Arbeitspapier Nr. 118

**THE PROSODIC DOMAIN OF
ITALIAN T*RONCAMENTO* IS NOT
THE CLITIC GROUP**

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Abstract

Final vowel deletion, or "troncamento", a phonological phenomenon of standard Italian, consists in the deletion of a word-final mid-vowel after a sonorant consonant. *Troncamento* often is assumed to be an optional phonological process, depending on rate of speech and register. In previous research, it has been claimed that *troncamento* is a prosodic rule that applies obligatorily within the clitic group, and optionally in the intonational phrase. It has also been stressed that *troncamento*, however, is not a canonic prosodic rule like *raddoppiamento sintattico* (consonant gemination), because it does not treat words of different lexical categories in the same way, in that it applies productively only to verbs. In this paper it will be shown that the prosodic domain within which *troncamento* applies is the phonological phrase, where effects of "optionality" arise from optionality of prosodic restructuring. In contrast to previous assumptions, the claim that *troncamento* applies optionally in the intonational phrase is not supported by the data. Furthermore, it will become clear that *troncamento* applies productively and in a rule-governed fashion not only to verbs, but to nouns and adjectives, as well. Thus, the analysis of *troncamento* provides further evidence for the phonological phrase as a domain in the phonology of Italian, thereby supporting the assumption of domain convergence, and it contributes additional evidence obviating the need for the clitic group.

1   Introduction

Troncamento, the deletion of final vowels in the standard variety of Italian, is generally considered to be a phonological process that deletes a word-final mid-vowel (/e/, /o/) appearing after a sonorant consonant (/r/, /l/, /n/, /m/) and before another vowel or consonant.[1] Examples are given in (1) and (2). Note that *troncamento* is, in most contexts, an optional process; it applies obligatorily only in a few constructions, among which, as often noted, is the sequence infinitive + enclitic pronoun, as in (2) a. Occurrences of *troncamento* are more frequent with increasing speech rate, and *troncamento* is more frequent in colloquial than in formal speech (Berruto 1987: 33, 151).

(1) *Troncamento* between words

Verb	a.	di	andar_	via		a'.	di	andare	via
		to	go	away			to	go	away
		'to go away'							
Adj	b.	il	maggior_	palazzo		b'.	il	maggiore	palazzo
		the	major	palace			the	major	palace
		'the major palace'							
Noun	c.	di	color_	verde	scuro	c'.	di	colore	verde	scuro
		of	color	green	dark		of	color	green	dark
		'of dark green color'							
Adverb	d.	ben_	fatto			d'.	*bene	fatto	
		well	done				well	done	
		'well done'							

(2) *Troncamento* within words

Verb	portare +	lo		a.	portarlo	a'.	*portarelo
	carry +	it.CL					
	'to carry it'						
Adj	regolare +	-mente		b.	regolarmente	b'.	*regolaremente
	regular +	-ADV					
	'regularly'						
Adj	di simile +	pelle		c.	di simil-pelle	c'.	*di simile-pelle
	of similary +	leather					
	'of imitation leather'						

Troncamento is generally distinguished from *elisione* (cf. the discussion in Leone 1963, Manczak 1967), often defined as *troncamento* before a vowel, as exemplified in (3), and from *apocope* (Marotta 1995), a term referring to the deletion of a final syllable, as exemplified in (5). Like *troncamento*, *elisione* is optional in some cases and obligatory in others. It is worthwhile to note that, in contrast to *troncamento*, *elisione* never applies within verbal constructions, see (4).

(3) *Elisione* with non-verbal lexemes

    a.   d<u>i</u>   +   autunno   a'. d'autunno

         in   +   autumn

         'in autumn'

    b.   m<u>i</u>   +   attende   b'. m'attende

         1.SG.CL   +   3.SG.await

         'he/she awaits me'

(4) No *elisione* with verbal lexemes

    a.   avet<u>e</u>   +   interrotto   a'. *avet'interrotto

         2.PL.have   +   interrupted

         'you have interrupted'

    b.   dovrebb<u>e</u>   +   andare   b'. *dovrebb'andare

         3.SG.should +   go

         'he/she should go'

(5) *Apocope*

    a.   un   po<u>co</u>   di   pane   a'. un po' di pane

         a   bit   of   bread

         'a bit of bread'

    b.   a   mo<u>do</u>   d' esempio   b'. a mo' d'esempio

         at   mode   of example

         'as an example'

Troncamento is generally taken to apply to the mid vowels /e/ and /o/. In this study, however, the discussion is restricted to deletion of /e/ (a restriction also made by Nespor 1990). The reasons for this are as follows. First, it has been previously mentioned that deletion of /o/ is subject to more constraints than deletion of /e/. For example, deletion of /o/ applies only after a nasal consonant, while /e/ deletion applies after any sonorant (Nespor 1990: 385). Second, while

/e/-deletion on infinitives is obligatory before enclitic pronouns, /o/-deletion on imperatives before enclitic pronouns is prohibited, see (6) (as noted by Monachesi 1999, Peperkamp 1996).

(6) Deletion of /e/ and /o/ before enclitic pronouns

    a. mangiárlo   a'. *mangiár<u>e</u>lo

       eat.INF-it

       'to eat it'

    b. *mangiámlo   b'. mangiám<u>o</u>lo

       eat.IMP.1PL-it

       'let's eat it'

A common assumption often made in descriptive studies and in traditional grammars is that both *troncamento* and *elisione* are grounded in factors like ease of pronunciation, and that both processes apply only between two words that are closely related syntactically or semantically (e.g., Leone 1963, Manczak 1967). Few studies, however, have tried to give a precise formulation of the factors triggering or blocking *troncamento*.

In a comprehensive investigation of vowel deletion processes ("cancellazione di vocale", referring to both *troncamento* and *elisione*) in standard Italian, Vogel et al. (1983) come to the conclusion that a set of sixteen different rules is necessary to account for all contexts of final vowel deletion in Italian. According to Vogel et al. (1983), the only context where final vowel deletion never occurs is between (subject) DP and VP, as in *Il {postin<u>o</u> + *postin_} arriva domani* 'The postman arrives tomorrow.' (example taken from Vogel et al. 1983: 220). Crucially, Vogel et al. (1983) broadly distinguish between two types of processes: vowel deletion in VP, as exemplified in (1) a. and (2) a. above, and vowel deletion within NP and PP, as exemplified in (1) b., c. and (3) a., both of which are governed by distinct phonological constraints. This distinction, however, can only be maintained because vowel deletion processes in adjectives and nouns, i.e., those exemplified in (1) b. and c. above, are considered as "lexicalized constructions", where deletion is assumed not to be governed by a productive phonological rule.

The second study of *troncamento* to be mentioned here, conducted by Nespor (1990), is cast in the framework of prosodic phonology. By *troncamento*, Nespor (1990) understands a phonological rule that deletes a (stressless) word-final mid-vowel (/o/ or /e/) when the target is preceded by a sonorant and followed by a consonant. According to Nespor (1990), this rule applies obligatorily within the clitic group, while its application is optional within the intonational phrase. Furthermore, Nespor points out that *troncamento* is blocked by a pause, while it is not blocked by a trace. In both respects, *troncamento* behaves like a prosodic rule. What distin-

guishes *troncamento* from other prosodic rules, according to Nespor (1990), is that it does not treat lexical categories in the same way, since it applies productively only to verbs. Therefore, Nespor concludes that *troncamento* is a hybrid rule, showing characteristics of a prosodic rule as well as of a lexical rule (cf. also Nespor 1999).

The current view of *troncamento*, which still adhers to Nespor's (1990) account of the phenomenon, is unsatisfactory for a number of reasons. First, assuming that the prosodic domain of *troncamento* is the clitic group is questionable, because the status of this phonological constituent is still a much debated issue. On the one hand, many arguments have been put forward against the clitic group (e.g., Booij 1996, Peperkamp 1996). On the other hand, it is the *troncamento* data that are often invoked as evidence for the inclusion of the clitic group in the prosodic hierarchy (Nespor 1999). Therefore, an account of *troncamento* that does not invoke the clitic group as a licensing domain would be desirable. Furthermore, rather than postulating a category of "hybrid rules", it would be desirable to show either that *troncamento* is a prosodic rule, applying in the same way to lexemes of all categories, or that it is a (non-productive) lexical rule, applying only to some lexemes, but not to others. Finally, on a descriptive level it remains unclear which phonological phenomena belong to the domain of *troncamento*; in particular, it is unclear whether both /e/-deletion and /o/-deletion are to be accounted for by a single prosodic rule of *troncamento*, and whether both post-sonorant mid-vowel deletion before a consonant *and* before a vowel can be considered as instances of *troncamento*.

The present paper challenges each of the three assumptions underlying previous research. First, it will be shown that the prosodic domain within which *troncamento* applies is the phonological phrase, and that it cannot be the clitic group. Starting from this assumption it will be shown that effects of optionality within larger domains arise from optionality of prosodic restructuring, in the same way as restructuring effects can be observed with regard to other phonological processes whose domain is the phonological phrase (e.g., stress retraction, vowel lengthening and consonant gemination in Italian). This yields a more perspicuous account of the "optionality" of rule application. Crucially, the data analyzed in this study clearly indicate that the constraints on prosodic restructuring in Italian, which have previously been formulated with recourse to the syntactic structure of constituents (Nespor & Vogel 1986: 173), have to be formulated in terms of prosodic structure (as proposed by Ghini 1993 for Italian, cf. also Inkelas & Zec 1995 for an overview). In short, constraints on restructuring are prosodic in nature, rather than syntactic.

Likewise, it will be shown that it is not the case that *troncamento* applies optionally within the intonational phrase. Rather, the crucial point is that it cannot apply across phonological phrase boundaries. Finally, it will be shown that *troncamento* applies more freely to nouns and

adjectives than previously assumed. In fact, *troncamento* in nouns and adjectives is governed by the same prosodic constraints as in verbs, even though it is true that lexical factors do play a role in defining the set of lexemes to which *troncamento* can apply in the first place.

More precisely, it will become clear that the effects of "blocking" observed with nouns and adjectives arise also from restrictions with regard to which vocalic segments, in terms of underlying morphosyntactic feature specifications, can be deleted[2] (e.g., plural markers cannot be deleted), and from restrictions on the morphosyntactic structures in which nouns and adjectives can occur (i.e., very broadly speaking, while verbs are mostly followed by phrases which are their complements, nouns and adjectives are more often followed by phrases which are not their complements). In sum, we will see that giving up the view that the prosodic domain of *troncamento* is the clitic group and that *troncamento* applies productively only to verbs leads to a much simpler account of the process of post-sonorant mid-vowel deletion in standard Italian.

The paper is structured as follows. On the basis of observations and assumptions made in previous studies, section 2 briefly lays out the central theoretical and empirical assumptions of the present account. Section 3 shows that the prosodic domain of *troncamento* cannot be, as assumed in previous research, the clitic group. Likewise, section 4 shows that *troncamento* does not apply optionally within the intonational phrase, as has been claimed before. Section 5 demonstrates that instead, the domain of *troncamento* is the phonological phrase, showing how optionality of application may arise from phonological phrase restructuring. Section 6 shows how the proposal described here can be extended to account not only for *troncamento* in verbs, but also in adjectives and nouns, for which *troncamento* has previously been assumed to occur only in lexicalized constructions.

2   Prosodic phrasing in Italian

The present study is based on the assumption that the prosodic structure of an expression is hierarchically organized into prosodic constituents, in a similar way as its syntactic structure is hierarchically organized into syntactic constituents (Selkirk 1978 and subsequent work). The prosodic structure of an expression can be derived from its morphological and syntactic structure, though it is important to note that prosodic constituents are not identical to morphological or syntactic constituents. The main motivation for assuming a hierarchical prosodic structure comes from the observation that phonological rules often apply within particular types of prosodic constituents, while they do not apply across boundaries of prosodic constituents of this particular type.

As to the phonological process under investigation here, in a previous study (Nespor 1990) it has been proposed that the prosodic domain of *troncamento* corresponds to the clitic group

("CG"), which is conceived of as an intermediate constituent between the prosodic word ("W") and the phonological phrase ("P"). The clitic group has been defined roughly as a constituent containing an independent (i.e., non-clitic) prosodic word plus any adjacent dependent clitics (Nespor & Vogel 1986: 154-5). So far, the status of the clitic group remains unclear (cf. Nespor 1999 for a recent discussion); arguments against the clitic group have been put forward by, e.g., Booij (1996), Peperkamp (1996) and Lahiri & Fitzpatrick-Cole (1999). This study will show that *troncamento* in Italian cannot be explained by recourse to the clitic group as its domain, as proposed by Nespor (1990). Rather, the domain of *troncamento* is larger than the clitic group: It is the phonological phrase. This result presents further evidence against the clitic group, given that the *troncamento* data have played a crucial role in motivating the inclusion of the clitic group in the prosodic hierarchy (cf. Nespor 1999).

Before turning to the prosodic constituent that will reveal itself as crucial to an adequate account of *troncamento*, i.e., the phonological phrase, a few words are in order about the prosodic word. According to a widely accepted proposal by Selkirk (1984: 343, 1995), only lexical heads (on the morphosyntactic level) correspond to prosodic words (on the prosodic level), see (7) a.; non-lexical heads, however, are not parsed into separate prosodic words, see (7) b. In other words, in the unmarked case, determiners and some prepositions[3] are not prosodic words. Crucially, a prosodic word contains at least one stressed syllable.

(7) a.   Ho   [mangiato]$_W$ dei   [pasticcini]$_W$

     b.   *[Ho]$_W$ [mangiato]$_W$ [dei]$_W$ [pasticcini]$_W$

          have.1SG   eaten   of.the   pastries

          'I ate some pastries.'

In many conceptions of the prosodic hierarchy, prosodic words are taken to be immediately dominated by constituents at the level of the phonological phrase. A phonological phrase therefore contains at least one prosodic word. Here, it will be assumed that in Italian, a phonological phrase consists of the lexical head of a maximal projection, including the elements on its non-recursive side (i.e., on its left) contained within the domain of the maximal projection, as well as a following, non-branching constituent that is not itself a maximal projection, such as an adverb; see (8) (cf. Frota 2000 for a similar account of phonological phrase formation in European Portuguese).[4]

(8) Phonological phrase

     In Italian,

(i)   a phonological phrase consists of the lexical head of a maximal projection,

(ii)   including an element on its non-recursive side (i.e., on its left) that is contained within the domain of the maximal projection and that is not itself a maximal projection

(iii)   and a following non-branching constituent that is not itself a maximal projection.

An example for phonological phrase formation in Italian is given in (9). It should be noted that the exact prosodic representation of functional heads, apart from the assumption that they do not correspond to prosodic words, remains unclear for Italian. Therefore, in (9), as well as in following examples, functional heads like *ho* 'I have' and *dei* 'of the' are simply adjoined to the phonological phrases on their right. To be sure, an adequate prosodic representation of functional heads in Italian may in fact be more complex than the one given here.

(9)   a.   [Ho   [mangiato   [dei   [pasticcini]$_{NP}$]$_{DP}$]$_{VP}$]$_{IP}$

      b.   [Ho   [mangiato]$_W$]$_{P1}$ [dei   [pasticcini]$_W$]$_{P2}$

           have.1SG   eaten   of.the   pastries

           'I ate some pastries.'

In languages like Italian, a phonological phrase may be integrated into the preceding P-phrase on its left, thereby deleting the P-phrase boundary separating the two (Nespor & Vogel 1986: 173). This process is generally referred to by the term "restructuring" (of phonological phrases). The primary motivation for assuming a process of P-phrase restructuring comes from the observation that certain phonological rules whose domain is the phonological phrase may apply optionally, where their application depends, among other factors, on rate of speech (cf. Nespor & Vogel 1986: 174-5 for Italian, Hayes & Lahiri 1991 for Bengali). Optional rule application is taken to arise in such cases from optional P-phrase restructuring.

P-phrase restructuring is governed by syntactic as well as by prosodic constraints. In particular, the concept of branchingness of P-phrases has been found to be relevant to P-phrase formation in a number of languages (cf. Inkelas & Zec 1995). It is, however, an unresolved issue whether in Italian, branchingness is to be conceived of as a syntactic property (as assumed by Nespor & Vogel 1986: 173) or as a prosodic property (as argued by Ghini 1993). The observations made in this study are compatible only with a prosodically defined notion of branchingness: It will be seen that prosodic branchingness, but not syntactic branchingness, plays a crucial role for application or non-application of *troncamento*. Only the assumption that a phonological

phrase is branching if it contains more than one prosodic word, cf. (10), can account for the distribution of optional *troncamento* in Italian. This, in turn, corroborates the assumption made above that non-lexical heads like prepositions and determiners are not prosodic words in Italian, because only this assumption can explain why syntactically clearly branching structures like PPs or DPs count as non-branching with regard to application or non-application of *troncamento*.

(10) Branchingness
    A phonological phrase is branching if it contains more than one prosodic word.

Furthermore, it should be noted that P-phrase restructuring is subject to an additional syntactic constraint: It is possible only in certain syntactic configurations. In the following discussion, the syntactic configuration under which restructuring of a P-phrase into the preceding P-phrase may take place is described by recourse to the notion of c-command[5] (cf. Hayes & Lahiri 1991 for Bengali). The relevant relation is clearly not the head-complement relation, as assumed by Nespor & Vogel (1986: 173) for Italian, since in Italian not only complements, but also non-complements, such as postverbal subjects, can form a single P-phrase with the preceding maximal projection, i.e., with the VP (cf. Ghini 1993), see also the example in (23) below.[6] A more precise definition of the constraints governing P-phrase restructuring in Italian is given in (11).

(11) Phonological phrase restructuring
    (i)   A phonological phrase P1 can be joined with a phonological phrase P2 on its left if a lexical head X contained in P1 c-commands[7] the XP corresponding to P2 and if P2 is prosodically non-branching.
    (ii) Phonological phrase restructuring is directional. In Italian, it applies from right to left.

An example for the process of P-phrase restructuring is given in (12), where (12) b. represents the phrasing before P-phrase restructuring, and (12) c. represents the phrasing after restructuring has taken place.

(12) a.	[Ho	[mangiato	[dei	[pasticcini$_{NP}]_{DP}]_{VP}]_{IP}$
b.	[Ho	[mangiato$]_W]_{P1}$	[dei	[pasticcini$]_W]_{P2}$
c.	[Ho	[mangiato$]_W$	dei	[pasticcini$]_W]_{P1}$
	have.1SG	eaten	of.the	pastries
	'I ate some pastries.'			

3 *Troncamento* is obligatory *not only* within the clitic group

It is often pointed out that in Italian, *troncamento* applies obligatorily to the final vowel of an infinitive if the infinitive is followed by a clitic pronoun, as shown in (13). This observation has been taken as evidence that the prosodic domain of *troncamento* is the clitic group ("CG") (Nespor 1990).

(13) a. trovar<u>e</u> + lo   [trovarlo]_{CG}   *[trovar<u>e</u>lo]_{CG}

         'find' + 'it'

    b. veder<u>e</u> + ci   [vederci]_{CG}   *[veder<u>e</u>ci]_{CG}

         'see' + 'us'

    c. dir<u>e</u>   + te   + lo   [dirtelo]_{CG}   *[dir<u>e</u>telo]_{CG}

         'tell'   + 'you' + 'it'

To be sure, *troncamento* applies obligatorily not only within the clitic group, but also within larger constituents: It applies to infinitives of verbs like *dovere*, *potere*, *volere*, *fare,* etc., when followed by a bare infinitive, see (14) and (15). This observation is not new. In descriptive grammars, it is often stressed that the final vowel of the infinitive is deleted before a following infinitive, and this is also confirmed by the observations made by Vogel et al. (1983: 208, 223)[8].

(14) {dover<u>e</u>, poter<u>e</u>, voler<u>e</u>} + infinitive

    a. senza   dover_   chiudere   a'. ?senza dover<u>e</u> chiudere

        without   must.INF   close.INF

        'without having to close'

    b. per   poter_   capire   b'. ?per poter<u>e</u> capire

        to   can.INF   understand.INF

        'in order to be able to understand'

    c. senza   voler_   lavorare   c'. ?senza voler<u>e</u> lavorare

        without   want.INF   work.INF

        'without wanting to work'

(15) far<u>e</u> + infinitive

    a. per   far_   capire   a'. ?per far<u>e</u> capire

        to   make.INF   understand.INF

        'in order to make understand'

While some speakers of standard Italian do indeed accept the forms without *troncamento* in (14) and (15) above as well-formed expressions, an analysis of data drawn from the C-Oral-Rom corpus (Lablita, Università degli Studi di Firenze, see references) shows that *troncamento* applies without exception to the infinitive of the modal verbs *dovere*, *potere* and *volere*, and to the infinitive of causative *fare*, see Table 1. Hence, although speakers occasionally accept such forms, they never use them.

Table 1. Troncamento with infinitives of modal verbs and of causative *fare* in the C-Oral-Rom corpus (LABLITA, Università degli Studi di Firenze).

	deletion	no deletion	no deletion on (lexical) noun	overall occurrences of infinitive
volere 'want to' + Inf	13	0	–	13
dovere 'have to' + Inf	5	0	16 (*il dovere*)	5
potere 'be able to' + Inf	49	0	19 (*il potere*)	49
fare 'make' + Inf	56	0	–	330
overall	123	0		

This observation is of crucial relevance to the question whether the prosodic domain of *troncamento* is in fact the clitic group. In previous research, the clitic group has been defined roughly as a constituent containing an independent (i.e., non-clitic) prosodic word plus any adjacent dependent clitics (Nespor & Vogel 1986: 154-5). Under this assumption, the two lexemes in the sequence {*volere, potere, dovere, fare*} + infinitive clearly do not belong to the same clitic group, since each of the two infinitives corresponds to an independent prosodic word. This is shown by the fact that the first infinitive does carry stress, see (16), and by the fact that it can bear contrastive focus, see (17).

(16) potére + fáre

    a.   [[póter]$_W$ [fáre]$_W$]$_P$

    b.   *[[poter   fáre]$_W$]$_P$

         can.INF   do.INF

         'be able to do'

(17) ... non tanto   per DOVER   farlo   come   per VOLER   farlo ...

    ... not so.much to must.INF do.INF.it   as   to want.INF   do.INF.it

    '... not so much for HAVING to do it, but for WANTING to do it ...'

Likewise, it is noteworthy that *troncamento* can apply in these constructions even when the two infinitives are separated by an adverb, as in (18). This serves as further evidence against the view that sequences of two infinitives belong to one clitic group, given that adverbs normally cannot occur within a clitic group (at least not in standard Italian[9]).

(18) a. Sembra   di   non   voler_   mai   ascoltare.

seem.3SG   to   not   want   ever   listen

'He/she seems never to want to listen.'

  b. Dice   di   non   poter_   più   avanzare.

say.3SG   to   not   can.INF   anymore   go.on.INF

'He/she says he/she is not able to go on anymore.'

These observations point to the conclusion that the prosodic domain within which *troncamento* applies obligatorily cannot be the clitic group. Instead, it must be larger than the clitic group: it must be the phonological phrase.

Indeed, according to the rule of phonological phrase formation given in (8) above, the sequence {*volere, potere, dovere, fare*} + infinitive always belongs to the same phonological phrase. Let's see why this is so. Adopting a recent proposal by Abeillé & Godard (2003, cf. also Abeillé & Godard 2002), cast in the framework of HPSG, we assume that in Italian the modal verb and the infinitive are sister nodes, dominated by a higher projection. A proposal similar in spirit has been put forward already by Rizzi (1978) in a different syntactic framework. In the following, we take the dominating node to be $V°$, as proposed by Rizzi (1978), see (19) a., while Abeillé & Godard (2003) assume a ternary structure as in (19) b.[10]

(19) a. Sembra   di   [[voler_   dire]$_V$ [qualcosa]$_{DP}$]$_{VP}$

  b. Sembra   di   [voler_   dire   [qualcosa]$_{DP}$]$_{VP}$

seem.3SG   to   want.INF   say   something

'He/she seems to want to say something.'

Note that whether the dominating node is $V°$ or VP, i.e., whether the structure is binary or ternary, makes no difference in the present discussion, given that in both structures no maximal projection boundary intervenes between the two words. Under the assumption that a P-phrase includes the lexical head of a maximal projection, plus every element on its non-recursive side, see (8) above, both the structure assumed by Abeillé & Godard (2003) and the structure assumed by Rizzi (1978) are mapped to the P-phrase structure in (20) b. Assuming further that

troncamento is a prosodic rule applying without exception to word-final post-sonorant /e/ within the P-phrase, but not across P-phrase boundaries, the final vowel of *volere* will get deleted without exception, see (20) b.

(20) a.	Sembra	di	[voler_	dire	[qualcosa]$_{DP}$]$_{VP}$
b.	Sembra	di	[[voler_]$_W$	[dire]$_W$]$_{P1}$	[[qualcosa]$_W$]$_{P2}$
	seem.3SG	to	want.INF	say.INF	something
	'He/she seems to want to say something.'				

Hence, under the assumptions about phonological phrasing laid out in section 3, the syntactic structure given in (20) a. is mapped onto the prosodic structure in (20) b. Under the hypothesis that the prosodic domain of *troncamento* is the phonological phrase, the phrasing in (20) b. accounts for the obligatoriness of *troncamento* in the sequence {*volere, potere, dovere, fare*} + infinitive. If one assumes, in contrast, that *troncamento* is obligatory only within the domain of the clitic group, it cannot be explained why it applies without exception to the sequence {*volere, potere, dovere, fare*} + infinitive.

4   *Troncamento* does *not* apply optionally within the intonational phrase

To account for cases of optional *troncamento*, as shown in the examples in (21) to (23), Nespor (1990) assumes that *troncamento* can apply optionally within the intonational phrase.[11]

(21) a.	È	impossibile	fare	delle	previsioni.
b.	È	impossibile	far_	delle	previsioni.
	it.is	impossible	make.INF	of.the	predictions
	'It is impossible to make predictions.'				
(22) a.	Non	poteva	venire	con	noi.
b.	Non	poteva	venir_	con	noi.
	not	can.PAST.3SG	come.INF	with	us
	'He/she could not come with us.'				
(23) a.	Non	voleva	venire	nessuno.
b.	Non	voleva	venir_	nessuno.
	not	want.PAST.3SG	come.INF	no one	
	'No one wanted to come.'				

However, it will be shown in this section that, contrary to Nespor's claim, *troncamento* cannot apply optionally within the intonational phrase. This becomes evident in contexts where two prosodic words clearly belong to the same intonational phrase, but where the application of *troncamento* between the two words is nevertheless blocked. In particular, the following types of constructions are worth looking at, because they contain a P-phrase boundary, according to the P-phrase formation rule in (8) above, but they consist, at least under one of various possible ways of phrasing, of a single I-phrase:

(i)   a DP-final element and a following VP (discussed in this section);

(ii) a DP-final element and a following PP which is not a complement to the DP (see   the examples in (63) below);

(iii) conjoined constituents (not discussed here).

Note that the crucial context in these construction types is the right boundary of a DP, where in Italian it is most likely to find a noun, adjective or adverb. Since previous accounts have often argued that *troncamento* applies productively only to verbs, but not to nouns, adjectives or adverbs, the blocking of *troncamento* in these construction types might be said to come as no surprise. However, *troncamento can* apply to infinitives governed by D, i.e., to nominalized infinitives, as has previously been mentioned, see the example in (24), adopted from Nespor (1990: 393).

(24) Il   mangiar_   molto   grasso   fa   male   a   tutti.
     the   eat.INF   very   fat   do.3SG   bad   to   all.PL
     'Eating very fat food is bad for everyone.'

In the following, we will therefore examine constructions with infinitives in DPs and constructions with conjoined infinitives, with the aim of showing that *troncamento* does not apply optionally within the intonational phrase, but that it applies only within the phonological phrase. As shown by the examples in (25), in certain contexts *troncamento* cannot apply to the final /e/ of the infinitive. To begin with, (25) b., as opposed to (25) a., shows that *troncamento* cannot apply if the word whose final vowel is a potential target of deletion belongs to the subject DP, and when the following word belongs to the VP. In contrast, as shown in (25) c., *troncamento* can apply if both words belong to the subject DP.

(25) a.   Il   suo   modo   di   parla<u>re</u>   fa   ridere.
     b. *Il   suo   modo   di   parlar_   fa   ridere.
         the   his   mode   of   speak.INF   makes   laugh.INF

‘His way of speaking makes one laugh.’

c.   Il   suo   modo   di   parlar_   piano   fa   ridere.

      the   his   mode   of   speak.INF   low   makes   laugh.INF

‘His way of speaking low makes one laugh.’

Specifying the prosodic domain of *troncamento* as the phonological phrase, and allowing for the possibility of P-phrase restructuring, specifically predicts this blocking, contrary to the more general hypothesis that *troncamento* can apply optionally within the intonational phrase. To understand why this is so, let us have a closer look at the syntactic and prosodic structure of the examples given in (25).

The syntactic structures of (25) a. and c. are shown in (26) and (27), respectively. Given the rule for deriving phonological phrasing formulated in (8) above, which states that a phonological phrase includes the prosodic word containing the lexical head of a maximal projection, plus every element on its nonrecursive side within that phrase, (25) a. gives the phonological parse shown in (26) b., while (25) c. falls out as (27) b.

(26) a.   [[Il suo   [modo   [di   [parlar$\underline{e}$]$_{VP}$]$_{PP}$]$_{NP}$]$_{DP}$ [fa   ridere]$_{VP}$]$_{IP}$

     b.   [Il suo   [modo]$_W$]$_{P1}$ [di   [parlar$\underline{e}$]$_W$]$_{P2}$ [fa   [ridere]$_W$]$_{P3}$

        the his   mode   of   speak.INF   makes   laugh.INF

        ‘His way of speaking makes one laugh.’

(27) a.   [[Il   suo   [modo [di   [parlar$\underline{e}$ piano]$_{VP}$]$_{PP}$]$_{NP}$]$_{DP}$

        the   his   mode   of   speak.INF   low

        [fa   ridere]$_{VP}$]$_{IP}$

        makes   laugh.INF

     b.   [Il   suo   [modo]$_W$]$_{P1}$ [di   [parlar_]$_W$ [piano]$_W$]$_{P2}$

        the   his   mode   of   speak.INF   low

        [fa   [ridere]$_W$]$_{P3}$

        makes   laugh.INF

        ‘His way of speaking makes one laugh.’

The crucial difference between (26) and (27) resides in the fact that in (26) the potential target of deletion, i.e., the final vowel of *parlare*, is in the final position of its phonological phrase, while in (27) it is not phrase-final, but is followed by another word within the same phonological phrase. Note that the difference in phrasing postulated in (26) and (27) is also sup-

ported by the observation that stress retraction applies to *parláre* in (27), yielding the sequence *párlar piáno*, while it does not apply to *parláre* in (26).

Now, assuming that the prosodic domain of *troncamento* is the phonological phrase (P-phrase) implies that it applies obligatorily within the P-phrase, as in (27), but that its application is blocked at P-phrase boundaries, as in (26). The non-application of *troncamento* in (26) can thus be explained. The alternative assumption that *troncamento* is a rule applying optionally within the intonational phrase (I-phrase) can also explain why *troncamento* applies in (27), but it cannot explain why its application is blocked in (26), given that in (26) the potential target of application is not followed by an I-phrase boundary.

A word on P-phrase restructuring is in order here, given that the "blocking" effect (as opposed to optional application) observed in the example in (26) is claimed to arise from the impossibility of P-phrase restructuring in this context. As mentioned in section 3 above, phonological phrasing is assumed to be subject to optional restructuring, integrating a P-phrase into the P-phrase on its left. Now, optional restructuring can give rise to a situation where a word that is phrase-final under one way of phrasing comes to stand in a non-final position after P-phrase restructuring. While *troncamento* cannot apply to this word if it is in P-phrase final position, after restructuring the rule does apply to the word which is now in non-final position. The availability of optional restructuring can thus account for cases of optional application of *troncamento*, which is assumed to apply only after P-phrase restructuring, but not under primitive phrasing. Hence, under this view, what is optional is not application of *troncamento*, but restructuring of P-phrases, depending, among other factors, on rate of speech (cf. Nespor & Vogel 1986, Hayes & Lahiri 1991). This conception of optional *troncamento* as arising from optional prosodic restructuring may be seen as an example of how corpus-based observations about phonological variation can be analyzed within a system of competence-based and categorial grammatical rules (cf. the discussion in Hinskens et al., ed., 1997).

Interestingly, the example in (26) presents a case in which *troncamento* is totally blocked from applying; that is, it is not even available as a marked option after restructuring. The model thus has to explain not only why *troncamento* normally does not apply to (26), but why, furthermore, in this construction P-phrase restructuring can not result in a prosodic structure where the target of *troncamento* comes to be in a non-final position. This is accounted for by the assumption that P-phrase restructuring is licit only under c-command; i.e., a P-phrase P2 can be integrated into a preceding P-phrase P1 only if the lexical head contained in P1 c-commands the maximal projection corresponding to P2; see (11) above.

With regard to the example given in (26) above, for restructuring to be available, the lexical head *parlare* contained in P1 would need to c-command the VP corresponding to the follow-

ing P2. Under the definition of c-command adopted here ("The first branching node that domi-
nates A also dominates B"), it is clear that the lexical head of an NP in subject position never c-
commands the following VP. This is all the more evident if the relevant lexical head is itself
embedded within a PP governed by the NP, as in (26). More precisely, the first branching node
that dominates *parlare* is the PP node; this node, however, does not dominate the VP node;
therefore, no relation of c-command holds between *parlare* and the VP.

5   *Troncamento* **as a P-phrase rule**

One reason why *troncamento* has been conceived of as a rule applying optionally in the I-
domain has certainly been the observation that it can apply between a verb and a following XP,
but that it need not apply in this context, as shown by the examples in (21) to (23) above. This
kind of optionality, which is also attested for other P-domain rules like stress retraction or syn-
tactic gemination (Nespor & Vogel 1986), can be represented as arising from optional restruc-
turing of phonological phrases. Optional application of *troncamento* in these contexts is shown
by the examples in (28) to (30).

(28) V + DP$_{Obj}$

a.	È	impossibile	[far<u>e</u>	[delle	[previsioni]$_{NP}$]$_{DP}$]$_{VP}$
b.	È	impossibile	[[far<u>e</u>]$_W$]$_{P1}$	[delle	[previsioni]$_W$]$_{P2}$
c.	È	impossibile	[[far_]$_W$	delle	[previsioni]$_W$]$_{P1}$
	it.is	impossible	make.INF	of-the	predictions

'It is impossible to make predictions.'

(29)   V+PP

a.	Non	[poteva	venir<u>e</u>	[con	[noi]$_{DP}$]$_{PP}$]$_{VP}$
b.	[Non	[poteva]$_W$	[venir<u>e</u>]$_W$]$_{P1}$	[con	[noi]$_W$]$_{P2}$
c.	[Non	[poteva]$_W$	[venir_]$_W$	con	[noi]$_W$]$_{P1}$
	not	can.PAST.3SG	come.INF	with	us

'He/she could not come with us.'

(30)   V+DP$_{Subj}$

a.	Non	[voleva	venir<u>e</u>	[nessuno]$_{DP}$]$_{VP}$
b.	[Non	[voleva]$_W$	[venir<u>e</u>]$_W$]$_{P1}$	[[nessuno]$_W$]$_{P2}$
c.	[Non	[voleva]$_W$	[venir_]$_W$	[nessuno]$_W$]$_{P1}$
	not	want.PAST.3SG	come.INF	no.one

'No one wanted to come.'

To be sure, the data presented in (28) to (30) are as such not relevant to the question whether *troncamento* is a P-domain rule or whether it is a rule which is optional in the I-domain. They are equally consistent with the claim that *troncamento* is an optional I-domain rule and with the claim that it is a (categorial) P-domain rule, where P-phrases can be optionally restructured. Still, if *troncamento* is a P-domain rule, where effects of "optionality" in contexts like (28) to (30) arise from optional restructuring, then optionality of *troncamento* should be governed by conditions on restructuring.

One condition on restructuring whose relevance has repeatedly been stressed in the literature is the branchingness constraint, requiring that a P-phrase can be joined into its preceding P-phrase only if it is non-branching, see (11) above. Given the constraint on branchingness formulated in (11), restructuring (and, thus, application of *troncamento*) should be licit in the examples in (28) to (30), while it should be impossible in the examples in (31) to (33) below, where the XP is (prosodically) branching according to (10) above.

This prediction is borne out, as shown by the examples in (31) to (33), minimally contrasting with the examples in (28) to (30) above with respect to the branchingness of the postverbal P-phrase. (31) to (33) show that in the case of branching XPs, restructuring does not occur and deletion of the final vowel of the infinitive does not apply.

(31) V + DP$_{Obj}$

    a.   È   impossibile   [far<u>e</u>   [delle   [buone   [previsioni]$_{NP}$]$_{AP}$]$_{DP}$]$_{VP}$

    b.   È   impossibile   [[far<u>e</u>]$_W$]$_{P1}$ [delle   [buone]$_W$ [previsioni]$_W$]$_{P2}$

        it.is   impossible   make.INF   of.the   good   predictions

        'It is impossible to make good predictions.'

(32)   V+PP

    a.   Non   poteva   [venir<u>e</u>   [con [quella ragazza   molto simpatica]$_{DP}$]$_{PP}$]$_{VP}$

    b.   [Non [poteva]$_W$ [venir<u>e</u>]$_W$]$_{P1}$ [con quella [ragazza]$_W$ molto [simpatica]$_W$]$_{P2}$

        not   could   come   with that   girl   very friendly

        'He/she could not come with that very friendly girl.'

(33)   V+DP$_{Subj}$

    a.   Non [voleva   venir<u>e</u>   [quella   ragazza   molto   simpatica]$_{DP}$]$_{VP}$

    b.   [Non [voleva]$_W$ [venir<u>e</u>]$_W$]$_{P1}$ [quella [ragazza]$_W$ molto [simpatica]$_W$]$_{P2}$

        not   wanted   come   that   girl   very   friendly

        'That very friendly girl did not want to come.'

To be sure, it appears difficult for speakers of standard Italian to give clear judgments on whether *troncamento* may or may not apply in contexts like (31) to (33). An analysis of corpus data, however, gives a clearer picture. Table 2 presents the results of an analysis of application or non-application of *troncamento* in a corpus of spoken Italian (C-Oral-Rom). Numbers of occurrences of deletion or non-deletion of the final vowel of the infinitives of *avere, essere* and *volere* are given for three different contexts, i.e., V+DP$_{Obj}$, V+PP and V+DP$_{Subj}$, with (prosodic) branchingness or non-branchingness of the DP or PP as an additional variable. The results show that while deletion is truly optional with (prosodically) non-branching constituents (where deletion however occurs only in about one fourth of all cases), deletion hardly ever occurs with (prosodically) branching constituents.

Table 2. Troncamento of infinitives before XPs in the C-Oral-Rom corpus (LABLITA, Università degli Studi di Firenze).

		deletion	no deletion	overall
V+DP$_{Obj}$	non-branching	42	78	120
	branching	3[A]	111	115
V+PP	non-branching	4	14	18
	branching	0	8	9
V+DP$_{Subj}$	non-branching	4	15	19
	branching	0	5	5

[A] In all three cases, the lexeme following the infinitive is *tutto* 'all'.

Clearly, the results presented in Table 2, i.e., the contrast in frequency of application of *troncamento* between branching and non-branching DPs, can be accounted for only by assuming that in these constructions *troncamento* depends on some optional process creating the context for its application, where this optional process is itself governed by the condition on branchingness. In other words, the results can be accounted for by assuming that *troncamento* applies (obligatorily) within the P-phrase, where P-phrase restructuring can lead to the integration of P2 into the preceding P1 only if P2 is non-branching, but the results cannot be accounted for by assuming that *troncamento* is a prosodic rule which is optional in the I-domain.

It is interesting that the results described in Table 2 also show that the conditions on restructuring originally formulated by Nespor & Vogel (1986: 173), who claimed that only syntactically non-branching complements can restructure into the preceding P-phrase, are not adequate in two respects (cf. also Ghini 1993 for similar a critique of Nespor & Vogel's original formulation). Clearly, the data show that not only DPs/NPs, but also PPs can restructure with the preceding verb, even though they are syntactically branching. Moreover, postverbal subjects

can also restructure to form a P-phrase with the verb, even though they are clearly not complements of the preceding lexical head, i.e., of the verb.

Let's see how the rules on phrasing and restructuring given in (8) and (11) above can account for these observations. Since all V+XP contexts (i.e., V+DP$_{Obj}$, V+PP, V+DP$_{Subj}$) show the same behavior with regard to *troncamento,* in the following we consider only the most widely attested V+DP$_{Obj}$ constructions. Starting with the syntactic structures of the two expressions given in (34) a. and (35) a., and on the basis of the rule for P-phrase formation given in (8) above, we can derive the phrasing given in (34) b. and (35) b. Crucially, in both (34) b. and (35) b. the lexical head *fare* is followed by a P-phrase boundary, and *troncamento* does not apply.

(34) a.   È   impossibile   [far<u>e</u>   [delle   [previsioni]$_{NP}$]$_{DP}$]$_{VP}$

     b.   È   impossibile   [[far<u>e</u>]$_W$]$_{P1}$ [delle   [previsioni]$_W$]$_{P2}$

     c.   È   impossibile   [[far_]$_W$ delle   [previsioni]$_W$]$_{P1}$

         it.is   impossible   make.INF   of.the   predictions

         'It is impossible to make predictions.'

(35) a.   È   impossibile   [far<u>e</u>   [delle   [buone   [previsioni]$_{NP}$]$_{AP}$]$_{DP}$]$_{VP}$

     b.   È   impossibile   [[fare]$_W$]$_{P1}$ [delle   [buone]$_W$]$_{P2}$ [[previsioni]$_W$]$_{P3}$

     c.   *È   impossibile   [[far_]$_W$ delle   [buone]$_W$]$_{P1}$ [[previsioni]$_W$]$_{P3}$

     d.   *È   impossibile   [[far_]$_W$ delle   [buone]$_W$ [previsioni]$_W$]$_{P1}$

     e.   È   impossibile   [[far<u>e</u>]$_W$]$_{P1}$ [delle   [buone]$_W$ [previsioni]$_W$]$_{P2}$

        it.is   impossible   make.INF   of.the   good   predictions

        'It is impossible to make good predictions.'

Now, based on the rule for P-phrase restructuring given in (11) above, for (34) b. we can derive the phrasing given in (34) c., where the lexical head *fare* is not followed by a P-phrase boundary. It should be noted that in (34) c., restructuring is possible, because both conditions on P-phrase restructuring are met (given that the lexical head contained in P1 c-commands the XP corresponding to P2, and given that P2 is prosodically nonbranching), while restructuring is not available for (35), since in (35) P2 is prosodically branching. In other words, for (35), a phrasing where *per fare* and *delle buone* are contained in one P-phrase, and *previsioni* in another P-phrase, as in (35) c., is ungrammatical. Likewise, a phrasing where all prosodic words are contained in one P-phrase is ungrammatical, as in (35) d. The only alternative phrasing available for (35) is given in (35) e., where P3 has been restructured into P2, with P1 remaining intact.

It should be noted that these observations can only be accounted for by assuming that P-phrase restructuring is directional, starting with the rightmost P-phrase, which is restructured into the preceding P-phrase when rapidly spoken. Now, the branching P-phrase that has thus been created cannot restructure, given the branchingness constraint. Under the formulation in (11) above, directionality of restructuring can, in right-branching languages, naturally account for the observation that for three subsequent P-phrases P1, P2, P3, corresponding to a syntactic structure like [XP1 [XP2 [XP3]]], the only restructured phrasing available joins P3 with P2, leaving P1 intact; in contrast, a phrasing that joins P2 with P1, leaving P3 intact, is unavailable, thus respecting syntactic cohesion of constituents (cf. also Ghini's (1993) "principle of increasing units"). To conclude, at this point one might wonder why word-final /e/ of *buone* in (35) e. is not deleted, given that it is W-final, but not P-phrase final, and that it is preceded by a sonorant. This question invites a closer inspection of *troncamento* in adjectives.

6   *Troncamento* in nouns and adjectives as a lexical exception?

It is often claimed that *troncamento* applies productively only to verbs, but not to words of other lexical categories (Vogel et al. 1983, Nespor & Vogel 1986: 32-3, Nespor 1990). To be sure, there are a number of different motivations for this claim. First, while each and every infinitive of an Italian verb ends in /e/, thus presenting a potential target for *troncamento,* by far not all Italian nouns or adjectives end in /e/; in fact, many more nouns and adjectives end in /o/ or /a/ than in /e/. (It should be noted that the deletion of /o/ is subject to different constraints than deletion of /e/, as noted in section 1, and that /a/, not being a mid-vowel, does not undergo *troncamento*). Hence, only a relatively small number of Italian nouns and adjectives provide the segmental context for the type of *troncamento* considered here, i.e., deletion of word-final /e/.

Second, in Italian, the syntax of verbs, on one hand, and of nouns and adjectives, on the other, present considerable differences. While verbs are usually followed by their complements (mostly direct objects, but also oblique objects and postverbal subjects of intransitive verbs), the same does not hold for nouns and adjectives; rather, nouns and adjectives occur often without complements. Consequently, verbs usually c-command the following XP, thereby allowing P-phrase restructuring, while nouns and adjectives often do not c-command the following XP, so that P-phrase restructuring is not available. P-phrase restructuring, however, is in many cases the prerequisite for *troncamento* to apply.

Finally, as noted above, in adjectives and nouns not all word final /e/-segments can be deleted in the same way. In particular, *troncamento* can apply only to word-final /e/ when /e/ is an exponent of the feature [singular], see (36) a'., but not when it is an exponent of the feature [plural] (and [feminine]), see (36) b'. Note that while in the singular /e/ occurs with nouns and

adjectives specified for masculine as well as with nouns and adjectives specified for feminine gender, as in *(il) pane* m. 'bread', *(la) fame* f. 'hunger', in the plural /e/ occurs only on feminine nouns and adjectives, as in *le chiare stelle* 'the bright stars', where the corresponding singular form ends in /a/, as in *la chiara stella* 'the bright star'.

(36) Sing.   a.   la   miglior<u>e</u>   ragione   a'.   la miglior_ ragione

               the.F   better.SG   reason

               'the better reason'

     Plur.   b.   le   buon<u>e</u>   ragioni   b'.   *le buon_ ragioni

               the.F.PL   good.F.PL   reason.PL

               'the good reasons'

In the following, we will have a closer look at nouns and adjectives, trying to understand why *troncamento* occurs less frequently with words of these categories than with verbs. In the course of the analysis, it will become clear that the more constrained application of *troncamento* with nouns and adjectives follows naturally from the assumption that *troncamento* is a P-phrase rule, i.e., that it applies within the P-phrase, but not at P-phrase boundaries, drawing on the rules of phonological phrasing and restructuring formulated in (8) and (11) above. Let's begin with a closer look at the only case of obligatory *troncamento* in adjectives, i.e., deletion of word-final /e/ of adjectives in adverb formation.

6.1   Adjectives

6.1.1   Deadjectival adverbs

As is well known, deletion of word-final /e/ is obligatory in the case of adjectives of the *e*-class ending in a sonorant when they serve as the basis for adverb formation, as in (37). For adjectives of the *e*-class that do not end in a sonorant, deletion of word-final /e/ is ungrammatical, see (38). Finally, for adjectives of the *a/o*-class, it is the feminine form of the adjective, ending in /a/, that serves as the basis for adverb formation, see (39).

(37)   a.   regolar-<u>e</u>   +   -mente   b.   regolarmente   c.   *regolar<u>e</u>mente

              regular   +   -ADV   'regularly'

(38)   a.   cortes-<u>e</u>   +   -mente   b.   *cortesmente   c.   cortes<u>e</u>mente

              polite   +   -ADV   'politely'

(39)   a.   pien-<u>o/a</u>   +   -mente   b.   *pienmente   c.   pien<u>a</u>mente

              full   +   -ADV   'fully'

The latter observation presents the major obstacle for considering *-mente* as an ordinary derivational affix (as proposed by Scalise 1990, Scalise et al. 1990, cf. Schwarze, to appear, for a recent discussion of *-mente* affixation), given that in Italian, derivational affixes do not attach to inflected forms. Therefore, *-mente* is sometimes considered as a stem, and the complex deadjectival adverb is analyzed as a compound (e.g., Bertinetto 1976 for Italian, Zagona 1990 for Spanish[12]). Historically, deadjectival adjectives in Romance go back to syntactically complex phrases, consisting of two independent words, where the second element corresponded to the Latin noun *mens, mentis* 'mind' (Karlsson 1981 for an overview).

If these forms were indeed compounds, the observation that stem-final /e/ is deleted could be accounted for in a straightforward manner by the assumption that *troncamento* is a prosodic rule applying productively within a certain prosodic domain: within the P-phrase. To prevent it from applying lexeme-internally, an additional condition is needed, requiring that it apply only at (right-hand) boundaries of prosodic words. In contrast, when it is assumed that *troncamento* cannot apply productively to adjectives, an extra rule is needed to account for the completely productive and regular process of vowel deletion in adverb formation, which is restricted, however, to adjectives whose stem ends in a sonorant. This solution is chosen by Vogel (1993).

An alternative analysis of *-mente* adverbs would be to assume that /a/ in cases like *pienamente* 'fully' in (39) above is a kind of (inserted) theme vowel for one class of adjectives, i.e., those ending in *-o/-a*; the theme vowel would be /e/ for another class of adjectives i.e., those ending in *-e*, unless the stem ends in a sonorant; for adjectives of the *e*-class ending in a sonorant, the theme vowel would be zero. This solution would, however, not account for the clearly inflectional nature of the *-a* that appears in the majority of the derived adverbs in Italian and in other Romance languages; see the example in (39) above. In addition, it would miss the generalization that the presence vs. absence of /e/ in *-mente*-adverbs derived from *e*-class adjectives is subject to the same segmental constraint as final vowel deletion in other contexts: It applies only after sonorants. Therefore, the theoretically most economic solution is to assume that *troncamento*, i.e., deletion of word-final /e/, as a P-phrase rule, regularly applies not only to verbs, but in certain cases also to adjectives (of the *e*-class), in particular in the case of *-mente* affixation. Under this assumption, the burden of explanation lies on the question of why it seems not to apply productively to adjectives in contexts other than adverb formation, a question to be addressed in the next section.

6.1.2 Prenominal and postnominal adjectives

As shown by the examples in (40), *troncamento* can indeed apply to adjectives. Its application is, however, subject to strict constraints, some of which will be explored in the following.

(40) a. Una   maggior_   sicurezza   è   il   nostro   obiettivo.
         a   greater   security   is   the   our   goal
         'Better security is our goal.'

     b. La   miglior_   [13]scelta   è   andare   in   centro.
         the   best   choice   is   go.INF   in   center
         'The best choice is to go to the center.'

     c. la   strategia   del   minor_   danno
         the   strategy   of.the   minor   damage
         'the strategy of minor damage'

Note that with prenominal adjectives both truncated and non-truncated forms may occur, i.e., *troncamento* is not obligatory, but must arise from P-phrase restructuring. A first and very robust generalization to be made is that while *troncamento* may occur with prenominal adjectives, it never occurs with postnominal adjectives, as shown in (41).

(41) a. *Una   sicurezza   maggior_   è   il   nostro   obiettivo.
         a   security   greater   is   the   our   goal
         'Better security is our goal.'

     b. *La   scelta   miglior_   è   andare   in   centro.
         the   choice   best   is   go.INF   in   center
         'The best choice is to go to the center.'

     c. *la   strategia   del   danno   minor_
         the   strategy   of.the   damage   minor
         'the strategy of minor damage'

Interestingly, this difference between adjectives in prenominal and in postnominal position with regard to application of *troncamento* immediately follows from the assumption that *troncamento* is a P-phrase rule. To understand why this is so, let's consider the syntactic and prosodic structure of some of the examples in (40) and (41) more closely.

The syntactic structures and the predicted primitive and restructured phrasing for (40) a., with prenominal adjective, and for (41) a., with postnominal adjective, are given in (42) and (43), respectively.

(42) a. [Una [maggior<u>e</u> [sicurezza]NP]AP]DP [è il nostro [obiettivo]NP]VP

 b. [Una [maggior<u>e</u>]W]P1 [[sicurezza]W]P2 [è il nostro [obiettivo]W]P3

 c. [Una [maggior_]W [sicurezza]W]P1 [è il nostro [obiettivo]W]P3

 a greater security is the our goal

 'Better security is our goal'

(43) a. [Una [sicurezza [maggior<u>e</u>]AP]NP]DP [è il nostro [obiettivo]NP]VP

 b. [Una [sicurezza]W]P1 [[maggior<u>e</u>]W]P2 [è il nostro [obiettivo]W]P3

 c. [Una [sicurezza]W [maggior<u>e</u>]W]P1 [è il nostro [obiettivo]W]P3

 d. *[Una [sicurezza]W]P1 [[maggior_]W è il nostro [obiettivo]W]P2

 a security greater is the our goal

 'Better security is our goal'

Assuming that in Italian phonological phrases are formed according to the rule given in (8) above, (42) a. and (43) a. are assigned the prosodic structures in (42) b. and (43) b. Note that in both structures the adjective *maggiore* and the noun *sicurezza* belong to different P-phrases.

The crucial difference between the structures with prenominal and with postnominal adjectives is that in the first case, restructuring may result in a P-structure where the final /e/ of the adjective is not P-phrase final, as in (42) c., while in the second case, restructuring may integrate P2, containing the adjective, into P1, containing the noun, as in (43) c., but it may, according to (11) above, not integrate P3, containing (elements of) the following verb phrase into P2, containing the adjectives, as in (43) d. The reason for this, as may be seen in (42) a. and (43) a., is that while a prenominal adjective c-commands the following noun, a postnominal adjective does not c-command the following VP. Thus, in (42) a., the lexical head contained in P1, i.e., the adjective, c-commands the NP corresponding to P2, thereby allowing for restructuring according to (11), while in (43) a., the lexical head contained in P2, i.e., the adjective, does not c-command the following VP, corresponding to P3, thereby not allowing for restructuring. All other examples in (40) above, where the adjective is in prenominal position, can restructure in the same way as (40) a., allowing *troncamento* to apply. As to the examples where *troncamento* is blocked, (41) b. is ungrammatical for the same reason as (41) a.; in (41) c., the relevant P-phrase cannot restructure because the (postnominal) adjective is in utterance-final position.

Further evidence for the approach to *troncamento* developed here can be gained from cases where the adjective is "prenominal" in the sense that it is followed by a NP (or rather, by a DP), but where the adjective does not c-command the following NP, as in (44) (i.e., the adjective is not a modifier of the following noun). In these cases, *troncamento* is blocked.

(44) a. Vedi   com'è   {*particolar_ + particolar<u>e</u>} questo   modo   di   farlo!
         look   how is   peculiar   this   way   to   do.it
         'Look how peculiar this way of doing it is!'

     b. Vedi   com'è   {*gentil_ + gentil<u>e</u>}   quella   ragazza!
         look   how is   becoming   this   girl
         'Look how becoming this girl is!'

     c. Vedi   com'è   {*popolar_ + popolar<u>e</u>}   quella   canzone!
         look   how is   popular   this   song
         'Look how popular this song is!'

More precisely, from the syntactic structure in (45) a., corresponding to (44) a., we can derive the (initial) phonological phrasing given in (45) b. In (45) b., *particolare* is followed by a P-phrase break; therefore, *troncamento* does not apply. P-phrase restructuring, integrating *particolare* and *questo* into a single P-phrase, as in (45) c., is impossible here, because the lexical head of the AP, i.e., *particolare* does not c-command the XP containing *questo*.

(45) a. Com   [è   [particolar<u>e</u>]ₐₚ]ᵥₚ   [questo   modo   di   farlo]_DP

     b. [Com' è   [particolar<u>e</u>]_W]_P1   [questo   [modo]_W]_P2   [di [far]_W lo]_P3

     c. *[Com' è   [particolar_]_W   questo   [modo]_W]_P1   [di [far]_W lo]_P3
         how   is peculiar   this   way   to   do.it
         'Look how peculiar this way of doing it is.'

Once more, it should be noted that these observations cannot be captured under the view that *troncamento* is obligatory in the clitic group and applies optionally, i.e., without being subject to further prosodic or syntactic restrictions, within the intonational phrase. If this were so, *troncamento* should, contrary to fact, be optionally available in the constructions in (44) above, since the adjective and the following DP do belong to the same intonational phrase (in the unmarked case at least).

From the analysis carried out so far emerge two conditions on *troncamento* in adjectives: First, the adjective has to end in the sequence sonorant + /e/, which is only the case for a small

subset of Italian adjectives: Apart from some (synchronically) underived adjectives like *facile* 'easy', *simile* 'similar', *fine* 'fine', *giovane* 'young', *vile* 'evil', this holds for (mostly relational) adjectives in *-ale* (e.g., *serale* 'nocturnal', *nasale* 'nasal') and *-are* (e.g., *solare* 'solar', *scalare* 'scalar'), *-ile* (e.g., *utile* 'useful', *mercantile* 'merchantile'), for deverbal adjectives in *-bile* (e.g., *credibile* 'credible', *mangiabile* 'eatable') and *-evole* (e.g., *piacevole* 'pleasing', *lodevole* 'commendable'), and for irregular comparative forms like *maggiore* 'bigger, biggest' (cf. *grande* 'big'), *migliore* 'better, best' (cf. *buono* 'good'), etc. Second, the adjective must be able to occur in prenominal position, a condition which, again, holds only for a subset of Italian adjectives.

What is most important is, however, that many of the adjectives meeting the phonological condition do not occur prenominally: Many of the adjectives ending in sonorant + /e/ are relational rather than qualifying adjectives, which are unlikely to occur in prenominal position (Giorgi 1988: 305); see (46) (examples adopted from Giorgi 1988: 305). Moreover, longer adjectives are more likely to occur in postnominal rather than in prenominal position (Nespor 1988); again, the (mostly derived) adjectives in sonorant + /e/ always consist of at least three syllables, see (47).

(46) a. l'   inno   nazionale   a'. *il   nazionale   inno
         the   hymn   national   the   national   hymn
         'the national hymn'
     b. la   centrale   nucleare   b'. *la   nucleare   centrale
         the   power plant   nuclear   the   nuclear   power plant
         'the nuclear power plant'

(47) a. Three syllables   cen.trá.le,   re.ál.e;   sí.mi.le,   fá.ci.le
                             'central'   'real'   'similar'   'easy'
     b. Four syllables   na.zio.ná.le;   pos.sí.bi.le,   ter.rí.bi.le
                             'national'   'possible'   'terrible'
     c. Five syllables   par.ti.co.lá.re; for.mi.dá.bi.le; o.no.ré.vo.le
                             'particular'   'formidable'   'honorable'

What has often been described as "lexicalized" cases of *troncamento* on adjectives in constructions like *in particolar modo* 'especially', *la maggior parte di* 'most of' appears, then, to be regular cases of *troncamento*, a P-phrase rule that can apply only in a subset of the otherwise highly restricted cases of prenominal adjectives. In other words, *troncamento* in adjectives is

clearly governed by a phonological rule. Since many of the adjectives ending in sonorant + /e/ can not be used prenominally, the question whether *troncamento* applies or not to these lexemes does not even arise. However, the absence of *troncamento* in many other cases, e.g., its non-application with prenominal adjectives like *facile* 'easy', *probabile* 'probable', *possibile* 'possible' or *terribile* 'terrible', see (48), remains to be accounted for. A plausible hypothesis might be that with adjectives like *facile* the blocking of *troncamento* has to be lexically represented. The question whether this blocking may be traced back to factors related to morphological structure, etymology or phonological structure awaits further investigation.

(48) a. un   {*facil_ + facil<u>e</u>}   accesso

'an   easy   access'

b. un   {*? probabil_ + probabil<u>e</u>} evento

'a   probable   event'

c. un   {?? terribil_ + terribil<u>e</u>} dubbio

'a   terrible   doubt'

d. un   {? possibil_ + possibil<u>e</u>}   attentato

'a   possible   attack'

6.2   Nouns

6.2.1 Nouns used as titles

As has previously been noted (Vogel et al. 1983: 212), nouns, like verbs and adjectives, also occur in one construction where *troncamento* applies obligatorily: constructions where certain nouns are used as titles, followed by a bare noun, see (49).

(49) a. il   signor_   Rossi   a'. *il signor<u>e</u> Rossi

the   mister   Rossi

'mister Rossi'

b. il   professor_   Grandi   b'. *il professor<u>e</u> Grandi

the   professor   Grandi

'professor Grandi'

c. il   dottor_   Russo   c'. *il dottor<u>e</u> Russo

the   doctor   Russo

'doctor Russo'

d. l'   ingegner_   Colombo   d'. *l'ingegner<u>e</u> Colombo

the   engineer   Colombo

'engineer Colombo'

In previous studies, it has been claimed that showing obligatory (e.g., *signore* 'mister') or optional (e.g., *direttore* 'director') *troncamento*, or not allowing *troncamento* at all (e.g., *ambasciatore* 'embassador') is a lexical property of each of the corresponding lexemes (cf. Vogel et. al. 1983). While it is certainly true that different "title" nouns do show a different probability of *troncamento*, it seems worthwhile to attempt an explanation for why *troncamento* is possible at all in these constructions, and why it is obligatory in some of them.

If the argumentation presented in this study is correct, namely, that *troncamento* is a P-phrase rule, then obligatory *troncamento*, as with *signore*, must result from the sequence "title noun + proper name" being consistently phrased into a single P-phrase. Let's look at the underlying syntactic structures and their prosodic phrasing according to (8) and (11) above to see whether this is indeed the case.

One way of assigning a syntactic structure to expressions like those in (49) is represented in (50) a.; an alternative structure is represented in (50) b. The difference between the two constructions is that in (50) a., the proper name *Rossi* is a DP (as proposed, e.g., by Longobardi 2001), governed by N, while in (50) b., neither the first nor the second noun are maximal projections; rather, both are lexical heads dominated by the same node; i.e., they are compounds.

(50) a.   [[signor$\underline{e}$]$_N$ [Rossi]$_{DP}$]$_{NP}$

   b.   [[signor$\underline{e}$]$_N$ [Rossi]$_N$]$_{NP}$

        mister   Rossi

Now, how can a choice be made between the two possible structural descriptions? First, it should be noted that in standard Italian, no other constructions are attested where a nominal lexical head is followed by a DP, see (51) a. and (52) a.; rather, N is normally followed by a PP, see (51) b. and (52) b. Alternatively, N may be followed by a bare noun, as in (52) c.

(51) a.   *la   [[distruzione]$_N$ [la   città]$_{DP}$]$_{NP}$

         the   destruction   the   city

   b.   la   [[distruzione]$_N$ [della   città]$_{PP}$]$_{NP}$

        the   destruction   of-the   city

        'the destruction of the city'

(52) a.   *il   [[controllo]$_N$ [i   passaporti]$_{DP}$]$_{NP}$

	the	control	the	passports
b.	il	[[controllo]$_N$	[dei	passaporti]$_{PP}$]$_{NP}$
	the	control	of-the	passports

'the control of the passports'

	il	[[controllo]$_N$	[passaporti]$_N$]$_{NP}$
c.			
	the	control	passports

'the passport control'

The latter case, i.e., the construction without a determiner, as in (52) c., is usually assumed to be a compound, i.e., a complex word rather than a complex syntactic projection (cf. Schwarze 1995: 608). Hence, while Italian has no structures where N is followed by DP, i.e., by a maximal projection, Italian does have constructions where N is followed by N, both dominated by NP: ordinary N-N compounds. Additional examples are given in (53).

(53) a.	il	[[cane]$_N$	[poliziotto]$_N$]$_{NP}$
	the	dog	police

'the police dog'

b.	gli	uomini	rana
	the	men	frog

'the frogmen'

The second element of an N-N compound can also be a proper name, as in (54). Hence, proper names following N are not only found with title nouns, but they can also occur in ordinary compounds. Since the constructions in (54) are analyzed as N-N compounds, the proper name in (54) is not represented as a DP, but as N.

(54) a.	un	abito	Armani
	a	suit	Armani

'an Armani suit'

b.	la	via	Cavour
	the	street	Cavour

'the Cavour Street'

Finally, it should be noted that title nouns like *signore* cannot only be followed by proper nouns, but also by (bare) common nouns as *comandante* or *generale*, see (55), which, as bare nouns, are not DPs.

(55) a.   il   signor_   comandante
          the   mister   commander
          'commander'

     b.   il   signor_   generale
          the   mister   general
          'general'

Hence, one can conclude that the constructions in (49) above are to be analyzed as N-N compounds. Therefore, I will assume that the syntactic structure underlying constructions with title noun + noun can plausibly be represented as in (56) a. From this structure follows the prosodic phrasing given in (56) b. Since syntactically, both nouns are contained within the same maximal projection, according to (8) above, on the level of prosodic structure no P-phrase boundary intervenes between them. This explains why *troncamento* applies obligatorily in constructions with title nouns such as *signore* or *dottore* and a following noun.

(56) a.   il   [[signor<u>e</u>]$_N$ [Rossi]$_N$]$_{NP}$
     b.   [il   [signor_]$_W$ [Rossi]$_W$]$_P$

The approach adopted here also explains why *signore* (always) undergoes *troncamento* when followed by a proper name or by a bare N such as *comandante*, but not when followed by a verb or by a relative clause, see (57) and (58).

(57) a.   Il   signor<u>e</u>   non   è   venuto.
     b.   [Il   [signor<u>e</u>]$_{NP}$]$_{DP}$ [non   è   venuto]$_{VP}$
     c.   [Il   [signor<u>e</u>]$_W$]$_{P1}$ [non   è   [venuto]$_W$]$_{P2}$
          the   man   not   is   come
          'The man has not come.'

(58) a.   il   signor<u>e</u>   che   ho   visto
     b.   [il   [signor<u>e</u>_   [che   ho   visto]$_{CP}$]$_{NP}$]$_{DP}$
     c.   [il   [signor<u>e</u>]$_W$]$_{P1}$ [che   ho   [visto]$_W$]$_{P2}$

the	man		that	I.have	seen

'the man I have seen'

Hence, we see that under the assumption that *troncamento* is a P-phrase rule, we can solve a long-standing puzzle: why *troncamento* applies obligatorily to nouns in title noun + noun constructions. Still, it has often been claimed that *troncamento* does not apply productively to nouns, as opposed to verbs (cf. Vogel et al. 1983, Nespor & Vogel 1986: 32, Nespor 1990). Let's see what might be the reasons for this view.

6.2.2 Nouns followed by a modifier

As shown by the examples in (59) to (61), in certain cases *troncamento* can apply to nouns. First, it must be stressed that *troncamento* applies most easily in nouns ending in *-ore*; it does, however, also apply to other nouns ending in sonorant + /e/.

(59) a.

È	di	{color_ + colore}	rosso.
it.is	of	colour	red

'It is of red color.'

c.

Ci	sono	due	parametri:	il	{valor_ + valore}	medio
there	are	two	parameters:	the	value	mean

e	la	varianza.
and	the	variance

'There are two important parameters: the mean value and the variance.'

(60) a.

È	molto	spiacevole	questo	{odor_ +odore }	di	benzina.
is	very	unpleasant	this	smell	of	gas

'This smell of gas is very unpleasant.'

b.

Rimane	il	{sapor_ + sapore}	di	cioccolata.
persist.3SG	the	taste	of	chocolate

'The taste of chocolate persists.'

(61) a.

Vuole	un	{bicchier_ +bicchiere}	di	vino?
want.2SG	a	glass	of	wine

'Do you want a glass of wine?'

b.

Sul	{mar_ +mare}	azzurro	si	vedono	le	isole.
on-the	sea	blue	3SG.CL.REFL	see.3PL	the	islands

'On the blue sea one sees the islands.'

Second, *troncamento* in nouns is always optional, with the exception of the construction type discussed in the previous section. Therefore, it can arise only from restructuring of phonological phrases.

In the examples given in (59) to (61) above, *troncamento* applies to nouns which are followed by a modifier, i.e., by an adjective or by a PP governed by the noun. An obvious generalization to draw is that *troncamento* cannot apply when the noun in question is followed by a verb, see (62).

(62) a. *Questo color_ non mi piace .
       this colour non me.CL please.3SG
       'This color does not please me'

   b. *Quest' odor_ è molto spiacevole.
       this smell is very unpleasant
       'This smell is very unpleasant.'

   c. *Sul mar_ si vedono le isole.
       on.the sea 3SG.CL.REFL see.3PL the islands
       'On the sea one sees the islands.'

Likewise, *troncamento* is blocked when the noun is followed by a PP which it does not c-command, as in (63).

(63) a. *Maria ne ha dato un bicchier_ a Paolo.
       Maria of-it has given a glass to Paolo
       'Maria has given a glass of it to Paolo'

   b. *Non ho ancora mostrato il nuovo color_ a Maria.
       not I-have yet shown the new color to Maria
       'I have not yet shown the new color to Maria.'

   c. *Maria è andata al mar_ con Paolo.
       Maria is gone to-the sea with Paolo
       'Maria has gone to the sea with Paolo'

Let's see how these generalizations can be accounted for by the proposal that *troncamento* is a P-phrase rule. To begin with, *troncamento* in cases like (59) to (61) above can be explained as follows. The syntactic structure of constructions like (59), where the noun is followed by a modifying adjective, is represented as in (64) a.; constructions like (60), where the noun is fol-

lowed by a modifying PP, have a syntactic structure of the type given in (65) a. According to the rule of P-phrase formation given in (8) above, (64) a. and (65) a. are phrased as in (64) b. and (65) b., respectively. Note that in (64) b. and (65) b., the noun ending in sonorant + /e/ is followed by a P-phrase boundary; therefore, *troncamento* cannot apply. Importantly, both (64) b. and (65) b. can undergo P-phrase restructuring, as in (64) c. and (65) c., formulated as in (11) above, because the conditions on P-phrase restructuring are met: The noun c-commands the following AP/PP, and the following AP/PP is prosodically non-branching.

(64) a. È [di [[color$\underline{e}$ [rosso]$_{AP}$]$_{NP}$]$_{DP}$]$_{PP}$

b. È [di [color$\underline{e}$]$_W$]$_{P1}$ [[rosso]$_W$]$_{P2}$

c. È [di [color_]$_W$ [rosso]$_W$]$_{P1}$

it-is of color red

'It is of red color.'

(65) a. Rimane [il [sapor$\underline{e}$ [di [cioccolata]$_{DP}$]$_{PP}$]$_{NP}$]$_{DP}$

b. Rimane [il [sapor$\underline{e}$]$_W$]$_{P1}$ [di [cioccolata]$_W$]$_{P2}$

c. Rimane [il [sapor_]$_W$ di [cioccolata]$_W$]$_{P1}$

it-persists the taste of chocolate

'The taste of chocolate persists.'

In contrast to these examples, constructions such as those given in (62) and (63) preclude P-phrase restructuring, because the noun in question does not c-command the following constituent. This becomes clear when one considers the syntactic structures underlying (62) a. and (63) b., given in (66) a. and (67) a., respectively.

(66) a. [[Questo [color$\underline{e}$]$_{NP}$]$_{DP}$ [non mi piace]$_{VP}$]$_{IP}$

b. [Questo [color$\underline{e}$]$_W$]$_{P1}$ [non mi [piace]$_W$]$_{P2}$

c. *[Questo [color_]$_W$ non mi [piace]$_W$]$_{P1}$

this color not me please.3SG

'This color does not please me.'

(67) a. Maria [ne ha dato [un [bicchier$\underline{e}$]$_{NP}$]$_{DP}$ [a [Paolo]$_{DP}$]$_{PP}$]$_{VP}$

b. Maria ne ha dato [un [bicchier$\underline{e}$]$_W$]$_{P1}$ [a [Paolo]$_W$]$_{P2}$

c. *Maria ne ha dato [un [bicchier_]$_W$ a [Paolo]$_W$]$_{P1}$

Maria of-it has given a glass to Paolo

'Maria has given a glass of it to Paolo'

In (66) and (67), the noun ending in sonorant + /e/ does not c-command the following constituent since the first branching node dominating N, i.e., the DP node, does not dominate the following constituent, i.e., the following VP or the following PP.

Hence, the only configuration (other than N-N compounds) in which *troncamento* can apply to nouns is in constructions where the noun is followed by a modifier; in all other cases, *troncamento* is blocked. It should be noted that even when the noun is followed by a modifying expression, *troncamento* can apply only after optional P-phrase restructuring. P-phrase restructuring depends, however, among other factors, on rate of speech, and it is subject to the constraint on branchingness; i.e., it cannot apply if the constituent following the noun is (prosodically) branching, as is, e.g., a relative clause. Finally, *troncamento* is possible only if the noun ends in sonorant + /e/. As is well known, the majority of Italian nouns end in /o/ or /a/; only a relatively small number end in /e/; and for only a fraction of these does the stem end in a sonorant consonant. To conclude, it is worthwhile to stress that, taken together, these constraints might suffice to explain the low productivity of *troncamento* in the domain of nouns as compared to the domain of verbs.

7   Conclusion

From a descriptive point of view, this study has shown that in Italian *troncamento* can apply in quite a number of different contexts: First, it applies obligatorily to (all) verbal infinitives when followed by an enclitic pronoun, to infinitives of verbs like *dovere*, *potere*, *volere*, *fare*, etc., when followed by a bare infinitive, to (all) adjectives in *-e* when followed by the affix *-mente*, and to title nouns like *signore*, *dottore* etc. when followed by a bare noun. Second, it applies optionally to (all) infinitives followed by a non-branching NP (which may be the object or subject of the verb) or by a non-branching PP, to (certain) prenominal modifying adjectives in *-e* followed by a noun, and to (certain) nouns in *-e* followed by a modifying adjective or by a modifying PP. In all other contexts, *troncamento* may not apply. The descriptive account of *troncamento* proposed here thus goes beyond the range of previous studies.

With respect to previous accounts of *troncamento* in Italian which draw on the theory of prosodic phonology, these results show, first, that it is not the case that *troncamento* applies obligatorily only within the clitic group, as proposed by Nespor (1990, 1999). Rather, the data show that it applies obligatorily within a larger domain, which can be identified with the phonological phrase. Second, it is not the case that *troncamento* is optional within the intonational phrase, another assumption made by Nespor (1990, 1999). Rather, it cannot apply in construc-

tions other than those listed in the previous paragraph, not even if both the lexeme whose final vowel is the target of deletion and the following lexeme pertain together to a single intonational phrase. This observation can be captured by assuming that *troncamento* cannot apply at a phonological phrase boundary. In other words, the prosodic domain of *troncamento* in Italian is the phonological phrase. Neither is it descriptively adequate to invoke the clitic group as its domain, nor to assume that *troncamento* is optional within a larger prosodic domain.

These results have a number of interesting implications. First, regarding which constituents should be included in the prosodic hierarchy, the observations made here provide further evidence against the clitic group, which was originally proposed as a constituent of the prosodic hierarchy by Nespor & Vogel (1986). In particular, the claim that the prosodic domain of *troncamento* in Italian is not the clitic group, but a higher constituent, has consequences for the clitic group controversy because the *troncamento* data are used to motivate its inclusion in the prosodic hierarchy (cf. Nespor 1999).

Second, the *troncamento* data are of interest in the light of questions concerning optionality of phonological rules. As argued above, *troncamento* is optional in constructions where it can apply only after phonological phrase restructuring (where the main evidence for assuming a restructuring process is provided by the observation that application of *troncamento* in these constructions depends on the branchingness of the phonological phrase, a factor which was previously shown to be relevant for phonological phrase restructuring). In contrast, it has been shown that *troncamento* is obligatory in constructions in which primitive phonological phrase formation already creates the context for rule application. Hence, these observations show that it is not the phonological rule whose application is optional; rather, it is phonological phrase restructuring that is optional. In certain constructions, restructuring may or may not apply, creating or not creating the context for *troncamento*.

To conclude, two challenges to an adequate account of *troncamento* in Italian remain to be investigated. First, it has to be seen whether deletion of word-final /o/ is governed by the same or at least by similar constraints as deletion of word-final /e/. Second, it is still unclear how to account for the observation that not all nouns and adjectives providing the phonological context for *troncamento* may actually undergo this rule. To be sure, blocking of *troncamento* with adjectives like *facile* 'easy' must be represented on the level of the lexicon; it appears possible, however, that morphological structure and morphological specification of affixes have a role to play.

Acknowledgements

Notes

[1] Note that, differently from what is proposed here, descriptive grammars usually define *troncamento* as (mid) vowel deletion *before a consonant or a vowel*, to be distinguished from *elisione*, which is a process of vowel deletion *before a vowel*. It should, however, be stressed that the data analyzed in this study show that *troncamento* applies regardless of the nature of the following segment: /e/ after sonorant may be deleted, no matter whether the following segment is a consonant or vowel, and whether it is a so called "*s*-impura" (i.e., a sequence of /s/ + consonant). In fact, the observation of *troncamento* before /s/ + C, a context where *elisione* does not apply, clearly underlines the different nature of *troncamento* as opposed to *elisione*.

[2] For example, in the case of nouns and adverbs, deletion does not apply to feminine forms and to plural forms; in the case of verbs, no deletion is observed in forms of the 2nd person, and in general, deletion does not apply when the deleted vowel is the only exponent of a given feature (unless the feature is a default feature).

[3] For Italian, two types of prepositions may have to be distinguished, e.g., unstressed *di* in contrast to stressable *da*, a difference that is probably reflected in prosodic structure.

[4] According to Nespor & Vogel (1986: 168), in Italian a phonological phrase consists of the lexical head of a maximal projection and every element on its nonrecursive side.

[5] By 'c-command', I understand a relation which is defined as follows: A node A c-commands a node B iff A does not dominate B and the first branching node that dominates A also dominates B.

[6] Note that only if one assumes that the relevant notion is c-command ('the first branching node that dominates A also dominates B'), it is possible to capture why postverbal subjects of intransitive verbs can phrase together with the preceding VP (i.e., because VP is a non-branching node in the case of intransitive verbs, so that the first branching node is IP), while VP can never be phrased together with the preverbal subject DP (i.e., because a DP is always branching, unless it is a pronoun, therefore the first branching node is always DP).

[7] See note 5.

8   Vogel et al. (1983: 223) come to the more general conclusion that *troncamento* applies obligatorily to the final vowel of the first infinitive in a sequence of two infinitives. This hypothesis remains to be tested against the corpus (C-Oral-Rom) analyzed here.

9   Tortora (2002) shows that in a northern Italian variety, postverbal clitics sometimes attach not to the verb, but to the following adverb (e.g., to *mai* 'never'). This might be taken as additional evidence against the clitic group, and for assuming that in such dialects the domain of cliticization is the phonological phrase. (Tortora's interpretation of the data, however, is syntactic in nature.)

10   Note, however, that a ternary structure is more adequate because the two V-heads can be separated by an adverb; this shows that the dominating projection might not be V°, but VP.

11   By intonational phrase, Nespor (1990: 390) refers to "all the P-phrases in a string that is not structurally attached to the sentence tree at the level of s-structure, or any remaining sequence of adjacent P-phrases in a root sentence". In other words, a sentence consisting of a subject DP and a VP predicate, like the examples given in this section, may correspond to an intonational phase.

12   It should be noted that Spanish *-mente* adverbs are more similar to ordinary compounds than Italian *-mente* adverbs, cf. the discussion in Roca 1999. Bertinetto's 1978 primary argument for this analysis is his observation that in many cases (though not in all), the adjectival stem to which *-mente* is attached retains a secondary accent on the syllable which is stressed when the stem is used as an adjective. This is expected if the stem is the first member of a compound, but it is unexpected if it is the derivational base of a derived verb.

13   The data analyzed in this study clearly show that *troncamento* applies regardless of the nature of the following segment: /e/ after sonorant may be deleted, no matter whether the following segment is a so called '*s*-impura', as in *scelta* 'choice' (i.e., a sequence of /s/ + consonant); see also note 1.

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