>Input: V A_B</th>
<th>SF</th>
<th>Marg</th>
<th>Hd-ip</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>V x x x ip</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>V A_B F</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>V x x x ip</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>V B_F A</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

Movement is also predicted to be absent when A and B are part of a larger focused phrase. As in the two previous cases, the order of A and B does not affect stress alignment, since SF and Hd-ip can both be satisfied by placing stress on whichever amongst A and B occurs rightmost. As (23) shows, however, raising B, in (b), is suboptimal because it adds a Stay violation that is not offset by incurring fewer violations on higher constraints. Note that the result holds for contrastive and presentational focalization alike (here respectively marked as ‘F’ and ‘NewF’).

(23) No movement when A and B are part of a larger focus

<table>
<thead>
<tr>
<th>Input: [V A B]F/NewF</th>
<th>SF</th>
<th>Marg</th>
<th>Hd-ip</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>V x x ip</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>V A_B F/NewF</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>V x x ip</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>V B_F A [t]</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

The predicted absence of movement when A and B are both focused or part of a larger focus examined in the last three tableaux is empirically borne out. The data in (24) and (25) illustrate the case involving two distinct postverbal foci. As each (b) sentence shows, the lower generated focus cannot raise above the higher one. For a proper assessment, native speakers should always read the initial context sentence and ensure that the main stress falls on the rightmost focused item (in capitals), in accord with the constraints governing Italian stress.6

---

6 As the following example shows, similar data hold for new information foci.

(i) Alla fine chi di loro ha portato i fiori a quale ragazza?
‘Eventually, who amongst them brought flowers to which girl?’

a. Ha portato i fiori MarcoF a MARIAF.
‘MARK brought the flowers to MARY.’

b. * Ha portato i fiori a MariaF MARCOF.
‘Has brought the flowers to Mary Mark’
(24) Context: Allora, se ho capito bene . . . Gianni ha mangiato i biscotti, giusto?
   ‘So, if I properly understood you . . . John ate the biscuits, right?’
   a. No. Ha mangiato Marco la TORTA[	extsc{f}].
      No. Has eaten Mark the cake
      ‘No. MARK ate the CAKE.’
   b. ?? No. Ha mangiato la torta[	extsc{f}] MARCO[	extsc{f}].
      No. Has eaten the cake Mark

(25) Context: Allora, se ho capito bene . . . hai convinto Gianni a licenziarmi, giusto?
   ‘So, if I properly understood you . . . you convinced John to fire me, right?’
   a. No. Ho convinto Marco ad ASSUMERTI[	extsc{f}].
      No. (I) have convinced Mark to hire-you
      ‘No. I convinced MARK to HIRE you.’
   b. * No. Ho convinto ad assumerti[	extsc{f}] MARCO[	extsc{f}].
      No. (I) have convinced to hire-you Mark

The case where A and B are contained in a larger focused phrase is illustrated in (26) and (27). The first example involves a contrastively focused VP, the second a presentationally focused one. Since subjects do not remain in situ when contained in a larger focus, their base-generated position is here identified by the stranded quantifier, assumed to occur in specVP. As predicted, it is not possible to raise the lower complement above the stranded subject quantifier. (Similar patterns involving other post-focal constituents are provided in footnote.7)

7 The examples here respectively involve stranded subject quantifiers and objects, nominal and sentential objects, and, finally, two distinct lower adverbs.

(i) Context: Voi avete imbottigliato il vino.
   ‘You have bottled the wine.’
   a. No. Noi abbiamo solo [vp controllato tutti il sapore][	extsc{f}].
      No. We have only checked all the taste
      ‘No. We all only checked its taste.’
   b. * No. Noi abbiamo solo [vp controllato il sapore tutti][	extsc{f}].
      No. We have only checked the taste all

(ii) Context: Sorridi perchè hai finalmente licenziato Gianni.
   ‘You smile because you have finally fired John.’
   a. No. Sorrido perchè ho finalmente [vp convinto Marco ad assumerti][	extsc{f}].
      No. I smile because (I) have finally convinced Mark to hire-you
      ‘No. I smile because I finally convinced Mark to hire you.’
   b. * No. Sorrido perchè ho finalmente [vp convinto ad assumerti Marco][	extsc{f}].
      No. I smile because (I) have finally convinced to hire-you Mark

(iii) Context: Gianni ascolta sempre tutto con grande attenzione.
   ‘John always listens to everything very attentively.’
   a. Al contrario. [tp Gianni capisce solitamente male tutti][	extsc{f}].
      On the contrary. John understands usually badly everybody
      ‘On the contrary. John usually misunderstands everybody.’
(26) Context: Voi siete rimasti a casa.
‘You stayed at home.’
   a. No. Noi siamo \([VP \text{ andati tutti al MARE}]_F\).
      No. We are gone all to-the sea
         ‘No. We all went to the seaside.’
   b. * No. Noi siamo \([VP \text{ andati al mare TUTTI}]_F\).
      No. We are gone to-the sea all

(27) Context: Perchè così contento?
   ‘Why so happy?’
   a. \([I \text{ ragazzi hanno salutato tutti la maestra}]_{\text{NewF}}\).
      The boys have greeted all the teacher
         ‘All the boys greeted the teacher.’
   b. * \([I \text{ ragazzi hanno salutato la maestra tutti}]_{\text{NewF}}\).
      The boys have greeted the teacher all

6.3.4 Interaction with other constraints

Replacing actual constituents with the abstract phrases A and B enabled us to identify
the fundamental generalization expressed by the patterns in table (2) and determine
the constraints responsible for it. Specific constituents, however, may be subject to
additional constraints that conflict with the constraints examined so far. Here,

b. *Al contrario. \([TP \text{ Gianni capisce male solitamente tutti}]_F\).
    On the contrary. John understands badly usually everybody

The analysis also accounts for why in (iv) the order ‘V O IO’ in A1 allows for an interpretation where solo
‘only’ focalizes the entire VP whereas the order ‘V IO O’ in A2 does not (see Section 2.2 for discussion). As
(v) shows, the structure corresponding to this interpretation for sentence A2 involves movement of IO
above O while both participate to a larger focus. This structure is ungrammatical for the reasons just
examined in the main text. The corresponding tableau is provided in (vi).

(iv) Q: Perchè Gianni è arrabbiato con Marco?
   ‘Why is John angry with Mark?’
   A1. Non lo so. Marco ha dato solo dei fiori a MARIA.
      (I) not it know. Mark has given only some flowers to Mary
         ‘I have no idea. Mark only gave some flowers to Mary.’
   A2. *Non lo so. Marco ha dato solo a Maria dei FIORI.
      (I) not it know. Mark has given only to Mary some flowers
         ‘I have no idea. Mark gave some flowers only to Mary.’

(v) \([ S \text{ aux } [V \text{ only } [t, t, IO, O]_{\text{NewF}}]]\]

(vi) Lack of movement when A and B are both part of a larger focus

<table>
<thead>
<tr>
<th>Input: [vp... a Maria dei fiori]_{\text{NewF}}</th>
<th>SF</th>
<th>Marg</th>
<th>Hd-ip</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>(x)</td>
<td>a. ([... a Maria \text{ dei FIORI}]_{\text{NewF}})</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(x)</td>
<td>b. ([... [dei fiori], a MARIA]_{\text{NewF}})</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
I briefly discuss the case of subjects and verbs. Subjects focus in situ despite the constraint EPP requiring them to occur preverbally in specTP. Focused finite verbs raise to T instead of focusing in situ. Rather than refuting the analysis, these exceptions support the optimality nature of constraint interaction, with constraint ranking determining which constraint is satisfied and which violated whenever two independently established constraints happen to conflict with respect to the realization of specific constituents.

As shown in Grimshaw and Samek-Lodovici (1995, 1998), the subjects of presentationally focused TPs move to specTP due to the ranking EPP>>Stay, where EPP is the constraint in (28) demanding the syntactic realization of specTP (Grimshaw 1997; Chomsky 1981). A subject in situ, as in structure (b) in tableau (29), satisfies Stay but violates the higher ranked EPP, and is thus an ungrammatical option in this context.

(28) EPP—Realize specTP.

(29) Preverbal subjects in presentationally focused clauses

<table>
<thead>
<tr>
<th>Input: [S V]NewF</th>
<th>SF</th>
<th>Hd-ip</th>
<th>EPP</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ( x i ) ip ( S [V T]N_{i} )</td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>b. ( x i ) ip ( V [V P S T]N_{i} )</td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

Subjects, however, are contrastively focalized in situ (see Section 2.4). As explained at length in Samek-Lodovici (2005), this reflects the higher rank of Hd-ip relative to EPP. Moving a focused subject to specTP, as in (a), violates Hd-ip because it worsens stress alignment, since the verb V is added to the material intervening between the stressed subject and the ip’s right edge. This structure is suboptimal relative to (b), where the subject occurs in situ and only violates the lower ranked EPP.

(30) Contrastively focused subjects

<table>
<thead>
<tr>
<th>Input: V S_F</th>
<th>SF</th>
<th>Hd-ip</th>
<th>EPP</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ( x i ) ip ( S [V T]N_{i} )</td>
<td></td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>b. ( x i ) ip ( V [V P S T]N_{i} )</td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

The ranking of EPP relative to Hd-ip and Stay will be relevant to the discussion of optionality in Section 6.4.1, but otherwise the EPP constraint can be safely ignored whenever neither A nor B are subjects, since in this case EPP is equally satisfied by all competing structures of every tableaux examined so far on the assumption that the corresponding subject has moved to specTP. EPP can also be safely ignored when
either A or B is a focused subject and the other constituent is unfocused, since in this case movement of the subject to specTP will be blocked by the ranking HD-IP>>EPP in the manner just described in this section. Finally, EPP can also be ignored when either A or B is a marginalized subject, provided we assume that Marg outranks EPP, forcing marginalized subjects to remain in situ.

As independently noted in Costa (2010), focused verbs provide another interesting apparent exception illustrating how the optimality analysis offers a principled account for attested systematic deviations from an otherwise valid generalization. At first the distribution of focused verbs appears problematic for any analysis, since they neither focalize in situ nor move to a left-peripheral position above TP. Rather, they move to T, like their unfocused counterparts. For example, in (31) on its way to T the verb moves above a temporal adverb but still follows the initial subject.

(31) Gianni BEVEF sempreM.
    John drinks always
    ‘John always DRINKS.’

Verbs move to T whether focused or unfocused; their movement is unrelated to focalization. The fact that verbs move even when focalized simply shows that the constraints responsible for V-to-T movement outrank the constraint favouring focalization in situ, namely HD-ip.

Following Dehé (2005), let us assume that V-to-T movement is mandated by the constraint Obligatory Heads (ObHd) in (32) requiring projections to have structurally realized heads (Grimshaw 1997). The raising verb supplies the required head. The ranking ObHd>>HD-ip then ensures that Italian verbs move to T even when focalized. This is shown in (33). The focused verb raised to T in (a) violates HD-ip because the associated stress is no longer rightmost but it is nevertheless optimal because it satisfies the higher ranked ObHd, which the unmoved verb in (b) violates. (For alternative OT analyses of V-to-T movement see Grimshaw 1997: 382; Vikner 2001a, 2001b; Zepter 2003.)

(32) **Obligatory Heads (ObHd)**—A projection has a head.

(33) **Focused verbs**

<table>
<thead>
<tr>
<th>Input: VF, AdvM</th>
<th>SF</th>
<th>Marg</th>
<th>ObHd</th>
<th>HD-ip</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\langle x _ \rangle_{ip}$</td>
<td></td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. $V_{F,i}\ [AdvM t_j]$</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>$\langle x \rangle_{ip}$</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>b. $\sigma_T \ [AdvM \ VF]$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The position of focused verbs shows that it is actually impossible to describe the distribution of all contrastively focused items through a single absolute property such as in-situ focalization, even if the latter covers the great majority of contrastive foci when right dislocation is absent. The correct generalization is more complex: focalization occurs as far right in the clause as possible, where ‘possible’ is determined by what constraints apply non-trivially to the specific constituent being focused and their ranking relative to Hd-ip.

(34) The distribution of contrastive focus when right dislocation is absent—
Contrastive foci occur as far right in the clause as possible, depending on which constraints apply to the focused constituent and their ranking relative to the constraint governing stress Hd-ip.

This complexity is naturally captured by optimality theoretic interactions but cannot be captured through inviolable principles. In the case at hand, no principle can account at once for focused verbs and focused subjects, as they neither share the same position when focused nor allow for such positions to be both characterized by a single simple property such as ‘focalization in situ’.

This complexity is also exactly what is expected under the proposed analysis. The constraints SF, Marg, Hd-ip, and Stay apply to all foci with the general effect of favouring stress right-alignment, and hence focus right-alignment, across the array of constituents listed in table (2). Specific constituent classes, such as finite verbs, are sensitive to additional constraints that affect their position under focalization due to their higher ranking relative to Hd-ip. In these cases, the observed focused pattern diverges from the more fundamental one detected across the other constituent classes.8

8 Focused verbs also fail to display leftward movement of lower unfocused constituents. Focused past participles, for example, do not allow for the raising of lower constituents to their left.

(i) Context: Ma allora... non hai mangiato nulla?
‘But then... you did not eat anything?’

a. No, non ho BEVUTO nulla.
   ‘No, (I) not have drunk anything
   ‘No, I did not DRINK anything.’

b. * No, non ho nulla BEVUTO.
   ‘No, (I) not have anything drunk

The absence of movement in this case is part of a more general historical shift from the grammar of Old Italian, where the scrambling of lower constituents to a pre-participial position was possible, to Modern Italian, where the same operation is disallowed, see Egerland (1996), who relates the loss of scrambling to the concomitant loss of past-participle agreement.

A full analysis of this historical shift in optimality terms goes beyond the purposes of this study. I here temporarily assume that a general constraint NoScrambling (NoScr) blocks movement of lower constituents into the pre-participial position. As shown in the table in (ii) when NoScr dominates Hd-ip, movement of the lower unfocused constituent A above the focused participle V is blocked. (The auxiliary is a functional category and therefore it does not prosodically project into the ip in accord with the Lexical
6.3 Summary

The previous sections showed how the wealth of data discussed in previous chapters and summarized in table (2) follows from the interaction of simple constraints encoding independently established fundamental requirements such as that focus be stressed, that stress be ip-rightmost, that movement is costly, and that discourse-given constituents be left unmoved.

These constraints are ultimately responsible for in-situ focalization, in-situ marginalization, and focus-induced left-shift of lower unfocused constituents. These terms correctly and conveniently describe the data at hand, but they refer to epiphenomenal operations that are entirely determined by the interaction of the proposed constraints.9

Consequently, analytical statements mentioning one or more of these operations as being available in one language and absent in another should be considered as purely descriptive, since the operations themselves are not primitives that are present in one grammar and absent in another. Rather, their presence or absence informs us about the presence and absence of the ranking relations responsible for the emergence of the patterns described by these operations.

Likewise, there is no need—and in the case of left-shift it is not possible—to model movement or its absence in terms of the presence or absence of specific formal features. Movement is present if the corresponding structure is optimal and absent otherwise. The often heard question ‘what triggers/licenses movement?’ should thus be answered as ‘movement is triggered/licensed by the optimal status of the corresponding structure relative to the ranked constraints’. Technically, however, such a question is not appropriate: within optimality analyses structures with movement freely compete against structures lacking it and therefore movement per se needs no licensing or triggering.


(ii) Lack of movement to preverbal position with focused verb

<table>
<thead>
<tr>
<th>Input: $V_F$ A</th>
<th>SF</th>
<th>Marg</th>
<th>NoScr</th>
<th>Hd-ip</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\star$ a. aux $V_F$ A</td>
<td></td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. aux $A_i$ $V_F$ $V_i$</td>
<td>*</td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

9 In this respect, the proposed analysis complies with Féry’s (2007) argument against formally linking information structure categories to invariant grammatical correlates, since no generalization describing the position of focus is encoded in the grammar as a focus-related property. Rather, the entire distribution emerges from the interaction of constraints that govern properties that are not specific to contrastive focalization.
6.4 Two interesting issues

The analysis presented so far relies on two important assumptions. First, that the free alternation between marginalization and movement of lower post-focal constituents follows from the optional acknowledgement of discourse-given status by the speaker, here represented through optional M-marking. Second, that the observed word order alternations are caused by movement rather than just reflecting the presence of distinct base-generated orders not involving movement. This section examines the reasons supporting these two assumptions and the potential problems affecting the conceivable alternatives.

6.4.1 Optionality

The analysis proposed in Section 6.3 captures the alternation between marginalization and movement of post-focus constituents—repeated in (35)—by assuming that speakers can decide to ignore the discourse-given status of unfocused constituents, here B. This makes it possible to use M-marking to distinguish the inputs where unfocused constituents are discourse-given and eventually marginalized as in (35)(a) from those where they are only unfocused and eventually left-shifted above focus as in (35)(b) (and as explained in Section 6.3.2).

(35) a. V A F B M
    b. V B i A F ti

From a theoretical point of view, this analysis fits Baković’s (2010) claim that optionality occurs when semantically non-distinct inputs are mapped into distinct structures by grammars where faithfulness constraints outrank markedness ones. In the analysis proposed here, the constraint Marg acts as a faithfulness constraint requiring M-marked constituents to stay in situ (i.e. faithful to their base-generated position). Marg outranks the markedness constraint Hd-ip requiring stress to occur rightmost in ip. The alternation in (35) emerges because inputs involving M-marked constituents are subject to Marg and remain in situ, whereas the non M-marked unfocused constituents satisfy Marg vacuously, letting the lower ranked Hd-ip force their movement above the higher focus.

Support for the proposed analysis, and hence also for Baković’s claim, comes from the impossibility of pursuing the same account in terms of tied constraints. At first, a tied-constraint approach appears possible and invitingly neat. For example, if Hd-ip and Stay were tied constraints, as represented by the dotted line in the tableau in (36), the free alternation between marginalization and movement in (35) would follow straightforwardly, with no need to introduce the Marg constraint and M-marking. As the tableau shows, ranking SF above Hd-ip and Stay is sufficient to block the structure in (b) leaving the focused A unstressed, while the marginalization and
movement structures in (a) and (c) would correctly both be optimal because the violation of the tied Hd-ip and Stay count as equivalent.

(36) Marginalization of lower discourse-given constituents

<table>
<thead>
<tr>
<th>Input: V A F B</th>
<th>SF</th>
<th>Hd-ip</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. V A F B</td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>b. V A F B</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. V B i t i</td>
<td></td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

The assumed constraint tie, however, is empirically untenable. As we saw in Section 6.3.4, ranking Hd-ip above EPP is necessary to account for clause-final focused subjects (Samek-Lodovici 2005). The same section also showed that the preverbal position of Italian subjects in presentationally focused clauses requires ranking EPP above Stay (Grimshaw and Samek-Lodovici 1995, 1998). By transitivity, Hd-ip must therefore outrank Stay, showing that these two constraints cannot be tied.

In other words, besides countering Bakovič’s claim, the hypothesis that Hd-ip and Stay are tied constraints is inconsistent with the analysis of preverbal and postverbal subjects in Grimshaw and Samek-Lodovici (1995, 1998) and Samek-Lodovici (2005).

6.4.2 Movement vs. flexible base-generation

The analysis in Section 6.3 assumes a fixed base-generated structure, and consequently a fixed base-generated constituent order. It follows that for any two constituents A and B where A is generated above B, the order ‘BA’ involves movement of B above A. This in turn led to the analysis of pattern (37)(a) as involving focalization in situ of A and marginalization in situ of B and pattern (37)(b) as involving movement of B.

(37) a. V A F B
    b. V B i A F t i

Base-generation, however, could also be conceived as flexible, with each constituent potentially generated in different locations according to what constraints need to be satisfied (Neeleman and Weerman 2001; Ackema and Neeleman 2002; Nespor and Guasti 2002; Abels and Neeleman 2006; Grimshaw p.c.). Under this hypothesis, the patterns in (37) would be reinterpreted as in (38), with A generated in two distinct positions relative to B and no movement involved.
Pursuing a flexible generation analysis in full goes beyond the goals of this work, but I would like to discuss here some of the consequences that such a shift would determine. As Chapter 2 showed, post-focal constituents with identical discourse status, whether because all marginalized or part of a larger presentational focus, follow a fixed order. Subjects precede objects and lower adverbs are ordered according to Cinque’s hierarchy. Let’s call this order the ‘canonical order’.

Under flexible base-generation, the canonical order would be just one of the possible competing orders and therefore it would have to be selected by apposite grammar constraints as the best order for all those discourse contexts where it holds (i.e. when all constituents are all discourse-given or all part of a larger focus).

Crucially, the constraints introduced in Section 6.3 would play no role in selecting the canonical order. Stay would be irrelevant, as nothing moves. Under its current definition, Marg would also be irrelevant, since it would be always satisfied because base-generated unfocused constituents are unmoved independently from their position relative to a higher focus. SF would be satisfied whenever focus is stressed, whatever order focus is in. Hd-ip would not discern the canonical order from any other order placing stress in a similar position relative to the ip’s right edge; for example, ‘AB’ and ‘BA’ with stress on the last constituent would be deemed identical.

Therefore, there would have to be some additional constraints that select the canonical order as optimal where necessary. For the sake of this argument, we can conceive these constraints as a single complex constraint called CanOrd that is violated by any order that diverges from the canonical one (on the functional equivalence between constraint hierarchies and constraints see Samek-Lodovici and Prince 1999: 38).

The issue is how such an analysis could account for the optional movement of discourse-given constituents above a higher focus. In the analysis presented in Section 6.3 this alternation was governed through the constraint Marg requiring only M-marked constituents to remain in situ. For example, Marg ensured that an unfocused object remained in situ when M-marked, yielding pattern (39)(a), while allowing it to move when not M-marked, yielding pattern (39)(b).

The analysis crucially rested on Marg’s ability to sanction movement. Under flexible generation this would have to be revised. For concreteness, consider the case where the object is not M-marked and moves. As (40) shows, the constraints SF and Hd-iP together with CanOrd would correctly predict movement of the object above the focused subject provided Hd-ip dominates CanOrd. Candidate (a), without movement, violates Hd-ip because the object intervenes between the focused subject and the clause right edge. Candidate (b), with the desired non-canonical order ‘OSF’,

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violates CanOrd but satisfies the higher ranked Hd-ip and is thus optimal because the object no longer prevents stress from occurring rightmost.

\[(40)\] Object raising triggered by focused subjects

\[
\begin{array}{|c|c|c|c|}
\hline
\text{Input: } V S_F O & SF & Marg & Hd-ip & CanOrd \\
\hline
\text{a. } V S_F O (x_\text{ip}) & * & * & * & * \\
\text{b. } V O S_F (x_\text{ip}) & & & & \\
\hline
\end{array}
\]

The problem arises when we examine the case with the M-marked object, which ought to remain to the right of the subject. As \[(41)\] shows, Marg is vacuously satisfied by both competing orders, since none involves movement. The other constraints, too, incur the same violations as in the previous tableau. As a result, the order ‘OSF’ is incorrectly selected optimal in this case as well.

\[(41)\] Failed marginalization of M-marked objects

\[
\begin{array}{|c|c|c|c|}
\hline
\text{Input: } V S_F O_M & SF & Marg & Hd-ip & CanOrd \\
\hline
\text{a. } V S_F O_M (x_\text{ip}) & * & * & * & * \\
\text{b. } V O_M S_F (x_\text{ip}) & & & & \\
\hline
\end{array}
\]

Obviously Marg must be revised, but the immediately conceivable revisions turn out to fail. For example, a revised RevMarg constraint requiring M-marked items to follow focus (or alternatively to right align with the ip’s right edge) would work for the competition just considered, but it would also incorrectly force lower foci to occur above higher unfocused M-marked constituents (where ‘lower’ and ‘higher’ refer to the canonical order). For example, the focused object in order \[(42)\] would be selected optimal because RevMarg would penalize the M-marked subject in (a) for preceding the focused object, incorrectly making rightmost focalization of the object ungrammatical and left-shift of a focused object grammatical.

\[(42)\] Raised foci

\[
\begin{array}{|c|c|c|c|}
\hline
\text{Input: } V S_M O_F & SF & RevMarg & Hd-ip & CanOrd \\
\hline
\text{a. } V S_M O_F (x_\text{ip}) & * & * & * & * \\
\text{b. } V O_F S_M & & & & \\
\hline
\end{array}
\]

The original Marg constraint of Section 6.3 is actually a specialized version of Stay that only affects M-marked constituents. As mentioned, under flexible generation
Stay cannot be maintained because movement no longer exists. The role played by Stay is instead taken on by CanOrd, since both Stay and CanOrd favour the same linear order (see for example tableau (40), where Stay is replaced by CanOrd). An appropriate revised version of Marg would thus require a second CanOrd constraint that only applies to M-marked constituents. This is not impossible, but renders the analysis more descriptive, with the observed linear patterns explicitly mentioned by the distinct variants of CanOrd. The pursuit of such an analysis with its potential advantages and disadvantages is left to further research. What this discussion showed is that the shift from movement to flexible generation is more complex and less obviously advantageous than it might at first appear to be.

6.5 Additional syntactic patterns determined by prosodic constraints

The analysis in Section 6.3 predicts additional focalization patterns that are discussed and tested in this section. I start with a simple point about clauses focused in their entirety. Section 6.5.2 examines instances of left-shift relative to constituents containing focus (as opposed to foci themselves). Section 6.5.3 examines instances of left-shift within phrases other than VP. The latter two sections consider structures involving stranded quantifiers, thus also contributing to the study of their distribution.

6.5.1 Focused clauses

Focalization of an entire root clause, whether presentational as in (43)(A) or contrastive as in (43)(B), is problematic for any analysis à la Rizzi (1997) and Belletti (2004) mandating fixed focused projections, as it would paradoxically require that the entire clause be located in a position internal to the clause itself.

(43)  Context: {A and B, the parents of Marco, hear the home front door slamming}

A:  [Marco è andato via]_{NewF}!
   Mark is gone away
   ‘Mark left!’
B:  No. [È sbattuta la porta]_{F}!
   No. Is slammed the door
   ‘No. The door slammed!’

The analysis advocated here avoids this paradox. Whether presentationally or contrastively focused, a focused root clause satisfies all constraints with no need for any internal movement but for those required for independent reasons. This is illustrated in (44) through the competition of two structures: structure (a) showing the SVO order and structure (b) showing left-shift of the object above V. Structure (a) is optimal because it satisfies all constraints once we ignore the independently motivated violations of Stay caused by subject and verb movement. Any additional movement, such as the raised object of (b), adds unnecessary Stay violations and it is thus ungrammatical.
(44) Focused clauses

<table>
<thead>
<tr>
<th>Input: [aux S V O]_{F/NewF}</th>
<th>SF</th>
<th>Marg</th>
<th>Hd-ip</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>( )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. [ S aux V O ]_{F/NewF}</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. [ S aux O_i V t_j ]_{F/NewF}</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.5.2 Left-shift above unfocused constituents that contain a focus

As we saw in Section 6.3, Hd-ip may force unfocused phrases to raise above a higher focus to improve stress alignment. Since alignment is a linear relation, left-shift of the lower phrase is also predicted to occur when focus concerns just part of the higher constituent. For example, an unfocused object or indirect object is predicted to move above a higher quantified subject whether focus affects the entire subject DP, as in (45)(a), or just a stranded quantifier within it, as in (45)(b).

(45) a. \( V \ O_i/IO_i \) \( D P_{F} \ t_{i} \).
    b. \( D P_{j} \ V \ O_i/IO_i \) \( [Q_{F} t_{j}] \ t_{i} \).

As the following data show, this prediction is borne out. The (b) sentences illustrate the predicted movement. The (a) sentences are provided for completeness and show the always available marginalization alternative where the lower constituent is left in situ.

    ‘Only some of you drank wine.’
    a. No. Noi abbiamo bevuto TUTTI \( \) vino_{M}.
       No. We have drunk all wine
       ‘No. We ALL drank wine.’
    b. No. Noi abbiamo bevuto vino TUTTI_{F}.
       No. We have drunk wine all

(47) Context: Solo alcuni di voi sono andati al mare.
    ‘Only some of you went to the seaside.’
    a. No. Noi siamo andati TUTTI_{F} al mare_{M}.
       No. We are gone all to-the sea
       ‘No. We ALL went to the seaside.’
    b. No. Noi siamo andati al mare TUTTI_{F}.
       No. We are gone to-the sea all

Note the contrast between the movement in (47)(b) and the structurally and prosodically identical but ungrammatical (26)(b), repeated in (48)(b), where movement is unavailable because the entire VP is focused and movement cannot affect stress alignment.
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(48) Context: Voi siete rimasti a casa.
   ‘You stayed at home.’
      No. We are gone all to-the sea
      ‘No. We all went to the seaside.’
      No. We are are gone to-the sea all

Tableaux (49) and (50) respectively illustrate how sentences (46)(a) and (46)(b) are selected as optimal. The same tableaux also account for the sentences in (47) once the object ‘O’ is replaced by the indirect object ‘IO’.

In tableau (49), the object is M-marked and marginalized in situ to satisfy the higher ranked SF and Marg constraints. The same high-ranked constraints are instead violated by the alternative structures in (b) and (c) respectively stressing the object and raising it.

(49) When M-marked, the lower object is destressed in situ

<table>
<thead>
<tr>
<th>Input: QF O_M</th>
<th>SF</th>
<th>Marg</th>
<th>Hd-ip</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ... [QF t_j] O_M</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. ... [QF t_j] O_M</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. ... O_{M,i} [QF t_j] t_i</td>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In tableau (50), the object is not M-marked and therefore it moves above the focused quantifier to satisfy SF and Hd-ip as shown in (c). These same constraints are violated by the alternatives in (a) and (b) leaving the object unmoved and varying the position of stress.

(50) When not M-marked, the object left-shifts

<table>
<thead>
<tr>
<th>Input: QF O</th>
<th>SF</th>
<th>Marg</th>
<th>Hd-ip</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ... [QF t_j] O</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. ... [QF t_j] O</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. ... O_t [QF t_j] t_1</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Optional left-shift of lower unfocused phrases above constituents containing a focus is also expected to occur with data not involving stranded quantifiers because the
6.5 Additional syntactic patterns determined by prosodic constraints

analysis remains the same. This is confirmed by the following examples respectively involving focalization of a DP and NP within a larger postverbal subject as schematically shown in (51). As expected, both cases allow for marginalization as well as left-shift of the lower unfocused object with no effect on interpretation.

(51) \[ V \quad O_i \quad [DP \ldots DP_f/NP_f \ldots] \quad t_i. \]

(52) Context: Gli amici di Marta non hanno insultato nessuno.
‘Marta’s friends did not insult anybody.’
     No. Not have insulted the friends of Mark anybody
     ‘No. MARK’s friends did not insult anybody.’
  b. No. Non hanno insultato nessuno [gli amici di MARCO_f].
     No. Not have insulted anybody the friends of Mark

(53) Context: Il fratello di Marta non ha insultato nessuno.
‘Marta’s brother did not insult anybody.’
  a. No. Non ha insultato [la SORELLA_f di Marta] nessuno_m.
     No. Not has insulted the sister of Marta anybody
     ‘No. Marta’s SISTER did not insult anybody.’
  b. No. Non ha insultato nessuno [la SORELLA_f di Marta].
     No. Not has insulted anybody the sister of Marta

6.5.3 Left-shift outside VP

The patterns in table (2) concerned constituents within VP (or more precisely, the aspectual projection hosting the verbal past-participle). The analysis in Section 6.3, however, is fully general. We therefore expect the same alternation between marginalization and left-shift to be present in constituents other than VP whenever stress alignment is at stake and no other independent factors are at play.

This is indeed the case. Consider for example an extended nominal projection formed by a quantifier and its DP complement. When the quantifier is focused and the DP unfocused, the DP can either be marginalized in situ or move above the quantifier as shown in (54). The corresponding examples are in (55)(a) and (55)(b).

(54) \[ \ldots V \quad DP_i \quad [DP_f \quad Q_f \quad t_i]. \]

(55) Context: Hanno mangiato solo alcuni ragazzi.
‘Only some boys ate.’
  a. No. Hanno mangiato TUTTI_f i ragazzi_m.
     No. Have eaten all the boys
     ‘No. ALL the boys ate.’
b. No. Hannno mangiato i ragazzi TUTTI_F.
No. have eaten the boys all
'No. ALL the boys ate.'

When focalization affects the DP while leaving the quantifier unfocused, the attested structures change accordingly. The DP is focused in situ, following the quantifier, and it can no longer raise above it, since this adversely affects stress alignment.

(56) Context: Hanno mangiato tutte le ragazze.
‘All the girls ate.’
a. No. Hanno mangiato tutti i RAGAZZI_F.
No. Have eaten all the boys
'No. All the BOYS ate.'
b. *No. Hanno mangiato i RAGAZZI_F tutti_M.
No. have eaten the boys all

The ungrammaticality of (56)(b) also shows that the quantifier tutti ‘all’ cannot be right-dislocated, or else the sentence would be grammatical. The unavailability of right dislocation for tutti is confirmed by the following data. The quantifier is possible when stranded in specVP, as in (57)(a), but not when right-dislocated in (57)(b), where it follows a clitic-doubled right-dislocated object.

(57) Context: Hanno tutti venduto il vino a Maria.
‘They all sold the wine to Mary.’
a. No. L’haanno venduto tutti a GIANNI_F, il vino.
No. (They) it have all sold to John, the wine
'No. They all sold it to JOHN, the wine.’
b. ?? No. L’haanno venduto a GIANNI_F, il vino, tutti.
No. (They) it have sold to John, the wine, all

The patterns in (55) and (56) follow from the interaction of the proposed constraints. Starting with (55): when the unfocused DP is M-marked, it remains in situ to satisfy Marg and SF as in (58)(a). The alternatives violate these two higher-ranked constraints.

(58) When M-marked, the unfocused DP is destressed in situ

<table>
<thead>
<tr>
<th>Input: [QP QF DP_M]</th>
<th>SF</th>
<th>Marg</th>
<th>Hd-ip</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ( \cdots \ x \ Q_F \ DP_M )</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. ( \cdots \ x \ Q_F \ DP_M )</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. ( \cdots \ DP_M,i Q_F t_i )</td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>
When the complement DP is not M-marked, it moves above the focused quantifier to improve stress alignment and satisfy SF and Hd-ip as in (59)(c). In fact, these two tableaux are just specific instances of the abstract cases described in tableaux (11) and (13) of Section 6.3.

(59) When not M-marked, the unfocused DP left-shifts

<table>
<thead>
<tr>
<th>Input: ([q_F Q_F DP])</th>
<th>SF</th>
<th>Marg</th>
<th>Hd-ip</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>( ( x ) ) ( Q_F ) DP</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( ( x ) ) ( Q_F ) DP</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( ( x ) ) ( Q_F ) t_i</td>
<td></td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

Similarly, when focalization affects the quantified DP, as in the sentences in (56), the DP focalizes in situ as in (a) because this satisfies all constraints. Whether the quantifier is M-marked or not, raising the object above it as in (b) and (c) either fails SF because the focused DP is left unstressed, or fails Hd-ip because stress alignment has worsened. Both alternatives are thus suboptimal. This competition, too, constitutes a specific instance of the general case presented in tableaux (15) and (16) of Section 6.3.

(60) The focused quantified DP cannot left-shift above the preceding quantifier

<table>
<thead>
<tr>
<th>Input: ([q_M Q(M) DP_F])</th>
<th>SF</th>
<th>Marg</th>
<th>Hd-ip</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>( ( x ) ) ( Q_M ) DP_F</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( ( x ) ) ( Q_M ) t_i</td>
<td></td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>( ( x ) ) ( Q_M ) t_i</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Overall, the analysis of quantifier stranding confirms the role played by prosody in shaping the distribution of focus and unfocused constituents in accord with the model proposed in Section 6.3.

6.6 Prosodic phrasing shaping the distribution of left-shift

The prosody–syntax interaction modelled in Section 6.3 also accounts for an interesting set of data first highlighted in Cinque (1999) and described and expanded
below. The underlying pattern proves more general than originally envisaged, but also more complex in its analysis. It is also particularly revealing of how prosodic phrasing affects syntactic movement while being itself constrained by syntactic structure.

Cinque (1999) observed that lower adverbs may only raise above an immediately higher adverb if the latter is heavily accented, a strong cue to its focalized status. He also noticed that the lower adverb cannot move on its own; it must pied-pipe the entire phrase hosting it and any complement there contained. Amongst other evidence, he provides the examples in (61). Given the base-generated order in (61)(a), the lower adverb *sempre* cannot move above the adverbs *mica più* on its own as in (61)(b). It must pied-pipe the object as in (61)(c). The moved items are shown in italics.

(61)  
\[ \text{Da allora non accetta mica più sempre i nostri INVITI.} \]
Since then (he) not accepts neg any-more always our invitations
'Since then, he no longer always accepts our invitations.'

\[ \text{Da allora non accetta *sempre* mica più i nostri INVITI.} \]

\[ \text{Da allora non accetta *sempre i nostri inviti* mica PIU.} \]

In more abstract terms, given the structure in (62), where adverbs occur as specifiers of the related functional projections as per Cinque (1999), *adv2* may move above a higher focused *adv1* only by pied-piping the entire functional projection *FP2* hosting it. Moving *adv2* on its own is not possible (Cinque 1999: 13–14, 20: 24, see also Cinque 1993, and Reinhart 1995).

(62)  
Left-shift above *adv1* with obligatory pied-piping of *FP2*

Cinque’s observation raises several issues. Why does this movement only occur in the presence of focalization? Why does it force pied-piping of the entire constituent immediately following focus? Note how assigning a set of carefully selected features and then letting feature-checking govern which constituent moves and where it moves to would not address these issues. We would still need to explain why the triggering features are only available when focalization is present and why they are only available for the entire constituent following focus rather than each individual adverb.
As this section will show, the analysis presented in Section 6.3 successfully addresses both issues. As we already know from Sections 6.3.2 and 6.3.3, post-focal constituents may left-shift above focus to improve the alignment of the associated stress. The movement described by Cinque constitutes yet another instance of this operation. It does not occur when the higher adverb is unfocused because in this case movement incurs Stay violations without improving stress alignment, making lack of movement the optimal option.

The following subsections will show that the analysis in Section 6.3 also predicts under which circumstances left-shift can and cannot affect a phrase contained by the constituent immediately following focus, thus accounting for the above mentioned impossibility of raising post-focal adverbs without pied-piping noted in Cinque (1999) as well as for other movement instances not considered there. The analysis, however, requires a deeper understanding of the syntactic and prosodic structures at play. Phonological phrases, which are demonstrably irrelevant for the general claims made in Section 6.3 (see Appendix C), become a crucial factor. Subtle differences in the structures of post-focal constraints translate into differences in their phonological phrasing, which in turn govern which movements improve stress alignment and may thus occur, and which do not and are therefore excluded. As a result, even this complex paradigm will be shown to follow from the interaction of prosody and syntax described in Section 6.3.

6.6.1 The relation between structure and movement

When we examine which post-focal constituents can left-shift above a higher focus an interesting asymmetry emerges determined by the internal structure of the constituent immediately following focus.

Assume that focus is followed by an unfocused constituent containing two lexical items Y and Z. There are two possible structural configurations for Y and Z. First, Y may constitute the specifier of the unfocused constituent, with Z occurring as the complement of the null head that heads the entire constituent. See structure (63), henceforth called the specifier structure and linearly represented as ‘[øP YøZ]’. This is also the structure instantiated by adverbs, for which I assume Cinque’s representation. The proposed analysis however is consistent with any approach that treats adverbs as specifiers.

Second, Y may constitute the lexical head of the entire unfocused constituent, with Z occurring as its complement. The corresponding structure is provided in (64) and will henceforth be called the head structure and represented as ‘[Y Z]’. Note that the unfocused constituent might in principle also be an extended projection of Y in the sense of Grimshaw (2000), in which case Y could be preceded by functional heads such as determiners and prepositions. These heads are ignored, as they are irrelevant to the analysis because they are prosodically inert (Truckenbrodt 1999: 226; Selkirk 1984: 334).
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(63) Specifier structure ([øP Y ø Z])

(64) Head structure ([Y Z])

This structural difference determines which constituents can left-shift above XP_F in each case. As we will see, under specifier structures both the entire phrase ‘[Y ø Z]’ and Z can left-shift, while Y cannot. Under head structures, instead, the entire phrase ‘[Y Z]’ can left-shift but neither Y nor Z can. The paradigm just described is stated in generalization (65).

(65) Structure-dependent left-shift

Let XP_F be a contrastively focused phrase followed by an unfocused phrase B.

a. If B has the structure ‘[Yø Z]’, with Y the specifier of B, then both B and Z may raise above XP_F.

b. If B has the structure ‘[Y Z]’, with Y the lexical (extended) head of B, then B alone may raise above XP_F.

The first half of the generalization is illustrated by the sentences in (67), slightly adapting and adding to those in Cinque (1999). The constituent ‘sempre i nostri inviti’ following the focused adverb PIÙ has the specifier structure in (66) where Y coincides with the adverb sempre and Z with the VP containing the overt object ‘i nostri inviti’. In accord with the first half of generalization (65), constituents of this kind give rise to three grammatical alternatives. First, the entire constituent can be marginalized in situ, as in (67)(a) where ‘sempre i nostri inviti’ remains in situ. Second, the entire constituent can move above focus, as in (67)(b). Finally, the complement Z, here the VP, can raise on its own as in (67)(c), leaving the adverb sempre stranded behind the focused adverb PIÙ. As observed by Cinque, the lower adverb sempre cannot raise on its own, see (67)(d).

(66) [øP sempre ø [VP t_s t_v [i nostri inviti]]].

(67) a. Da allora Maria non accetta mica PIÙ_F [sempre i nostri inviti]\textsubscript{M}.

   Since then Mary not accepts neg any-longer always the our invitations
   ‘Since then, Mary does no longer always accept our INVITATIONS.’

b. Da allora Maria non accetta [sempre i nostri inviti] mica PIÙ_F.

c. Da allora Maria non accetta [i nostri inviti] mica PIÙ_F sempre\textsubscript{M}.

d. *Da allora Maria non accetta [sempre] mica PIÙ_F [i nostri inviti]\textsubscript{M}.
The sentences in (68) and (69) show that the exact same paradigm also occurs when the object is replaced by a prepositional argument, showing that the movement of Z is not induced by case assignment.

(68)  
   a. Da allora Maria non spera mica PIÜF [sempre nei nostri inviti]M.  
   Since then Mary not hopes neg any-longer always in-the our invitations  
   ‘Since then, Mary no longer always hopes for our INVITATIONS.’
   b. Da allora Maria non spera [sempre nei nostri inviti] mica PIÜF.  
   c. Da allora Maria non spera [nei nostri inviti] mica PIÜF sempreM  
   d. *Da allora Maria non spera [sempre] mica PIÜF [nei nostri inviti]M.

(69)  
   a. Da allora Maria non pensa mica PIÜF [sempre ai nostri inviti]M.  
   Since then Mary not thinks neg any-longer always to-the our invitations  
   ‘Since then, Mary no longer always thinks about our INVITATIONS.’
   b. Da allora Maria non pensa [sempre ai nostri inviti] mica PIÜF.  
   c. Da allora Maria non pensa [ai nostri inviti] mica PIÜF sempreM  
   d. *Da allora Maria non pensa [sempre] mica PIÜF [ai nostri inviti]M.

The second half of generalization (65) is illustrated in (71) where the post-focal constituent has the head structure ‘[Y Z]’ with Y as its lexical extended head. For example, in sentence (71)(a), the postfocal constituent l’arrivo di nessuno di noi has the structure in (70), where Y is the noun arrivo heading the entire DP and Z is the complement di nessuno di noi.

As before, the entire post-focal phrase can remain in situ, as in (71)(a), or left-shift above focus as in (71)(b), while Y cannot move on its own, see (71)(d). Unlike the previous case involving specifier structures, however, the complement Z cannot move either, see (71)(c). Note that no known factor blocks Z’s movement, since wh-extraction of Z in (72) and (73) is grammatical.

The sentences in (74) provide an additional example where Y coincides with the verb mangiare and Z with the object alcunchè. A third example is also available in the footnote to this sentence.10

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10 This aspect of generalization (65) is also illustrated by the following example, again adapting and adding to an example in Cinque (1999: 22). The constituent following focus is the extended PP lexically headed by the noun figlio. The entire post-focal PP can remain in situ or left-shift above the higher focus, but neither of the two DPs in it may do the same.

(i)  
   Context: Hanno dato un pugno al figlio di Maria?
   ‘Did they give a punch to Mary’s son?’
   a. No. Hanno dato uno SCHIAFFOF [al figlio di Maria]M.
      ‘No. They gave Mary’s son a SLAP.’
   b. No. Hanno dato [al figlio di Maria] uno SCHIAFFOF.
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(70) [DP il’ [NP arrivo [PP di nessuno di noi]]]

(71) Context: I carabinieri non hanno filmato l’arrivo di nessuno di noi.
   ‘The military police did not film the arrival of any of us.’
      No. Not has filmed the police the arrival of any of us
      ‘No. The POLICE did not film the arrival of any of us.’
   b. No. Non ha filmato [l’arrivo di nessuno di noi] la POLIZIA.

(72) Di chi di voi hanno filmato l’arrivo?
   Of who of you (they) have filmed the arrival
   ‘Who of you did they film the arrival of?’

(73) Cosa hai convinto Marco a mangiare?
   What (you) have convinced Mark to eat
   ‘What did you convince Mark to eat?’

(74) Context: Non hai convinto Marco a mangiare alcunchè.
   ‘You did not convince Mark to eat anything.’
   a. No. Non ho convinto MARIA [a mangiare alcunchè].
      No. (I) not have convinced Mary to eat anything
      ‘No. I did not convince MARY to eat anything.’
   b. No. Non ho convinto [a mangiare alcunchè] MARIA.
   c. *No. Non ho convinto alcunchè MARIA [a mangiare].

As the next sections will show, which movement operations are available in each case is eventually determined by the different prosodic phrasing associated with specifier and head structures, which in turn determines which movements improve stress right-alignment and which do not.

6.6.2 The different prosodic phrasing of specifier and head structures

As mentioned in Section 6.3, lexical projections are mapped into phonological phrases (pp) which are grouped together into an intonational phrase (ip) which in the relatively simple sentences considered here—free of left-and right-dislocations—encompasses the entire clause (Selkirk 1984, 1986, 1995; Truckenbrodt 1995, 1999; on Italian Nespor and Vogel 1986; Ghini 1993; Frascarelli 2000; Samek-Lodovici 2005).

Specifier and head structures project different pp-phrasings. As will be explained in detail shortly, in specifier structures, the specifier Y and the complement Z are
6.6 Prosodic phrasing shaping the distribution of left-shift

necessarily parsed into two distinct pps, as in (75)(a). In head structures, instead, Y and Z share the same pp as in (75)(b) (complex Zs may require additional pps, in which case Y is phrased with just the initial part of Z. I do not consider these cases).

Each pp includes a local prosodic head, represented as ‘x’, normally occurring rightmost. The head of the intonational phrase, also represented as ‘x’ and here indicating the position of main stress, falls on one of the lower pp-heads. Intuitively, a local pp-peak is promoted to act as main stress for the entire clause.

(75) Prosodic phrasing of post-focal constituents.

\[
\begin{align*}
\text{a. Specifier structure: } & \text{XP}_{F} [ Y \emptyset Z ] \quad \text{(Y is a specifier)} \\
\text{b. Head structure: } & \text{XP}_{F} [ Y Z ] \quad \text{(Y is a head)}
\end{align*}
\]

Since pp-heads supply potential slots for the ip-head, i.e. for main stress, their occurrence to the right of a stressed focus decreases the alignment of stress with the ip’s right edge. For example, in (75)(a) the two pps on Y and Z provide two potential stress slots represented as ‘\_’. Consequently, in this structure main stress on XP_{F} lies two slots away from the ip’s right edge, thus violating Hd-ip twice. In (75)(b), instead, Y and Z give rise to a single pp and hence to a single potential stress slot to the right of XP_{F}. Therefore, in this structure main stress lies just one slot away from the right ip-edge and Hd-ip is only violated once. It is this difference that will determine the different left-shift paradigms associated with these two structures, and crucially whether Z may or may not left-shift above the higher focus. This will be explained later in Section 6.6.3. The rest of this section explains how the distinct pp-phrasings in (75) are determined.

6.6.2.1 The projection of pp-phrasing

The two different phrasings in (75) follow from Truckenbrodt’s (1995) phrasing model, here described only with respect to the components relevant for the current discussion.

Besides the constraint SF and Hd-ip introduced in Section 6.3, Truckenbrodt’s model involves the constraints StressXP, and Wrap, responsible for pp-phrasing. StressXP requires that every lexically headed phrase XP be stressed at pp-level, i.e. that one of the items contained in the XP be assigned the pp-head. Wrap instead requires that lexically headed XPs be entirely contained inside a single pp. Both constraints ignore functional words in accord with Truckenbrodt’s Lexical Category Condition (1999: 226) and Selkirk’s Principle of Categorial Invisibility of Function Words (1984: 337), both asserting the invisibility of function words to prosodic phrasing. The original constraint definitions are provided.
StressXP—Each lexically headed XP must contain a phrasal stress (where ‘phrasal stress’ refers to the head of a pp).

Wrap—Each lexically headed XP is contained inside a pp.

Under the ranking in (77), where StressXP dominates Wrap and Hd-ip, these constraints determine the two phrasings in (75) repeated again in (78).

(77) StressXP>>{Wrap, Hd-ip}

(78) Prosodic phrasing of post-focal constituents.

\[
\begin{align*}
\text{Specifier structure:} & \quad \text{XP}_F \left[ Y \circ Z \right] \quad (Y \text{ is a specifier}) \\
\text{Head structure:} & \quad \text{XP}_F \left[ Y \ Z \right] \quad (Y \text{ is a head})
\end{align*}
\]

The case for specifier structures is illustrated in tableau (79), which lists all the possible alternative pp-phrasings of the post-focal phrase that are compatible with placing main stress on XP_F as required by the constraint SF. Using twopps, as in (a), satisfies StressXP because each projection is assigned a pp-head (see the two ‘x’ at pp-level) and violates the lower ranked Hd-ip twice because main stress at ip-level is two slots away from the right ip-edge (the two ‘\_' at ip-level). All other alternative phrasings leave either Y or Z unstressed at pp-level, thus violating the higher-ranked constraint StressXP (the ‘\_' at pp-level). This makes them all suboptimal relative to (a), which corresponds to (78)(a) and is selected as the optimal phrasing.\footnote{Samek-Lodovici (2005: 713) proposes the opposite ranking for Hd-ip and StressXP. He does so in order to account for the postverbal subject of (i) below. A simplified version of the original tableau is repeated in (ii); note how StressXP must dominate Hd-ip for (a) to be optimal and block (b) where the quantified subject raises to specTP.}

(i) Sono arrivati TRE_f bambini.
Are arrived three children
‘THREE children arrived.’

(ii) Original tableau T9 (adapted).

<table>
<thead>
<tr>
<th>Input: V [Q_f NP]</th>
<th>Hd-ip</th>
<th>StressXP</th>
<th>EPP</th>
<th>Stay</th>
<th>Wrap</th>
</tr>
</thead>
<tbody>
<tr>
<td>( (x _ )_{ip} )</td>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( (x _ )_{pp} )</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( x _ )_{ip} )</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( x _ )_{pp} )</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\footnote{Sono arrivati TRE_f bambini.
Are arrived three children
‘THREE children arrived.’}
What ranking is chosen crucially depends on which prosodic structure is assigned to sentence (i). If focus is always followed by a pp-boundary, as claimed in Kenesei and Vogel (1995), the optimal structure would be expected to have the prosodic phrasing shown in (iii)(c), rather than the one in (a) used in the original analysis. As tableau (iii) shows, when StressXP outranks Hd-ip as proposed in this book, structure (c) beats both the original structure in (a) and the raising subject in (b). Since the ranking between StressXP and Hd-ip played no other role in the analysis of Samek-Lodovici (2005), the analysis proposed in this book remains consistent with Samek-Lodovici (2005), provided sentence (i) is prosodically phrased as in (iii)(c).

Structure (iii)(c) is, however, at odds with Frascarelli (2000: 38), who argues that raddoppiamento sintattico and stress retraction are possible between V and Q and between Q and NP, consistently with the original structure in (iii)(a). However, I hesitate to adopt Frascarelli’s structure, and the consequences that would follow from it, for the following reasons.

First, my own variety of regional Italian, which does not allow for raddoppiamento sintattico, does include stress retraction, so I should be able to replicate the stress retraction evidence, yet I am not. Stress retraction (a.k.a. Rhythm Rule, see Hayes 1989 and Gussenhoven 1991) occurs when a multisyllabic word \( w_1 \) carrying word-level stress on its final syllable is followed by a word \( w_2 \) carrying stress on its initial syllable. The arising stress clash is avoided by retracting the stress of \( w_1 \) to a prior syllable. The sentences in (iv), from Frascarelli (2000), are designed to trigger stress retraction on the verb preceding the focused quantifier in (iv)a and on the focused quantifier itself on (iv)b. The syllable carrying word-level stress is here doubly underlined in the relevant words, while the word assigned sentential stress is shown in capitals. Like Frascarelli’s experimental subjects, I experience stress retraction in (iv)a, shifting stress from the last
The optimal phrasing for head structures is examined in (80). Unlike the previous structure, where Y and Z were distinct, non-overlapping projections, here the respective projections overlap because Z is the complement of Y and is thus part of Y’s projection. It thus becomes possible to satisfy StressXP by wrapping Y and Z into a single pp headed by Z, as in (b). StressXP is satisfied relative to Z because Z is directly marked by the pp-head. But StressXP is now satisfied also relative to Y’s phrasal projection, because the pp-head on Z also counts as a pp-head on Y’s syllable of the verb to its initial one. But I do not detect any retraction in (iv)b, as expected if the focused quantifier is followed by a pp-boundary as per structure (iii)c.

(iv) a. Mangerò TRÉ\textsubscript{CANI} panini per cena.
   (I) will eat three sandwiches for dinner
   ‘I will eat THREE sandwiches for dinner.’

b. Sono rimasto TRENTATRÉ\textsubscript{CANI} giorni in America.
   (I) am left thirty-three days in America
   ‘I stayed THIRTY-THREE days in America.’

Further confirmation for (iii)c comes from the sentences in (v) and (vi) which provide minimal pairs that make it easier to spot the absence of stress retraction on contrastively focused quantifiers. The (a) sentences are uttered under sentence-wide presentational focus and do trigger stress retraction on the quantifier, which is consequently accentuated on its first syllable rather than its final one as would be the case when uttered in isolation. The (b) sentences contrastively focus the quantifier and show no stress retraction, as expected if the focused quantifier is followed by a pp-boundary.

(v) a. [Vedrai ventitré CANI]\textsubscript{NEW-F}.
   (You) will-see twenty-three dogs
   ‘You will see twenty-three dogs’.

b. Vedrai VENTITRÉ\textsubscript{CANI} cani.
   (We) will-see twenty-three dogs
   ‘You will see TWENTY-THREE dogs.’

(vi) a. [Non vedrai nessun CANE]\textsubscript{NEW-F}.
   (You) not will-see any dog
   ‘You will not see any dog’.

b. Non vedrai NESSUN\textsubscript{CANI} cane.
   (You) not will-see any dog
   ‘You will not see ANY dog’.

According to Frascarelli, focus and post-focal items are included in the same pp only when focus affects quantifiers. All other focused heads, e.g. verbs or nouns, are maintained to be followed by a pp-boundary, consistently with Kenesei and Vogel (Frascarelli 2000: 33–4). Frascarelli attributes this split to the head nature of verbs and nouns, which allows for the extraposition of their complements, which in turn is responsible for the creation of the pp-boundary following these focused heads. In contrast, quantifiers are analysed as ‘pre-head’ constituents where extraposition is blocked because the post-focal items are not maximal projections (Frascarelli 2000: 38). Linguists, however, have not yet reached a consensus on the analysis of numeral quantifiers such as ‘tre’ in sentence (i). Cardinal numerals are analysed as a head in Cardinali and Giusti (1991), and Zamparelli (1995: 253) discusses a set of diagnostics showing that cardinals are heads. See also Giusti (1991).

Clearly, more research is necessary in this area, including additional empirical testing of the kind presented in Frascarelli (2000) and also taking into account the distinction between marginalization and right dislocation highlighted in this book. Until then, I believe there is sufficient ground for assuming (iii)c as the prosodic structure for sentence (i) for speakers of Northern regional varieties of Italian.
projection, since Z is contained in it (Truckenbrodt 1995). StressXP is also satisfied in (a), where Y and Z project two distinctpps, but this candidate incurs additional violations of Hd-ip and Wrap and is thus suboptimal. All other candidates violate StressXP because they leave either Z or both Y and Z unheaded at pp-level and are therefore suboptimal too.

(80)  \( pp \)-parsing for head structures

<table>
<thead>
<tr>
<th>Input: XP(_F) [Y Z]</th>
<th>SF</th>
<th>StressXP</th>
<th>Hd-ip</th>
<th>Wrap</th>
</tr>
</thead>
<tbody>
<tr>
<td>(x _ _ _)(_i)p  ( x ) ( x ) (( x ) )(_p)pp</td>
<td><img src="table.png" alt="Table" /></td>
<td>**</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>a. … XP(_F) [Y Z]</td>
<td><img src="table.png" alt="Table" /></td>
<td><img src="table.png" alt="Table" /></td>
<td><img src="table.png" alt="Table" /></td>
<td><img src="table.png" alt="Table" /></td>
</tr>
<tr>
<td>(x _ _ _)(_i)p  ( x ) ( x ) (( x ) )(_p)pp</td>
<td><img src="table.png" alt="Table" /></td>
<td><img src="table.png" alt="Table" /></td>
<td><img src="table.png" alt="Table" /></td>
<td><img src="table.png" alt="Table" /></td>
</tr>
<tr>
<td>b. … XP(_F) [Y Z]</td>
<td><img src="table.png" alt="Table" /></td>
<td><img src="table.png" alt="Table" /></td>
<td><img src="table.png" alt="Table" /></td>
<td><img src="table.png" alt="Table" /></td>
</tr>
<tr>
<td>(x _ _ _)(_i)p  ( x ) ( x ) (( x ) )(_p)pp</td>
<td><img src="table.png" alt="Table" /></td>
<td><img src="table.png" alt="Table" /></td>
<td><img src="table.png" alt="Table" /></td>
<td><img src="table.png" alt="Table" /></td>
</tr>
<tr>
<td>c. … XP(_F) [Y Z]</td>
<td><img src="table.png" alt="Table" /></td>
<td><img src="table.png" alt="Table" /></td>
<td><img src="table.png" alt="Table" /></td>
<td><img src="table.png" alt="Table" /></td>
</tr>
<tr>
<td>(x _ _ _)(_i)p  ( x ) ( x ) (( x ) )(_p)pp</td>
<td><img src="table.png" alt="Table" /></td>
<td><img src="table.png" alt="Table" /></td>
<td><img src="table.png" alt="Table" /></td>
<td><img src="table.png" alt="Table" /></td>
</tr>
<tr>
<td>d. … XP(_F) [Y Z]</td>
<td><img src="table.png" alt="Table" /></td>
<td><img src="table.png" alt="Table" /></td>
<td><img src="table.png" alt="Table" /></td>
<td><img src="table.png" alt="Table" /></td>
</tr>
</tbody>
</table>

6.6.3 How prosodic phrasing constrains left-shift

The distinct prosodic phrasings assigned to specifier and head structures constrain the availability of left-shift when these structures occur post-focally. To see this, we have to first list all the possible inputs produced by the optional M-marking of individual constituents. The optimal structures selected under each individual input will then provide the paradigms described by generalization (65).

The inputs and the associated optimal structures are discussed in the next two sections starting with specifier structures and following with head structures. Since we already established the \( pp\)-phrasing of each structure, it is unnecessary to re-establish it again in the tableaux to follow. For this reason, and to avoid excessive cluttering, I will provide only the \( ip\)-phrasing of each competing structure and the potential stress-slots made available to the right of main stress by the underlying \( pp\). I will, however, omit the \( pp\)-phrases themselves and the constraints StressXP and Wrap. As a result, the original prosodic phrasing for the specifier and head structures repeated in the second column of (81) will be represented as shown in the third column.
(81) Prosodic phrasing of specifier and head structures

<table>
<thead>
<tr>
<th></th>
<th>With $pp$-phrasing</th>
<th>Without $pp$-phrasing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Specifier structure</strong></td>
<td>$(x___)_{ip}$</td>
<td>$(x___)_{ip}$</td>
</tr>
<tr>
<td></td>
<td>$(x)(x)(x)_{pp}$</td>
<td>$(x)(x)_{pp}$</td>
</tr>
<tr>
<td></td>
<td>XP$_F$ [Y $\emptyset$ Z]</td>
<td>XP$_F$ [Y $\emptyset$ Z]</td>
</tr>
<tr>
<td><strong>Head structure</strong></td>
<td>$(x___)_{ip}$</td>
<td>$(x___)_{ip}$</td>
</tr>
<tr>
<td></td>
<td>$(x)(x)_{pp}$</td>
<td>$(x)(x)_{pp}$</td>
</tr>
<tr>
<td></td>
<td>XP$_F$ [Y Z]</td>
<td>XP$_F$ [Y Z]</td>
</tr>
</tbody>
</table>

6.6.3.1 **Specifier structures** I assume that functional projections headed by an M-marked null head count as M-marked and also M-mark their specifier. This appears particularly plausible for Cinque’s adverbial structures, where each adverb occurs as the specifier of a closely associated null-headed functional projection. Given this assumption, the logically possible inputs for specifier structures are those listed here, depending on whether Z, the entire post-focal constituent ‘[Y $\emptyset$ Z]’, or both are M-marked. (The relevant input is also shown in the top left corner of the tableaux to follow.)

(82) i. XP$_F$ [Y $\emptyset$ Z]  
   ii. XP$_F$ [Y $\emptyset$ Z$_M$]  
   iii. XP$_F$ [Y$_M$ $\emptyset$ Z$_M$]  
   iv. XP$_F$ [Y$_M$ $\emptyset$ Z$_M$]$_M$

Collectively, these inputs give rise to the set of movements described by generalization (65) for specifier structures and repeated in (83): (a) represents left-shift of the entire post-focal constituent; (b) its marginalization in situ; (c) left-shift of the complement Z; and (d) the impossibility of left-shifting the specifier Y alone.

(83) a. [Y $\emptyset$ Z]$_i$ XP$_F$ $t_i$  
   b. XP$_F$ [Y $\emptyset$ Z]  
   c. Z$_i$ XP$_F$ [Y $\emptyset$ $t_i$]  
   d. * Y$_i$ XP$_F$ [$t_i$ $\emptyset$ Z]

Let us now consider how the inputs in (82) determine the patterns in (83). Consider first input (82)(i) with no M-marking. The competing structures are listed in tableau (84). Moving the entire post-focal constituent, as in (84)(a), is optimal because it maximally improves stress alignment by removing the entire constituent intervening between main stress and the ip’s right edge, thus satisfying Hd-ip. This is achieved with a single movement, thus violating Stay minimally. All other alternatives are suboptimal. Moving Y and Z individually, as in (b), leaves stress perfectly right-aligned as in (a), but it costs two Stay violations against just one in (a). Moving only Y, or only Z, as in (c) and (d), does not improve stress alignment as much as in (a) because it leaves one intervening slot between main stress and the ip’s right edge, thus violating Hd-ip once. Finally, lack of movement in (e) leaves stress misaligned by two slots, thus violating Hd-ip twice.
Specifier structures: movement of the entire post-focal constituent

<table>
<thead>
<tr>
<th>Input: XPF [Y ø Z]</th>
<th>SF</th>
<th>Marg</th>
<th>Hd-ip</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>(x) [Y ø Z]_i XPF t_i</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>a. …[Y ø Z]_i XPF t_i</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>(x) Z_j XPF [t_i ø t_j]</td>
<td></td>
<td></td>
<td></td>
<td>**</td>
</tr>
<tr>
<td>b. … Y_i Z_j XPF [t_i ø t_j]</td>
<td></td>
<td></td>
<td></td>
<td>**</td>
</tr>
<tr>
<td>x Z_i XPF [Y ø t_i]</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>c. … Y_i XPF [t_i ø Z]</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>(x) Z_i XPF [Y ø t_i]</td>
<td></td>
<td></td>
<td></td>
<td>**</td>
</tr>
<tr>
<td>d. … Z_i XPF [Y ø t_i]</td>
<td></td>
<td></td>
<td></td>
<td>**</td>
</tr>
<tr>
<td>(x) [Y ø Z]_i XPF t_i</td>
<td></td>
<td></td>
<td></td>
<td>**</td>
</tr>
<tr>
<td>e. … [Y ø Z]_i XPF t_i</td>
<td></td>
<td></td>
<td></td>
<td>**</td>
</tr>
</tbody>
</table>

Input (82)(ii), which M-marks Z, also selects structure (a) as optimal. As (85) shows, M-marking Z adds one Marg violation to structures (b) and (d) where Z moves on its own while all other violations remain the same. Crucially, no Marg violation is added to (a), as Z remains in situ within the moved constituent ‘[Y ø Z]’. Since no other constraint is affected and all violations described for the previous tableau are still present, structure (a) is selected optimal for this input as well.

Specifier structures: movement of the entire post-focal constituent

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(x) [Y ø Z_M]_i XPF t_i</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>a. …[Y ø Z_M]_i XPF t_i</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>(x) Z_j XPF [t_i ø t_j]</td>
<td></td>
<td></td>
<td></td>
<td>**</td>
</tr>
<tr>
<td>b. … Y_i Z_j XPF [t_i ø t_j]</td>
<td></td>
<td></td>
<td></td>
<td>**</td>
</tr>
<tr>
<td>x Z_i XPF [Y ø t_i]</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>c. … Y_i XPF [t_i ø Z]</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>(x) Z_i XPF [Y ø t_i]</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>d. … Z_i XPF [Y ø t_i]</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>(x) [Y ø Z_M]_i XPF t_i</td>
<td></td>
<td></td>
<td></td>
<td>**</td>
</tr>
<tr>
<td>e. … [Y ø Z_M]_i XPF t_i</td>
<td></td>
<td></td>
<td></td>
<td>**</td>
</tr>
</tbody>
</table>

Input (82)(iii) M-marks the entire post-focal constituent and its specifier, giving rise to pattern (83)(c) where only Z left-shifts. The corresponding structure (86)(d) improves stress alignment because Z no longer intervenes between main stress and the clause right edge, resulting in one less Hd-ip violation. Furthermore, Marg is satisfied, as the raising Z is not M-marked. In contrast, raising the entire post-focal
constituent, as in (a), or raising Y, as in (b) and (c), violates the higher-ranked Marg constraint because these constituents are M-marked.

Moving nothing, as in (e), satisfies Stay and Marg but still underperforms (d) because it leaves main stress two slots away from the ip’s right edge, thus violating Hd-ip one more time than (d). These two slots correspond to the two distinct pps necessary to phrase Y and Z. As we will see in the next section, (e) will instead beat (d) in head structures because Y and Z are phrased into a single pp, explaining why Z-movement is only found with specifier structures.

(86) Specifier structures: movement of Z

<table>
<thead>
<tr>
<th>Input: XP_F [YM ø ZM]_M</th>
<th>SF</th>
<th>Marg</th>
<th>Hd-ip</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. …[Y ø Z]_i XP_F t_i</td>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. … Y_i Z_j XP_F [ t_i ø t_j ]</td>
<td>*</td>
<td>*</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>c. … Y_i XP_F [ t_i ø Z ]</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>d. … Z_i XP_F [ Y ø t_i ]</td>
<td>*</td>
<td>*</td>
<td></td>
<td>**</td>
</tr>
<tr>
<td>e. … XP_F [Y ø Z]</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Finally, input (82)(iv) M-marks everything and gives rise to (83)(b) with marginalization in situ for all constituents at issue, exhausting the grammatical options attested with specifier structures. Since all unfocused constituents are M-marked any structure raising any of them violates Marg. This leaves structure (e) lacking all movement optimal.

(87) Specifier structures: lack of movement

<table>
<thead>
<tr>
<th>Input: XP_F [YM ø ZM]_M</th>
<th>SF</th>
<th>Marg</th>
<th>Hd-ip</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. …[Y ø Z]_i XP_F t_i</td>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. … Y_i Z_j XP_F [ t_i ø t_j ]</td>
<td>**</td>
<td>**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. … Y_i XP_F [ t_i ø Z ]</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>d. … Z_i XP_F [ Y ø t_i ]</td>
<td>*</td>
<td>*</td>
<td></td>
<td>**</td>
</tr>
<tr>
<td>e. … XP_F [Y ø Z]</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
For convenience, each input and the structure selected as optimal for that input are listed in table (88). The optimal structures are listed with the same letter identifier used in the previous tableaux. They are exactly those expected under generalization (65), allowing for movement of both Z and the entire postfocal constituent, but not Y.

(88) Specifier structures: inputs and their syntactic realization

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Corresponding optimal structures</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. XP_F [Y ø Z]</td>
<td>(\ldots[Y \varnothing Z]<em>i x)</em>{\text{ip}}</td>
</tr>
<tr>
<td>ii. XP_F [Y \varnothing Z_M]</td>
<td>(\ldots[Y \varnothing Z]<em>i x)</em>{\text{ip}}</td>
</tr>
<tr>
<td>iii. XP_F [Y_M \varnothing Z]_M</td>
<td>(\ldots Z_i x)_{\text{ip}}</td>
</tr>
<tr>
<td>iv. XP_F [Y_M \varnothing Z_M]_M</td>
<td>(\ldots X_P [Y \varnothing Z])_{\text{ip}}</td>
</tr>
</tbody>
</table>

The analysis thus accounts for the movement options available to specifier structures in the presence of a higher focus, including Cinque’s pied-piping data. Post-focal constituents move above focus only if this improves stress alignment. Interestingly, when more than one competing structure can improve stress alignment through movement of a constituent, only the structure improving it the most is grammatical, providing evidence for the optimality-theoretic approach adopted here.

6.6.3.2 Head structures

The possible inputs determined by optional M-marking for head structures are provided here. As mentioned, when the head Y is M-marked the corresponding phrasal projection is M-marked as well.

(89) i. XP_F [Y Z]
ii. XP_F [Y Z_M]
iii. XP_F [Y_M Z]_M
iv. XP_F [Y_M Z_M]_M

Collectively, these inputs give rise to the patterns in (90), no longer allowing for the movement of Z observed with specifier structures.

(90) a. [Y Z]_i XP_F [Y \varnothing Z]
b. XP_F [Y Z]
c. * Z_i XP_F [Y t_i]
d. * Y_i XP_F [t_i Z]

As in the specifier structure case, input (89)(i) with no M-marking selects as optimal structure (91)(a) which left-shifts the entire post-focal constituent ‘[Y Z]’.
As we already saw in the previous discussion, this structure improves stress alignment maximally while violating Stay minimally. All other alternatives either involve additional violations of Stay, or fail to improve stress alignment, thus violating the higher-ranked Hd-ip more than (a). Note, however, how the structure without movement in (e) violates Hd-ip only once, since the post-focal constituent is now wrapped into a single *pp*, thus leaving main stress just one slot away from the *ip*’s right edge.

(91) Head structures: movement of the entire post-focal constituent

<table>
<thead>
<tr>
<th>Input: XP_F [Y Z]</th>
<th>SF</th>
<th>Marg</th>
<th>Hd-ip</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \varphi )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. ( \text{...}[Y Z]_i \text{XP}_F t_i )</td>
<td>( x \ _{\text{ip}} )</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. ( \text{...} Y_i \ Z_i \text{XP}_F [ t_i \ t_j ] )</td>
<td>( x \ _{\text{ip}} )</td>
<td>**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. ( \text{...} Y_i \text{XP}_F [ t_i \ Z_i ] )</td>
<td>( x \ _{\text{ip}} )</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>d. ( \text{...} Z_i \text{XP}_F [ Y \ t_j ] )</td>
<td>( x \ _{\text{ip}} )</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>e. ( \text{...} \text{XP}_F [ Y \ Z_i ] )</td>
<td>( x \ _{\text{ip}} )</td>
<td>*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Again as in the corresponding specifier structure case, input (89)(ii) also selects (a) as optimal. Moving the M-marked Z adds Marg violations to structures (b) and (d). Since no other violation is altered, (a) is optimal for the reasons considered in the previous tableau.

(92) Head structures: movement of the entire post-focal constituent

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>( \varphi )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. ( \text{...}[Y Z]_i \text{XP}_F t_i )</td>
<td>( x \ _{\text{ip}} )</td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. ( \text{...} Y_i \ Z_i \text{XP}_F [ t_i \ t_j ] )</td>
<td>( x \ _{\text{ip}} )</td>
<td>**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. ( \text{...} Y_i \text{XP}_F [ t_i \ Z_i ] )</td>
<td>( x \ _{\text{ip}} )</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>d. ( \text{...} Z_i \text{XP}_F [ Y \ t_j ] )</td>
<td>( x \ _{\text{ip}} )</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>e. ( \text{...} \text{XP}_F [ Y \ Z_i ] )</td>
<td>( x \ _{\text{ip}} )</td>
<td>*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The difference between specifier and head structures becomes crucial on input (89)(iii), which in the head structure case selects as optimal the lack of movement in (e), not the moved Z in (d). Since head-structures parse the post-focal constituent ‘[Y Z]’ in a single *pp*, there is only one potential stress slot intervening between main stress and the clause right edge. Therefore, (e) and (d) are equivalent as far as stress alignment is concerned, both violating Hd-ip once. But (e) satisfies Stay, whereas (d) violates it, and therefore it is (e) that is selected as optimal for this input, accounting for why Z cannot left-shift in head structures. The remaining three structures in (a)–(c) are also beaten by (e), since they involve movement, violating Stay, and move M-marked constituents, violating Marg.

(93) Head structures: Z cannot move

<table>
<thead>
<tr>
<th>Input: XP_F [YM Z]_M</th>
<th>SF</th>
<th>Marg</th>
<th>Hd-ip</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ...[ Y Z]_i XP_F t_i</td>
<td>x</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>b. ... Y_i Z_j XP_F [ t_i t_j ]</td>
<td>x</td>
<td>*</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>c. ... Y_i XP_F [ t_i Z ]</td>
<td>x</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>d. ... Z_i XP_F [ Y t_i ]</td>
<td>x</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>e. ... XP_F [ Y Z ]</td>
<td>x</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

The final input (89)(iv) also selects (e) as optimal, since all constituents are M-marked and violate the higher-ranked Marg when moved.

(94) Head structures: lack of movement

<table>
<thead>
<tr>
<th>Input: XP_F [YM Z]_M</th>
<th>SF</th>
<th>Marg</th>
<th>Hd-ip</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ...[ Y Z]_i XP_F t_i</td>
<td>x</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>b. ... Y_i Z_j XP_F [ t_i t_j ]</td>
<td>x</td>
<td>**</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>c. ... Y_i XP_F [ t_i Z ]</td>
<td>x</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>d. ... Z_i XP_F [ Y t_i ]</td>
<td>x</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>e. ... XP_F [ Y Z ]</td>
<td>x</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>
The four head-structure inputs and the corresponding optimal realizations are provided in table (95). Once again, the realized structures are those expected under generalization (65), only allowing for movement of the entire postfocal constituent or no movement at all.

(95) Head structures: inputs and their syntactic realization

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Corresponding optimal structures</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. XP_F [Y Z ]</td>
<td>((\ldots [Y \circ Z]<em>i \quad x \quad )</em>\text{ip})</td>
</tr>
<tr>
<td></td>
<td>a. ((\ldots [Y \circ Z]_i \quad X_P \quad t_i)</td>
</tr>
<tr>
<td>ii. XP_F [Y Z_M ]</td>
<td>((\ldots [Y \circ Z]<em>i \quad x \quad )</em>\text{ip})</td>
</tr>
<tr>
<td></td>
<td>a. ((\ldots [Y \circ Z]_i \quad X_P \quad t_i)</td>
</tr>
<tr>
<td>iii. XP_F [Y_M Z ]_M</td>
<td>((\ldots x \quad \quad )_\text{ip})</td>
</tr>
<tr>
<td></td>
<td>e. ((\ldots X_P \quad [Y \circ Z])</td>
</tr>
<tr>
<td>iv. XP_F [Y_M Z_M ]_M</td>
<td>((\ldots x \quad \quad )_\text{ip})</td>
</tr>
<tr>
<td></td>
<td>e. ((\ldots X_P \quad [Y \circ Z])</td>
</tr>
</tbody>
</table>

In conclusion, generalization (65) follows from the interaction of the prosodic and syntactic constraints examined in Section 6.3. The different prosodic phrasings assigned to specifier and head structures determines a different degree of stress misalignment when they immediately follow a higher focus, which in turn affects which constituents can move to mitigate it. Only with specifier structures is stress misalignment sufficiently severe to trigger movement of the complement Z.

This state of affairs is not a foregone conclusion. Grammars could be organized differently and favour movements that do not improve stress alignment. Or, alternatively, they could favour stress alignment but ignore whether the movement operations that bring it about determine optimal or suboptimal structures relative to the constraints examined here. That this is not the case is noteworthy and again highlights the optimality-theoretic nature of the phenomenon under study.

6.6.4 Post-focal quantified DPs

The analysis of post-focal constituents in the previous subsections finds an immediate application in the study of Italian post-focal quantified objects. As (96) shows, unfocused quantified objects may remain in situ as in (a) or move above a focused subject as in (b), but neither the quantified DP nor the quantifier in it may left-shift individually, see (c) and (d). The impossibility of moving the quantified DP in (c) is, at first, surprising, since the entire object can left-shift above the focused subject in (b), and quantifiers can be stranded when moving the quantified DP to a subject position across a focused verb as in (97).
6.6 Prosodic phrasing shaping the distribution of left-shift

(96) Context: Il preside ed i professori hanno incontrato tutti i ragazzi.
   ‘The headmaster and the teachers have met all the boys.’
   a. No. Non ha incontrato NESSUNOF [tutti i ragazzi]M.
      No. Not has met anybody all the boys
      ‘No. NOBODY met all the boys.’
   b. No. Non ha incontrato tutti i ragazzi NESSUNOF.
   c. *No. Non ha incontrato i ragazzi NESSUNOF tuttiM.
   d. *No. Non ha incontrato tutti NESSUNOF i ragazziM.

(97) Context: I ragazzi hanno mangiato tutti.
   ‘The boys have all eaten.’
   No. I ragazzi hanno BEVUTOF tuttiM.
   No. The boys have drunk all
   ‘No. The boys have all DRUNK.’

Example (98) provides another instance of the same pattern. An entire quantified object can remain in situ as in (a) or left-shift above a focused adverb as in (b), but neither the quantified DP nor the quantifier can left-shift individually, see (c) and (d). Yet the same quantified DP may move across the same focused adverb when part of a subject, see (99). Why is the quantified DP unable to move even though its movement would improve stress alignment, the entire object can instantiate such movement, and the same DP can strand its quantifier behind when forming a subject?

(98) Context: Tu hai sempre incontrato tutti i ragazzi.
   ‘You always met all the boys.’
      No. (I) not have met ever all the boys
      ‘No. I NEVER met all the boys.’
   b. ?No. Non ho incontrato tutti i ragazzi MAIF.
   c. *Non ho incontrato i ragazzi MAIF tuttiM.
   d. *Non ho incontrato tutti MAIF i ragazziM.

(99) Context: I ragazzi hanno sempre cantato tutti.
   ‘The boys have always all sung.’
   No. I ragazzi non hanno cantato MAIF tuttiM.
   No. The boys not have ever sung all
   ‘No. The boys have NEVER all sung.’

The patterns in (96) and (98) match those of post-focal constituents with the head structure type, which as (100) shows is indeed the structure of quantified phrases.
The patterns in (96) and (98) thus follow immediately from the analysis presented in section 6.6.3.2 when Y corresponds to the quantifier Q and Z to the quantified DP. Tableau (101) illustrates the competition between the structure left-shifting the DP, in (a), and the alternative leaving it in situ, in (b) (corresponding to the competition between (d) and (e) in tableau (93))). Crucially, both structures fare equally on Hd-ip because the entire post-focal constituent is wrapped into a single pp, meaning that the focused subject is one slot away from the ip’s right edge in both cases. Under these circumstances, leaving the DP in situ is the optimal choice, since raising the DP would only add a violation of Stay.

(101) Unfocused quantified DPs cannot raise and strand the quantifier

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(x _) ip</td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>a. ... DPi</td>
<td>SF [QM]M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(x) (x) (x) pp</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. ... SF [QM DP]M</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The same DP will nevertheless move whenever other constraints require it, provided they are adequately ranked. This is indeed the case in the quantifier-stranding sentences (97) and (99). The quantified DP is here part of a subject and as such it moves to satisfy the constraint EPP requiring a realized specTP. Once again, the structures with and without movement, in (a) and (b) in (102), share the same number of Hd-ip violations. But raising the DP is now favoured by EPP and since EPP outranks Stay (Section 6.3.4) quantifier stranding is here grammatical.

(102) Subject DPs can raise and strand the quantifier

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(x _) ip</td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>(x) (x) (x) pp</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. aux V_F [QM DP]M</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In conclusion, the analysis of quantifier stranding confirms the role of prosody in shaping the distribution of focus in Italian. It is difficult to see how a purely syntactic analysis could block the DP from moving above focus and stranding the quantifier in (96)(c) while at the same time allowing for both movement above focus of the entire object in (96)(b) and quantifier stranding in (97).

6.7 Right dislocation and focus evacuation

As discussed in Section 6.3, right-dislocated constituents raise to the specifier of a higher RP projection followed by remnant movement of the entire TP to the specifier of a higher XP projection. Here, I consider sentences involving a single declarative clause, leaving aside right dislocation in multi-clausal sentences (Bocci 2013), briefly discussed in Section 3.3.7 of Chapter 3, and also the interesting cases of right dislocation in yes/no interrogatives in Crocco (2013). I expect the proposed analysis to successfully extend to the multi-clausal cases, since the properties of right dislocation remain invariant, but not to Crocco’s cases, which involve main prominence on the right-dislocated item (e.g. ‘Lo vuole, un caffé?’, with stress on *caffé* and meaning ‘Would you like a coffee?’). Since the prosody of right dislocation is radically affected, these cases inevitably require a different analysis. As Crocco points out, these sentences are grammaticalized constructions where right dislocation is actually assigned a different discourse function from the one it normally has in declaratives, confirming that Crocco’s sentences should not be treated as involving standard right dislocation.

The monoclausal, declarative cases examined here, always wrap right-dislocated phrases in an *ip* of their own (Frascarelli 2000: 33–42; Bocci and Avesani 2011). For example, sentence (103) with a right-dislocated subject following a focused object has the structure in (104) and the prosodic structure in (105). The dislocated subject is wrapped into an *ip* of its own that follows the *ip* corresponding to the original TP. The two *ips* form an utterance phrase (or ‘*up*’) encompassing

---

12 As shown in Feldhausen (2008: 176–8), Catalan right-dislocated phrases are also necessarily preceded by a prosodic boundary, but the associated prosodic constituent may vary between an intonational phrase or a phonological phrase (more precisely, an ‘intermediate phrase’, which Feldhausen describes as sufficiently similar to *pps* in the introduction of his book). This difference between Catalan and Italian is likely to be a reflection of the clause-internal position taken by right-dislocated constituents in Catalan, which places them inside the *ip* encompassing the clause. If correct, this result would further support the analysis proposed in the following sections, where the presence of an *ip* boundary in Italian is a consequence of the clause-external position of right dislocation, not a property intrinsic to the specific discourse function expressed by right dislocation.
The role of prosody

the entire utterance (Selkirk 1984, 1986, 1995, see also Truckenbrodt 1995; Samek-Lodovici 2005). The main stress of the sentence falls on the head of the up, i.e. on VINO.

(103) Berrà VINOₚ, Gianniᵣ.
  Will-drink wine, John
  'John will drink WINE.'

(104) \[
\begin{array}{c}
\text{XP} \\
\text{TPₖ} \\
[\text{Berrà \_tₗ VINO₉}] \\
\text{Øₓ} \\
\text{RP} \\
\text{Gianniᵣᵢ} \\
\text{Øᵣ} \\
\text{tₖ}
\end{array}
\]

(105) \[
[\text{XP [TP Berrà \_tₗ VINO₉]ₖ \ Øₓ [RP Gianniᵣᵢ \ Øᵣ tₖ] ]}
\]

The constraints specifying the position and destressed nature of right dislocation and their interaction with the prosodic constraints described earlier in this chapter straightforwardly account for the separate ip-phrasing of right-dislocated constituents just mentioned and the process of focus evacuation discussed in Chapter 4. Most significantly, the analysis shows that focus evacuation, and the instances of left-peripheral focus it gives rise to, need not and ought not to be modelled in terms of attraction and checking of a [+focus] feature, because the unavailability of main stress within right-dislocated constituents is sufficient to force focus out of the right-dislocating phrase containing it (on the inadequacy of focus features see also Szendröi 2000, Chapter 3; Brunetti 2004, Chapter 3; Horvath 2010).

While similar in spirit, the proposed analysis will significantly differ from the corresponding analysis in Szendröi (2000, 2001). While I agree with Szendröi about the relevance of prosody for triggering focus movement, her key assumption that Italian right-dislocated constituents are prosodically extrametrical cannot be maintained because right-dislocated constituents have been repeatedly shown to project regular prosodic contours at the ip level, see Frascarelli (2000), Bocci (2008, 2013), Bocci and Avesani (2008, 2011), Samek-Lodovici (2005: 718). In the analysis proposed here, right dislocation cannot project main stress, but it is otherwise assigned prosodic prominence according to the same constraints governing prosodic prominence in any other phrase.
The right-dislocation constraints and the related assumptions are introduced in Section 6.7.1. Section 6.7.2 examines the right dislocation of constituents not containing a focus, while Section 6.7.3 considers the right dislocation of constituents containing a focus and the ensuing focus evacuation.

6.7.1 Constraints and assumptions

Discourse-given constituents can be either marginalized in situ or right-dislocated. The choice between these two operations will probably eventually follow from nuanced differences in the pragmatic import of these two operations. For the time being, I will assume that a feature ‘R’ marks the constituents targeted by right dislocation. Since only discourse-given constituents can be right-dislocated, and since discourse-given constituents are M-marked (Section 6.3), all R-marked phrases are also M-marked. R-marked constituents are thus subject to the Marg constraint requiring discourse-given phrases to remain in situ and violate it whenever they are right-dislocated. In the following, I will only show the R-marking, leaving the entailed M-marking implicit.

(106) Assumption—Right Dislocation targets R-marked constituents.

Modelling right dislocation requires the following four constraints. The constraint Hd-up, defined in (107), is a general independent constraint necessary to properly model the Italian stress system. It requires main stress to occur up-rightmost. It is violated once for every unoccupied stress slot available to the right of main stress at up-level. For example, sentence (108) violates Hd-up once due to the unused stress slot projected by the right-dislocated phrase.

(107) Head-of-utterance-phrase (Hd-up)—Align (up, R, Head(up), R). Align the right boundary of every up with its head.

(108) [XP [TP Berrà t₁ VINOₜ]k øX [RP GianniR,i øR tk ]]
constraint is cast in alignment terms (McCarthy and Prince 1993). It requires R-marked constituents to align their right edge with the left edge of the head $\sigma_R$ in the RP projection.

The constraint RDisl requires R-marked phrases to occur rightmost in the utterance phrase up encompassing the entire sentence. This is the constraint responsible for dislocating R-marked phrases to the right periphery. It is violated once for every constituent occurring between the right edge of the dislocated constituent and the up’s right edge.

(110) **DislocateGiven (DislGiv)**—Align (XP$_R$, R, $\sigma_R$, L). Align the right boundary of every R-marked phrase XP$_R$ with the left edge of $\sigma_R$.

(111) **Right Dislocate (RDisl)**—Align (XP$_R$, R, up, R). Align the right edge of every phrase XP$_R$ with the right boundary of the utterance phrase up.

These constraints join those proposed earlier in this chapter. Their addition does not affect the analyses presented so far because they are satisfied by all competing candidates in all previous tableaux. This is easy to see for the three constraints DstrRD, DislGiv, and RDisl: since they explicitly target R-marked constituents, they are trivially satisfied whenever R-marking—that is right dislocation—is absent, as is the case with all competitions considered in all previous sections. The constraint Hd-up, too, is satisfied across all previous tableaux. Since the competing candidates always involved a single ip, they always provided a single stress slot for the head of the corresponding up, making stress misalignment at up-level impossible.

The tableaux in the next two sections will list all constraints introduced in this chapter except StressXP and Wrap, since these two constraints will be satisfied by all competing candidates. The corresponding pp-phrasing is also omitted to avoid excessive cluttering, and so is any Stay violation due to verb and subject raising and shared across all candidates.

### 6.7.2 Right dislocation of constituents not containing a focus

Let me first consider the cases where the R-marked constituent does not contain any focus, thus not triggering focus evacuation. An input involving a focused object and an R-marked subject would give rise to the sentence and prosody in (112), involving a right-dislocated subject. The corresponding structure is shown again in (113).

(112) ( x ) up ( x ) ip ( x ) ip

Berrà VINO$_p$, Gianni$_R$.
Will-drink wine, John
‘John will drink WINE.’
Tableau (114) illustrates how the proposed constraints derive this structure and prosody. The grammatical structure, with the prosody and structure just introduced, is provided in (a). Besides failing Stay, this structure violates Marg because the discourse-given subject is not in situ. It also violates Hd-up, because main stress is not rightmost in $up$. Yet (a) is optimal because all other candidates violate constraints ranked higher than those failed by (a). Let me consider them in turn.

Structure (b) is identical to (a) but it wraps the entire sentence into a single $ip$, against the findings of Frascarelli (2000) and Bocco and Avesani (2011). This prosodic parsing satisfies Hd-up, because the $up$-head is $up$-rightmost, but it violates Hd-$ip$, as the $ip$-head is not $ip$-rightmost due to the potential slot provided by the dislocated subject. The presence of separate $ips$ for right-dislocated constituents thus follows from the higher rank of Hd-$ip$ relative to Hd-up and need not be stipulated. Constraints forcing a prosodic boundary after the VP containing focus, as proposed in Feldhausen (2008: 186), are unnecessary.

Structure (c) dislocates the subject but does not move the remnant TP above the right-dislocated subject, thus leaving the subject clause-initial. As a consequence, main stress on the focused object is $up$-rightmost, as required by Hd-up, and Stay is violated one fewer time than in (a). However, (c) fails RDisl because the subject is not right-aligned in $up$. The ungrammaticality of (c) thus follows from the higher rank of RDisl relative to Hd-up in the grammar of Italian. This ranking is sufficient to trigger remnant movement of the TP to a position above the right-dislocated subject, namely specXP, with no need to stipulate the observed remnant movement as forced by an additional constraint pertaining to right dislocation.

Structure (d) places stress on the dislocated subject, thus successfully right-aligning stress in $up$. However, it fails the higher ranked DstrRD and SF and is thus non-optimal.

Structure (e) leaves the subject in situ before the focused object, thus faring better than (a) on Stay, Marg, and even Hd-up, since main stress remains $up$-rightmost. But it fails the higher constraints RDisl and DislGiv responsible for right dislocation.

Structure (f) raises the subject to specTP, thus beating (a) on Hd-up, EPP, and Stay, but like the previous competitor it fails the higher constraints RDisl and DislGiv.
Finally, raising the focused object above the subject as in (g) satisfies RDisl, because the subject is now right-aligned with \textit{up}, and it involves less movement than in (a). But it still violates the higher ranked constraint DislGiv and it also violates Hd-ip, since stress is no longer rightmost in the \textit{ip} encompassing TP.

Since there is no other structure that performs better than (a) on the constraints that (a) fails that is not harmonically bounded by the already considered competitors, (a) is optimal and selected as the grammatical structure.

(114) Basic properties of right-dislocated phrases

<table>
<thead>
<tr>
<th>Input: V S_R O_F</th>
<th>SF</th>
<th>RDisl</th>
<th>Disl</th>
<th>Giv</th>
<th>Dist</th>
<th>Marg</th>
<th>Hd-ip</th>
<th>Hd-up</th>
<th>EPP</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. [V t_i O_F]<em>k \phi_X [S</em>{R,i} \phi_R t_k]</td>
<td>*</td>
<td>*</td>
<td>*</td>
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<td>*</td>
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<td></td>
</tr>
<tr>
<td>b. [V t_i O_F]<em>k \phi_X [S</em>{R,i} \phi_R t_k]</td>
<td>*</td>
<td>*</td>
<td>*</td>
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<td>*</td>
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</tr>
<tr>
<td>c. [S_{R,i} \phi_R [V t_i O_F]]</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
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<tr>
<td>d. [V t_i O_F]<em>k \phi_X [S</em>{R,i} \phi_R t_k]</td>
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<td>*</td>
<td>*</td>
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<tr>
<td>e. [V S_R O_F]</td>
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<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td></td>
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</tr>
<tr>
<td>f. [S_{R,i} V t_i O_F]</td>
<td>*</td>
<td>*</td>
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<td>*</td>
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<tr>
<td>g. [V O_F,S_R t_i]</td>
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</tbody>
</table>

6.7.3 Focus evacuation from right-dislocating constituents containing a focus

As shown in Chapter 5, when right dislocation targets a constituent containing focus, focus is evacuated by left-adjoining the targeted constituent. See example (115) where the focused object evacuates a right-dislocating TP. The focused object is followed by
an *ip*-boundary in accord with Frascarelli (2000: 56). The corresponding structure is provided in (116).

\[
(115) \quad (x \quad \_ \quad )_{up} \\
(\_ \quad x \quad )_{ip} \\
VINO_F \quad [\text{Gianni berrà}]_{R.} \\
\text{Wine} \quad \text{John will-drink} \quad 'WINE John will drink.'
\]

This structure is repeated in linear form in structure (117)(a), and its main properties follow from the interaction of the same ranked constraints examined in the previous section.

Having a single *ip* for the entire sentence, as in (b), is excluded by the higher rank of *Hd*-ip relative to *Hd*-up. As in the previous tableau, this shows that the ranking between these two constraints is sufficient to determine the presence of an *ip*-boundary before the right-dislocated TP. There is no need to stipulate its presence through additional conditions.

Structure (c) shows right dislocation without focus evacuation: the focused object remains in the right-dislocated TP. This structure beats (a) on *Hd*-up and Stay, since it keeps stress rightmost in *up* and it involves less movement than (a), but the stressed focus within the right-dislocated TP violates DstrRD. The fact that (c) is ungrammatical shows that in Italian DstrRD outranks *Hd*-up and Stay. The competition between (c) and (a) also shows that focus evacuation need not be stipulated as an independent operation or as a component of right dislocation. It emerges automatically from the need to stress focused constituents, as required by SF, and the need to leave right-dislocated phrases unstressed, as required by DstrRD.

Structure (d) is the opposite of (c), in that it evacuates the focused object from TP while leaving TP in situ, thus not right dislocating it. This is the structure

---

13 According to Frascarelli (2000: 56–8), left-peripheral focus is normally followed by an *ip*-boundary. However, her results also show that when focus is immediately followed by a verb the *ip*-boundary is absent (see also Bocci and Avesani 2005). More research is needed to determine the syntactic status of the corresponding sentences and in particular whether they, too, are instances of focus evacuation.
that would be grammatical if focus evacuation were an independent operation unrelated to constraint ranking. It fares better than (a) on Marg and Stay, since it leaves the discourse-given R-marked (hence also M-marked) TP unmoved, but it violates DislGiv. Its ungrammatical status shows that DislGiv outranks Marg and Stay.

Not executing right dislocation, in (e), is suboptimal because it satisfies Marg, Hd-up, and Stay but it violates the higher ranked DislGiv and DstrRD constraints.

Finally, rightmost stress in (f), failing to stress focus and letting stress fall on the right-dislocated TP, satisfies Hd-up but fails the higher-ranked DstrRD and SF and is thus suboptimal.

Once again, since no other structure can beat (a) on some constraint while not being harmonically bounded by the considered competitors, (a) is optimal and hence grammatical.

(117) Focus evacuation

<table>
<thead>
<tr>
<th>Input: [\text{S V O}_F \text{R}]</th>
<th>SF</th>
<th>R Disl</th>
<th>Disl Giv</th>
<th>Dstr RD</th>
<th>Marg</th>
<th>Hd-ip</th>
<th>Hd-up</th>
<th>EPP</th>
<th>Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>RD</td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>({x}<em>{\text{ip}} (______)</em>{\text{up}})</td>
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<td>***</td>
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<tr>
<td>a. ([\text{O}<em>{F,i} t]</em>{\text{j}} \text{R}<em>{\text{k}} [\text{S V t}]</em>{\text{j}} \text{R}_{\text{k}}]</td>
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<td>({x}<em>{\text{ip}} (______)</em>{\text{up}})</td>
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<tr>
<td>b. ([\text{O}<em>{F,i} t]</em>{\text{j}} \text{R}<em>{\text{k}} [\text{S V t}]</em>{\text{j}} \text{R}_{\text{k}}]</td>
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<td>RD but no focus evacuation</td>
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<td>({x}<em>{\text{up}} (______)</em>{\text{ip}})</td>
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<tr>
<td>c. ([\text{S V O}<em>F \text{R}]</em>{\text{j}} \text{R}_{\text{k}}]</td>
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<tr>
<td>Focus evacuation, but no RD</td>
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<tr>
<td>({x}<em>{\text{up}} (______)</em>{\text{ip}})</td>
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<tr>
<td>d. ([\text{O}<em>{F,i} [\text{R}</em>{\text{j}} \text{S V t}]<em>{\text{j}}]</em>{\text{R}_{\text{k}}}]</td>
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<tr>
<td>No movement (no RD)</td>
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<tr>
<td>({x}<em>{\text{up}} (______)</em>{\text{ip}})</td>
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<tr>
<td>e. ([\text{S V O}<em>F]</em>{\text{R}}]</td>
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<tr>
<td>Rightmost stress on RD</td>
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<tr>
<td>({x}<em>{\text{ip}} (______)</em>{\text{up}})</td>
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<tr>
<td>f. ([\text{O}<em>{F,i} t]</em>{\text{j}} \text{R}<em>{\text{k}} [\text{S V t}]</em>{\text{j}} \text{R}_{\text{k}}]</td>
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</tbody>
</table>

To wrap up, given our current understanding of right dislocation and of the relation between prosody and syntax, the position and unstressed status of right-dislocated phrases need to be encoded in the constraints RDisl, DislGiv, and DstrRD proposed in this last section. All other fundamental properties of right dislocation, such as the...
6.8 Conclusions

This chapter showed how the distribution of Italian contrastive focus uncovered in the previous chapters emerges naturally from the constraints governing prosodic prominence and their interaction with simple independently established syntactic constraints. The chart in (118) shows all the constraints and ranking relations discussed in this chapter, demonstrating that they do not involve any contradictory rankings.14

14 The only exception is Ob-hd, as its role as trigger of verb movement is under debate. The following list provides a set of ungrammatical structures whose suboptimal status requires—and hence supports—a corresponding elementary ranking condition in the chart (on elementary ranking conditions, see Prince 2002 and Brasoveanu and Prince 2009). As explained in the discussion of each tableau, all other suboptimal structures discussed in this chapter follow from the ranking relations so established.

(i) Elementary Ranking Condition: Suboptimal structure requiring it (indexed by tableau)
   SF >> Hd-ip Structure (11)(b)
   EPP >> Stay Structure (29)(b)
   Hd-ip >> EPP Structure (30)(a)
   DislGiv >> [Marg, Stay] Structure (117)(d)
   Marg >> Hd-ip Structure (49)(c), since we know that Hd-ip>>EPP>>Stay.
   Hd-ip >> Hd-up Structure (114)(b)
   RDisl >> [Hd-up, Stay] Structure (114)(c)
   DstrRD >> [Hd-up, Stay] Structure (117)(c)
   StressXP >> [Hd-ip, Wrap] Structure (79)(b)
With the possible exception of right dislocation, the constraints involved are very simple. They state that focus is stressed, that stress is rightmost, that movement is costly, that syntactic phrases are prosodically phrased and stressed.

These constraints determine a complex distribution that can easily appear to require rules in its own right, but which was instead shown to be entirely determined by constraint interaction. Focus occurs in situ, because this is the rightmost position available to the focused constituent and therefore also the rightmost possible position for the associated stress, i.e. the position violating Hd-ip the least. Similarly, post-focal constituents may move above higher foci because this improves stress alignment, but if the higher constituent is unfocused or the lower one is focused the same movement no longer improves stress alignment and becomes ungrammatical for the involved movement’s cost. As inputs become more complex, subtler effects arise, including the asymmetries in the set of movement operations available to post-focal constituents (Section 6.6) or the wrapping of right-dislocated phrases in separate ips (Section 6.7).

The optimality-theoretic nature of constraint interaction also explains the apparent exceptions to otherwise valid generalizations. For example, focalization occurs in situ but focused verbs move to T. Under the approach pursued here, this is unsurprising, as this is indeed the predicted pattern if the constraints independently needed to account for V-to-T movement dominate the prosodic constraints favouring rightmost stress. Focused verbs are instead a challenge for any analysis requiring all foci to occur in the specifier of a specific focus projection, as it is unclear how finite verbal heads could raise to a phrasal position.

Similarly, focus evacuation constitutes an exception to in-situ focalization but only in descriptive terms. It actually follows from the high rank of the constraints governing right-dislocated phrases, which force focus to evacuate the dislocating constituent even if this movement worsens stress alignment. Therefore, far from being an unexplained exception fixed by ad hoc stipulations, the proposed analysis treats focus evacuation as an epiphenomenon of the proposed constraints. As such, it need not be encoded as a separate operation of human grammar nor be modelled through the introduction of a focus-evacuation feature. Even the remnant movement that accompanies right dislocation emerges from the constraints forcing right dislocation to occur clause rightmost and need not be stipulated nor be feature-driven.

By deriving complex generalizations from simple constraints, the optimality theoretic perspective limits the inherent complexity of grammar. The constraints refer to prosodic prominence, stress alignment, movement. None of them encodes complex propositions like ‘focalization occurs in situ’ or ‘unfocused post-focal constituents raise above higher foci’. These complex statements describe the effects of grammar but have no correspondent in the grammar itself, which is only formed by the constraints and their ranking.
Finally, like any account cast in OT terms the analysis proposed here contributes to a model of human grammar where the import of UG is maximal, since all constraints are assumed to be universal, while language-specific provisos are formally constrained, since only the ranking of the constraints themselves is language-specific. Most of the constraints mentioned in this analysis are widely attested and not specific to Italian. Others, such as the constraints concerning marginalized and right-dislocated constituents, need to be further assessed and refined through future research on the interaction of discourse-givenness and focalization in other languages.