

## Antepenultimate stress in Italian and some related dialects: metrical and prosodic aspects

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The paper deals with the representation of antepenultimate stress by taking into account various kinds of data from Italian and some Southern Italian dialects.

Ternary alternations in Italian varieties are here analysed, and particular attention is devoted to non-lexical stress assignment, which can be observed in the adaptation of foreign loan-words and in the pronunciation of English by Italian speakers. On the base of these facts, the proposal is here advanced that antepenultimate stress in these languages should not be forced into a binary structure, corresponding to the trochaic foot, and that the appropriate metrical representation for this stress pattern should be a ternary, trisyllabic constituent.

In the second part of the paper, this hypothesis on the representation of ternary stress is checked in the light of quantitative phenomena concerning some Southern Italian dialects, whereby the position of main stress in the word affects the length of the stressed vowel. While a stressed vowel in an open penultimate syllable is long, this is not the case in the antepenultimate syllable, which may only contain short nuclei.

These differences in vowel quantity, it is argued, can be properly couched and related to prosodic constituency only by admitting both binary and ternary feet. The existence of metrical constituents of different dimensions is what determines the particular quantity effects on the stressed vowel observed in these dialects.

### *1. Introduction*

The representation of ternary stress patterns is a controversial issue in phonological theory. Although it has sometimes been argued that in some languages a sequence of one stressed syllable and two unstressed syllables ( $\times . .$ ) should be considered a metrical constituent in itself (cf. Haraguchi 1991, Burzio 1994), the tenet of classic metrical theory (see among others Halle & Vergnaud 1987, Hayes 1995) is that bounded feet are universally binary, and that antepenultimate stress must be derived from a basic trochaic structure.

This idea has empirical grounds in the preference that languages show for the exact alternation of stressed and unstressed units in the speech rhythm, and is based on the representational tradition that goes back to early metrical theory (cf. Liberman & Prince 1977),

in which the prominence relations between syllables in a sentence were expressed by a binary-branching metrical tree.

From a theoretical point of view, the constraint of binarity on metrical structure is expressed by the adjacency principle - whereby a head and its complement must be adjacent -, which is relevant at various levels of the grammar and is a central requirement in syllable theory (cf. Goldsmith 1990, Kaye *et al.* 1990). The adjacency principle, which excludes non-local relations between units both in and between syllabic constituents, is assumed to hold also within the foot, where any unstressed syllable must be adjacent to the stressed one.<sup>1</sup>

As a constituent of the prosodic hierarchy (see Selkirk 1981, Nespor & Vogel 1986 among others), the foot not only expresses accentual parametric properties of languages, but also plays a crucial role in the explanation of phonological phenomena related to stress. Given this close connection between stress and some phonological phenomena, a hypothesis on the metrical structure of a language is reinforced by the existence of phonological properties and processes that must be attributed to the same metrical structure (see in Dresher & Lahiri 1991 the notion of "metrical coherence" of the grammar).

In this paper, we will take into account the representation of ternary accentual sequences in Italian and in some Southern Italian dialects. The purpose is to show that, by abandoning the constraint of binarity on the foot, we obtain a representation that is capable of expressing the connection between accentual and other phonological properties, without resulting in a violation of the general principles concerning prosodic licensing. The paper is organised as follows: in section 2 some general characteristics of Italian stress will be presented and in section 2.1 the representation of antepenultimate stress will be discussed. Also on the basis of data concerning instances of non-lexical stress assignment in Italian, presented in section 2.2, we will argue that dactylic sequences should be analysed as unitary metrical constituents. In section 3, data from some Italian dialects will be considered, in which the quantity of the vowel bearing main word stress appears to be affected by the position of stress. Previous analyses of such phenomenon will be reviewed in 3.1, while section 3.2 contains a proposal for a reconsideration of the problem within a modified framework. It will be shown that by adopting a ternary foot for antepenultimate stress and by means of an intermediate constituent between the rhyme and the foot, namely the "superrhyme", the data presented are better explained and the relationship between metrical constituency and some phonological properties of these lan-

guages is unambiguously expressed. Section 4 contains some concluding remarks.

## 2. Generalities on Italian stress

As far as stress is concerned, Italian as well as most Italian dialects share the same general properties, having identical parameter values for the dimension of feet (stress may fall on one of the last three syllables of the word) and the position of the head (on the left side in the foot, on the right side in the word). Italian dialects, however, differ with respect to more detailed aspects, such as the relevance of syllabic quantity (more will be said in section 3) or stress assignment in enlarged domains (see Kenstowicz 1991, Bafile 1994, Monachesi 1995, Peperkamp 1996 on stressing of clitic groups in Italian and Neapolitan). Differences are also observable in the degree of markedness of oxytonic stress that, generally speaking, is a less frequent pattern in the metrical system of Italian and related dialects.<sup>2</sup> Evidence of the different status of final stress in different Italian varieties can be found in the formation of hypocoristics through the reduction of a lexical base, a process analysed by Thornton (1996). While word reduction generally results in penultimate stress in Italian,<sup>3</sup> in most cases it produces oxytonic forms in Neapolitan and other Southern Italian dialects.<sup>4</sup>

Leaving aside these peculiarities, we will now consider the general characteristics of stress in Italian varieties.

The assignment of primary stress at word level depends mainly on lexical information and its placement cannot be determined by means of exclusively phonological elements. Nevertheless, two phonological constraints are active: the first requires that stress fall on one of the three last syllables, and the second prevents antepenultimate stress when the penultimate syllable is heavy ("heavy" here means "containing a coda", since vowel length is not phonologically relevant in these languages).

The first constraint is violated only in a single class of words, i.e. in the third person plural of present indicative and subjunctive of verbs with proparoxytonic theme, e.g. *péttinano*<sub>Indic.</sub> *péttinino*<sub>Subjunct.</sub> 'they comb', *teléfonano*<sub>Indic.</sub> *teléfonino*<sub>Subjunct.</sub> 'they telephone'. Apart from these forms, which constitute a morphologically restricted class, the three-syllable limit is generally respected, also in words of recent introduction and adapted loan-words or foreign words, and therefore proves to be a general property of Italian stress.

The same cannot be said about the role of syllable weight in stress assignment.<sup>5</sup> In fact, stress can fall to the left of a heavy penultimate syllable in very few Italian words, and among them the only one pertaining to traditional lexicon is *mándorla* 'almond'.<sup>6</sup> However, if we examine the position of stress in words whose accentual form is not established in the lexicon, we may conclude that the constraint concerning the weight of penultimate syllable in proparoxytonic words is not an inviolable metrical principle in present-day Italian. Let us consider, for instance, the pronunciation of some place-names whose original stress has been changed in entering the Italian lexicon, e.g. *Ámsterdam* (<*Amsterdám*), *Ístanbul* (<*Istámbul*).<sup>7</sup> Other examples are the possible pronunciation *Bénetton* of the family name *Benettón* (belonging to Veneto, a North-Eastern region of Italy), or the pronunciation of the abbreviation *Fíninvest*, (or, rarely, *Fininvést*).<sup>8</sup>

Further evidence against absolute quantity-sensitivity comes from the adaptation of words with final consonants in Tuscan varieties, in which stress depends on the same general principles seen for Italian. Consonants in word-final position are generally not allowed in these varieties; therefore, an onset-nucleus sequence is usually added at the end of the word, thus preserving the original coda position. The result is a heavy penultimate syllable, which does not, however, cause stress shift, e.g. (examples are from Florentine): [tʰette] (Standard Italian (henceforth SI) [tʰiket]) 'ticket', [úɸimme] (SI [úɸim]) 'Upim, name of a department store chain', [láɸisse] (SI [láɸis]) 'pencil', [rɔzɸiffe] (SI [rɔzɸif]) 'joint of meat, roasted' (from Engl. *roast-beef*). Interestingly, the same adjustment is avoided when it would cause stress to fall on the fourth syllable from the end, in conformity with the general principle that constraints stress on one of the three last syllables. In this case, we observe either stress shift or final consonant deletion, e.g. [aθobússe] (SI [áwtobus]) 'bus', [formiθrɔlle] or [fɔrmiθro] (SI [fɔrmitrol]) 'Formitrol, name of a medicine'.

The facts previously mentioned illustrate that syllable structure has limited influence on stress assignment in Italian. The reason for which stress almost never falls to the left of a heavy penultimate syllable is most likely to be found in the formation of Italian lexicon, which in large part derives from Latin, and in metrical principles present at earlier stages of the language. As a matter of fact, the weakening of the constraint concerning syllable weight further limits the possibility of predicting stress position on the grounds of phonological elements in present-day Italian.

### 2.1. The representation of antepenultimate stress in Italian

Previous analyses of Italian stress (Den Os & Kager 1986, Sluyters 1990) have proposed that the different stress patterns of this language must be explained by means of the same basic metrical structure, i.e. the trochaic foot. As far as antepenultimate stress is concerned, the primary issue is how to derive a trisyllabic sequence, like *távola* 'table' or *stúpido* 'stupid', from a disyllabic constituent (×.).

The answer to this problem in a binary-foot approach has been generally sought in *extrametricality* (cf. Hayes 1981), a device whereby an element (a segment, a rhyme, a syllable or, in some interpretations, a morphological unit) is invisible to stress rules. Two conditions limit the application of extrametricality: the relevant element must be peripheral in the domain of stress rule and it must not constitute the whole domain. Despite these conditions, extrametricality appears to be not restrictive enough in its applicability. Generally speaking, resorting to this device appears to be scarcely motivated when it is not necessary for the representation of the special prosodic properties which may surface typically at the edge of metrical domains. In fact, whenever the adoption of extrametricality theory only aims at accounting for problematic data, it has merely the undesirable effect of making it impossible to falsify the stress theory. As far as Italian stress is concerned, extrametricality is nothing but a diacritic assigned to the lexical representation of proparoxytones, not independently motivated and not truly contributing to the phonological predictability of stress.

A further problem with extrametricality theory, as Hayes (1987, 1995) pointed out, is that it offers no means for treating cases in which ternary alternations are not limited to the edge and can extend to the whole domain (as it may be the case for secondary stress in Italian, in forms like *cònsiderévole* 'considerable', *àperitívolo* 'aperitif'). As an answer to this problem, Hayes (1995) proposed *Weak Local Parsing*, a procedure for the formation of metrical feet, which is opposed to *Strong Local Parsing*. *Strong Local Parsing*, which corresponds to the default value of a parameter concerning the construction of metrical constituency, gives rise to a sequence of immediately adjacent binary feet, while the weak interpretation of the principle produces ternary alternation by forming binary feet and leaving a single unparsed position between two feet. The unparsed material that separates two adjacent feet must not exceed the smallest prosodic distance, namely a single monomoraic syllable. Cf. Hayes (1995: 308):

(1)

Strong Local Parsing ( x . ) ( x . ) ( x . ) ...  
                           ) )           ) )           ) )  
 Weak Local Parsing ( x . ) ( x . ) ( x . )  
                           ) ) )           ) ) )           ) ) )

Among the advantages of this representation, according to Hayes, is that it is more economical, as it does not require an enlargement of foot inventory, and that it is incapable of describing quadrisyllabic alternation, which indeed are not found in languages. Moreover, while ternary feet cause violation of the locality principle, by *Weak Local Parsing*, ternary alternation is explained as the effect of two local principles: binary feet and the requirement of minimal distance. Non-locality of ternary systems, thus, is only apparent (Hayes 1995: 315).

A similar representation has been proposed by Kager (1994) in the framework of Optimality Theory (cf. Prince & Smolensky 1993). According to Kager, the grammar of any language contains a constraint avoiding foot adjacency. In ternary systems, this constraint is given priority over the constraint that avoids unparsed material between feet, while in binary systems foot adjacency is a higher-ranked requirement. The particular constraint ranking characterising ternary systems yields a sequence of disyllabic feet separated by one unparsed syllable, a result identical to the one produced by Hayes' *Weak Local Parsing*.

Similarly, non-exhaustive footing is assumed by McCarthy & Prince (1993), in the treatment of word-initial ternary sequences, that are explained in terms of edge alignment. In English and other languages (Italian among them, see below) the word-initial position is a favoured one for secondary stress (cf. Liberman & Prince 1977:276). In other terms, the left edge of the foot tends to coincide with the left edge of the word. The representation following from this involves incomplete foot parsing by containing non-adjacent binary feet: [(x .) . (x .)].

In alternative to these approaches, we would like to propose, following Nespor (1993) and Burzio (1994) among others, that the sequence (óσσ) in Italian should be analysed as a ternary metrical foot of the form (x . .). In this view, words like *távola* 'table' e *áncora* 'anchor' contain a dactylic foot, while words like *agósto* 'August' and *ancóra* 'still (adv.)' contain a trochaic foot;<sup>9</sup> recourse to extrametricality or to incomplete foot parsing is avoided.

The representations referring to special parsing procedures and the one allowing both binary and ternary feet in metrical theory achieve an identical result: both approaches restrict the possible stress patterns to a maximally trisyllabic sequence, prohibiting metrical constituents that contain more than three syllables. However, there is a crucial difference between the two analyses. The explanation of antepenultimate stress in terms of a disyllabic foot, followed (or preceded) by a position which is left unparsed or is integrated into the structure at a higher level, requires the representation of ternary domains by means of binary constituents, thus raising a problematic issue. As observed by Nespor & Vogel (1986: 9), Durand (1990: 226-227), Burzio (1994: 9), the representations shown in (2a) give rise to an intermediate level of structure which is not motivated by accentual evidence, while "flat" representations in (2b), corresponding to a ternary foot, do not contain any such substructure.

(2)

a. [(x x) x]      b. [(x x x)]

With respect to this point, we can posit as a general requirement, that the structured representations in (2a) have grounds in phonological properties other than accentual characteristics, i.e. properties whose explanation must refer to some closer connection existing between the first two positions than between the second and the third, or requires relationships involving the first two positions and excluding the third. We will return to the relationship between metrical representation and prosodic properties in section 3 while discussing data concerning some Southern Italian dialects.

## 2.2. Antepenultimate stress and non-lexical stress assignment in Italian

In this section, we will analyse particular instances of stress assignment that are not lexically driven. Because of this peculiarity, these cases are of interest for the present discussion, as we can regard them as the result of the metrification process, away from lexical interference. In other words, while we could conceive a binary metrical structure to coexist with antepenultimate lexically determined stress, we would not expect the same binary structure to produce ternary sequences spontaneously, i.e. independently from specific

lexical information. For this reason, we will interpret spontaneous proparoxytones as substantiation of ternary foot.

A first point that can be considered in this perspective is secondary stress, because non-primary stress placement in Italian is a postlexical phenomenon (cf. Vogel & Scalise 1982). The position of secondary stress is subject to a certain amount of variability and depends, among other things, on the rhythmic structure of the sentence as well as on individual factors. Words with three syllables to the left of the main stress often receive a secondary stress on the first syllable, as in *àperitívo* 'aperitif', *tèmperatúra* 'temperature', although *apèritivo*, *tempèratúra* are also possible pronunciations. These word-internal trisyllabic sequences can be analysed as ternary feet. However, as already noted, also for Italian a general tendency has been observed to stress the first syllable of a word, provided a well-formed rhythmic structure is obtained (cf. Vogel & Scalise 1982).<sup>10</sup> Therefore, it could be argued that ternary sequences due to secondary stress are induced by a general condition that requires the alignment of word boundary with foot boundary, and may be not regarded as the genuine surfacing of a ternary metrical constituent, although ternary stress pattern is in that case not lexically determined. Given that an initial stress may be independently required, by "weak parsing" it could be possible to represent the stress pattern of *àperitívo* and *tèmperatúra* by means of only binary feet: [(× .).(× .)].

Another, more revealing set of phenomena is the adaptation of loan-words and the pronunciation of foreign words. The phonological behaviour of these elements provides valuable information, as it can shed light on phonological processes which are not influenced by lexical factors, and can reveal the otherwise obscured existence of constraints operating in a given system (cf. Paradis 1995).

The data that pertain to such peripheral areas of the grammar need to be carefully analysed, in order to ascertain that what appears to be the effect of active constraints is not influenced by distorting factors such as orthography, analogy, etc., and is not due to rules that operated at previous, although not remote stages of the language. Therefore, in dealing with borrowings that show some degree of adaptation to the recipient language (L1), one must be able to determine whether lexicalisation proceeded in a way that depended only on phonological constraints of L1, or has been influenced, to some extent, by lexical and semantic factors.<sup>11</sup> In addition, the lexicalisation of such borrowings must be recent enough to be considered an event of a synchronic stage of the language.

An interesting source of information may be the pronunciation of

foreign words, which must be thought of as "instantaneous" adaptations (cf. Paradis 1995), rather than instances of lexicalisation. In this case, the difficulties lie in the fact that the utterances of foreign words constitute a *continuum* that ranges from a form which completely adheres to the pronunciation rules of the source language (L2) to forms that are notably different. The latter tend to conform to the phonological properties of L1 and may also be influenced by the orthography of L2 in the case that the foreign word enters through a written text. The closeness of the utterances of foreign words to the correct pronunciation obviously depends on the competence of L2 on the part of the speaker of L1, and is thus subject to individual variation. However, it is possible to outline a part in the *continuum* that includes the pronunciations that can be considered typical of the speakers of a given language.<sup>12</sup> Being instantaneous adaptations, these typical utterances, to the extent that they diverge from the pronunciation of L2 speakers, tend to satisfy the constraints of L1 and can be usefully employed in the definition of the phonological properties of L1.

As for stress assignment of loan-words and foreign words in Italian, data argue in favour of a representation of the structures (× . .) as a single ternary foot. In fact, if we assumed for Italian the binary left-headed foot as the only metrical constituent, we should expect that the adaptation of foreign words to the accentual structure of this language produced only penultimate stress, while this prediction is contradicted by data.

The stress of partially integrated loan-words in Italian has been analysed by Repetti (1993) in a moraic framework. Although the author notes that "among the recent loans there is much oscillation in use and pronunciation depending on various contingencies including the cultural level of the speaker and the context" (p. 185) some general rules are proposed to account for the different stress patterns. The basic accentual structure for polysyllables, according to Repetti, is penultimate stress. Given the quantity-sensitivity assumed in her analysis, whereby a final heavy syllable attracts stress, the polysyllables ending in a consonant are treated in terms of extrametricality of the final consonant. By the exclusion of the final coda from the metrical domain, the last syllable becomes light and stress regularly falls on the penult, e.g. *hambúrge*<r>, *pullóve*<r>, *slóga*<n>, *túnne*<l>. By the same token, words ending in two consonants show final stress, since, despite the extrametricality of final consonants, the last syllable is heavy, e.g. *weekén*<d>, *popcór*<n>, *windsúr*<f>. Exceptions specifically marked in the lexicon are the words with antepenultimate

stress, like *mánager*, and those showing final stress in spite of a single final consonant, like *hotél*, *boutíque*, *bazár*, for which Repetti proposes the block of consonant extrametricality.

Leaving aside the general problem, previously mentioned, raised by the resort to extrametricality as a diacritic, we can find numerous examples of words that do not conform to the rules proposed by Repetti (1993). For instance, the following proparoxytones, which maintain the original stress (examples are from Tuscan variety of Standard Italian): [káravan] 'caravan', [búngalov] or [bángalov] 'bungalow', [kárdigan] 'cardigan', [éppening] 'happening', [mjúzikol] 'musical (comedy)'; or show stress shift: [krɛŋ káramel] '*crème caramel*', [pérformans] 'performance' (note that in the last example a heavy penult does not prohibit antepenultimate stress). Among the exceptions to the alleged sensitivity of stress to the quantity of the final syllable in words ending in consonants, we can cite the following pronunciations, which are possible even if not exclusive: [dɛpljant] '*dépliant*', [kóllant] '*collant*' [sáspens] '*suspense*'. Furthermore, forms like *hotél*, *bazár*, *boutíque* – as well as other Gallicisms – suggest that the position of the stress in the source language can play an important role and should be accurately evaluated. Similarly, we can suspect that stress in forms like *bluejéans*, *go-cárt*, *weekénd*, *windsúrf*, does not depend on the double final consonant, but on the circumstances of the adaptation to the Italian lexicon. We can conjecture that, at the moment of their entering, these words were analysed as compounds and therefore stressed according to the Italian stress rule, namely with main stress on the second element of the compound. On the whole, the approach based on quantity-sensitivity and extrametricality seems to be not general enough to predict the stress position in the Italian pronunciation of foreign words and, more importantly, does not support the general claim that stress assignment in such words produces essentially paroxytones. On the one hand, the stress of some of the partially integrated loan-words discussed by Repetti must be attributed to factors that do not concern the syllabic structure of the word (e.g. stress in the source language, compound-like structure). On the other hand, the adaptation of loan-words often produces ternary sequences, even under unfavourable metrical conditions. These cases can be interpreted, we argue, as evidence for ternary foot. There seems to be no good reason why an exclusively binary metrical structure should produce a ternary sequence like *pérformance*, in spite of the heavy final and penultimate syllables and in spite of the different stress pattern of both English and French pronunciations.

The last kind of data illustrating instantaneous adaptation we will take into account concerns the pronunciation of some English words by Italian speakers.<sup>13</sup> In these forms stress is shifted from its original position in the source language and is always placed on the antepenultimate syllable.

In (3a) we find words that have two possible pronunciations in English varieties, with primary stress on the preantepenultimate syllable and with or without a secondary stress on the penult, in (3b) words with primary stress on the penult and secondary stress on the preantepenultimate syllable; the words in (3c) have penultimate stress. The Italian pronunciation is given in square brackets.

(3)					
a.		b.		c.	
category	[katégori]	continental	[kontínental]	develop	[dévelop]
dictionary	[dik]ónari]	independent	[indipéndent]	important	[ímportant]
necessary	[neséssari]			dishonest	[dízonest]
obligatory	[obligétori]			component	[kómponent]
vocabulary	[vokabjulari]			interference	[intérferens]

It is not easy to understand the motive behind these pronunciations. They probably do not simply reflect the application of a possible stress structure to a non-metrified form (i.e. a word whose original stress is not known). It may well be that they also stem from the desire to perform an accentual pattern that is perceived as typically English, by retracting stress with respect to Italian, compatibly with the only absolutely inviolable condition, which is that stress cannot fall to the left of the antepenultimate syllable. Nonetheless, these data are of interest for our purposes, as they show that ternary alternation is a spontaneous stress pattern for Italian speakers. They thus contribute to demonstrate that there are no valid reasons for explaining the various stress structures of Italian in terms of a single binary constituent and, at least from a strictly accentual point of view, there are no valid reasons for preferring the structured representations in (2a) to the flat one in (2b).

The arguments presented in this section concerning the accentual properties and the status of proparoxytones in Italian can be generally extended to Italian dialects. However, as regards the adaptation of recent borrowings and the pronunciation of foreign words, given the interactive relationship between Standard Italian and Italian dialects, the question arises whether the contact involves L2 and the relevant dialect, or rather L2 and Italian (or the local variety of Italian).<sup>14</sup> This problem, which is essentially unresolvable, makes

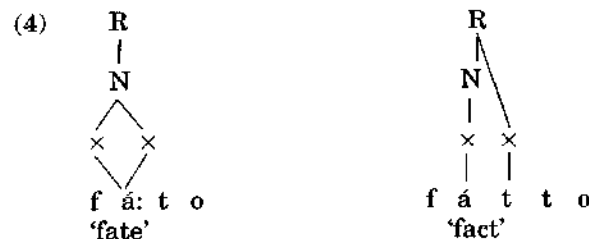
this source of data unavailable for the research on phonological properties of Italian dialects.

To sum up, this section provides arguments in favour of ternary foot in Italian. Main stress in Italian vocabulary is lexically established, and it has been argued that proparoxytonic stress is not predictable by truly phonological means (extrametricality can only be attributed the role of a lexical diacritic in Italian). As for the special case of non-lexically determined stress, which we deem to directly reflect the metrical structure of the language, we have shown that ternary sequences are frequent, while, crucially, stress never falls to the left of the antepenultimate syllable. These kinds of data are evidence that the ternary pattern (x . .) enjoys the status of metrical constituent in Italian. Therefore, we have proposed that both kinds of stress placement, the lexical and the non-lexical one, can be directly represented by means of both binary and ternary feet. The alternative, only binarist analysis gives rise to a more complex representation of antepenultimate stress containing an intermediate level of structure that has no correspondence in the stress facts of Italian.

### 3. Quantitative effects of antepenultimate stress in some Italian dialects

As observed in previous sections, the fact that a given metrical structure is able to represent stress as well as to account for other phenomena of a language has great significance. Therefore, prosodic phenomena that refer to a metrical organisation consisting of both binary and ternary feet constitute a crucial argument in the present discussion. The data presented in what follows point out the particular prosodic status of proparoxytones compared to paroxytones in some Italian dialects; it will be argued that those prosodic properties are better couched in terms of an autonomous, ternary metrical structure.

The lengthening of stressed nuclei in open syllable is a well-known effect of stress in Italian and related varieties, which is directly expressed by a very general principle, the *Strong Rhyme Condition* (cf. Vogel 1982), whereby a stressed rhyme must be associated to two positions of the skeletal tier. When a coda is not lexically available to fill the second rhymal position, the nucleus branches and, as a result, the vowel lengthens. The following example is from Italian:



Just with respect to this phenomenon, paroxytones and proparoxytones manifest a divergent behaviour in some Italian dialects, in that antepenultimate stress does not produce branching of the nucleus.

It is a controversial issue whether this distinction holds for current Standard Italian as well. According to Calabrese (1985) and Burzio (1994), for instance, antepenultimate stressed nuclei do not branch, irrespectively of the presence of a coda. This statement is based essentially on the absence of the diphthongs [ɛ] and [wɔ] in proparoxytones as opposed to paroxytones, in correspondence with tonic [ɛ] and [ɔ] deriving from Latin short [e] and [o] (cf. p[ɛ]cora 'sheep' from Latin *pēcoram*, p[ɔ]polo 'people' from Latin *pōpulum*, but p[jɛ]de 'foot' from Latin *pēdem*, r[wɔ]ta 'wheel' from Latin *rōtam*). However, diphthongization of mid-low vowels in open stressed syllable is not a productive process of present-day Italian (it rather derives to Italian from Old Tuscan), and we prefer avoiding any conclusion about vowel length of proparoxytones based on this phenomenon.<sup>15</sup> Studies based on acoustic measurement, on the other hand, report controversial results (see for instance Farnetani & Kori 1984, Vayra *et al.* 1984, Marotta 1985). It seems likely that lengthening affects stressed vowels in open syllables also in antepenultimate position, even though to a smaller extent, but data about Italian are not clear enough.

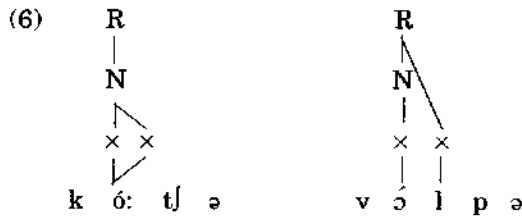
Therefore, we will focus henceforth on data coming from some Southern Italian dialects,<sup>16</sup> in which the relationship between stress and syllable structure has visible effects on the segmental content of stressed nuclei, and therefore overtly manifests the difference between paroxytones and proparoxytones.<sup>17</sup> As the examples in (5a) show, long vowels correspond to tense segments (or diphthongs), whereas short vowels correspond to lax segments (see 5b, c).<sup>18</sup> The following data, regarding the dialect spoken in S. Mauro Forte (Southern Lucania), are taken from Marotta & Savoia (1994:48):<sup>19</sup>



- |     |                    |                 |                         |
|-----|--------------------|-----------------|-------------------------|
| (5) | a.                 | b.              | c.                      |
|     | [ˈreirə] 'I laugh' | [ˈfɪj:ə] 'son'  | [ˈrɪrənə] 'they laugh'  |
|     | [ˈme:tə] 'I reap'  | [ˈtʃersə] 'oak' | [ˈmɛtənə] 'they reap'   |
|     | [ˈkɔ:tʃ] 'I cook'  | [ˈvɔlpə] 'fox'  | [ˈkɔ:tʃənə] 'they cook' |

The examples in (5) highlight the importance of the presence of a coda in the stressed syllable. As for paroxytones, while the stressed vowel in an open syllable is long or diphthongized (5a), the stressed vowel in a closed syllable is short (5b). However, the stressed vowel in an open syllable of a proparoxytone is short as well (5c), and we will return to this point presently. These examples point out the similarity between the contexts in (5b) and (5c) compared to (5a), regarding the quantitative and segmental effects on the stressed vowel; we will follow Savoia (1989) in referring to these different structures as "closed position" (5b and c) and "open position" (5a).

The vowel quantity alternation shown in (5a) vs. (5b) is an effect of the *Strong Rhyme Condition*. See in (6) the prosodic structure associated with two of the forms given in (5):



The interesting peculiarity of these dialects is the behaviour of a stressed vowel that is part of an open syllable of proparoxytonic words (5c). Being short, this vowel does not meet the *Strong Rhyme Condition*.

### 3.1. Previous analyses

In the analysis in Savoia (1989), which adopted a moraic model, similar data, pertaining to dialectal varieties spoken in Abruzzo and showing alternations of the kind exemplified in (5), are explained by assuming quantity-sensitive stress and extrametricality of the final syllable for all the words, independently of the stress position. The following example, relative to the dialect spoken in Tuffillo (Southern Abruzzo) is taken from Savoia (1989: 355), with a slightly modified notation:

- |     |          |             |                |
|-----|----------|-------------|----------------|
| (7) | a.       | b.          | c.             |
|     | ( μ μ )  | ( μ μ )     | ( μ μ )        |
|     | /        |             |                |
|     | k éw ʃ ə | k é n t ə   | k é ʃ ə l ə    |
|     | σ <σ>    | σ <σ>       | σ σ <σ>        |
|     | 'I sew'  | 'you count' | 'sew it (cl.)' |

In (7), a heavy syllable corresponds to two morae (see (7a) and (7b)), a light syllable corresponds to one mora (see (7c)); stress falls on the nucleus associated with the second mora starting from the right, which means that the stress constituent is a binary (bimoraic) left-headed foot. The lengthening of the stressed vowel of proparoxytones is thus blocked by the metrical configuration itself, since in those words the foot corresponds to two monomoraic nuclei and could not allow one of the two nuclei to branch (see (7c)).<sup>20</sup>

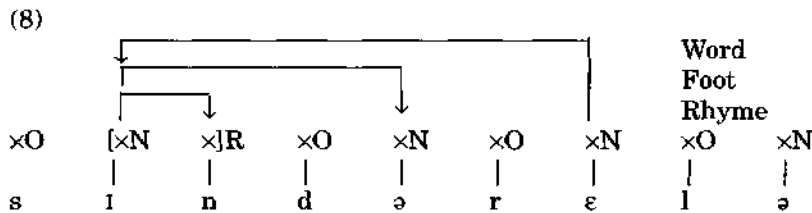
The whole matter has been taken into account in different terms by Marotta & Savoia (1994) and Savoia & Manzini (in prep.).<sup>21</sup> The framework adopted there falls within Government Phonology (cf. Kaye *et. al.* 1985, 1990, Harris 1990, 1992, 1994 among others), a theory of which we will briefly recall here some basic concepts.

The phonotactic properties of languages, as well as most segmental processes, are deemed as the respectively static and dynamic product of head-complement relations holding between and inside the syllabic constituents, i.e. onset (O), rhyme (R) and nucleus (N). The rhyme consists of a nucleus and may contain a coda, that is a complement of the rhyme and contains a single non-vocalic position. The syllable itself is no constituent and in fact the traditional notion corresponds to a sequence O-R. Each syllabic constituent may branch, maximally binarily, and the two segments establish among each other an asymmetric relation, whereby the obligatorily unit, the head, licenses the unit to its right, the complement.<sup>22</sup> The first consonant of a complex onset licenses the second, and so does the first vowel of a complex nucleus; being the head of the rhyme, the nucleus also licenses a following coda. Licensing relations also hold between syllabic constituents: an onset is licensed by the following nucleus, a coda by a following onset (the coda thus enjoys double licensing), a nucleus by a contiguous (even if not adjacent on the skeletal tier) nucleus.

The approach developed by Harris (1992, 1994, 1997) extends the principle of licensing to higher level of the prosodic hierarchy, involving the foot and the prosodic word, and in principle also to the phrasal constituents. The unlicensed heads of the syllabic level, the



nuclei, are projected at a higher level, the foot, where the stressed nuclei license the unstressed ones, and the heads of the feet, in turn, are projected at the level of the prosodic word, and, by the same mechanism, at further levels. By means of the single principle of phonological licensing, whose twofold action consists in autosegmental licensing (a-licensing) and prosodic licensing (p-licensing) (Harris 1992, 1997), this theory aims to explain the connection between segmental properties and the prosodic structure of different levels. By a-licensing, each position of the skeletal tier licenses the segmental material with which it is associated; p-licensing refers to the just described relations between positions at different levels of the prosodic hierarchy. The licensing relations between units in the English word *Cinderella* are illustrated in the following example taken from Harris (1994:155). Arrow-headed lines indicate p-licensing, normal lines indicate autosegmental association.

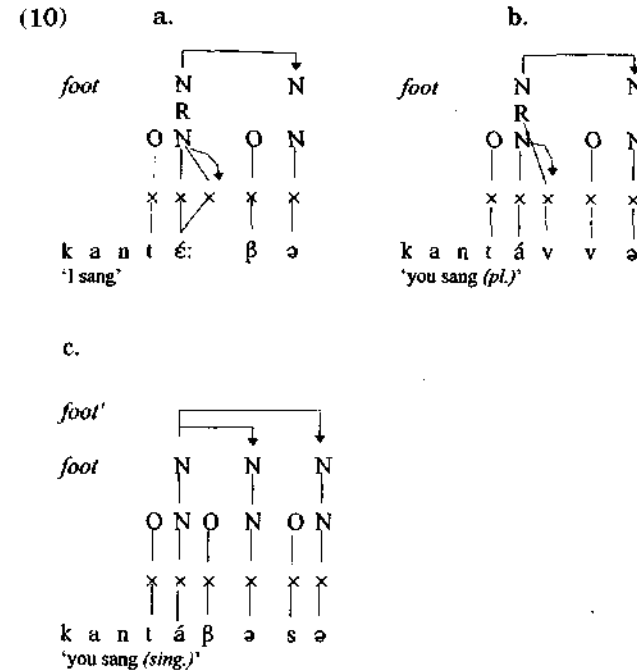


Differing from previous proposals, the analyses by Marotta & Savoia (1994) and Savoia & Manzini (in prep.) abandon the moraic notation and do not resort to extrametricality. Metrical structure, in this approach, plays no role in determining the position of stress, which is considered to be lexically established. The foot, binary and left-headed, includes the stressed nucleus and the weak one on its right. A possible further final syllable must be added to the foot at a higher level, called foot' (reminiscent of Selkirk's (1980) "superfoot"). The Strong Rhyme Condition is encompassed by the following principle (Marotta & Savoia 1994:70):

- (9) *The head of a word-dominant foot must p-license in its domain*

which means that the nucleus bearing the word stress must have a complement.

The analysis is illustrated in the following examples of the dialect of Saracena (Northern Calabria), taken from Savoia & Manzini (in prep.).



In the approach of Marotta & Savoia (1994) and Savoia & Manzini (in prep.) the configurations in (10) should be interpreted as follows. In (10a), the strong nucleus is not followed by a coda and satisfies the principle in (9) by licensing its complement, i.e. an adjacent nuclear position. The two positions associated with the same melodic content correspond to a long vowel. At the first level of nuclear projection, corresponding to the foot, the same dominant (i.e. stressed) nucleus licenses the recessive nucleus to its right.

In (10b), as the head of the rhyme, the strong nucleus licenses a coda position. These languages do not admit a branching nucleus in a closed syllable and the stressed vowel must be short;<sup>23</sup> yet, the structure is coherent with the requirement of (9).

The configuration in (10c) shows the structure of a proparoxytone. The final syllable is attached at the foot' level. Therefore, in the word an intermediate level of nuclear projections arises, in which the head of the dominant foot expresses its licensing power: the strong nucleus licenses the weak nucleus of the adjacent syllable, so that the requirement of (9) is satisfied once again. At the further level foot' the head licenses the final syllable.

In this approach there are several elements of interest. First, it makes the resort to extrametricality not necessary, and, for the reasons presented above, this is a clear advantage. Moreover, within the Government Phonology model there is no need to introduce a further phonological unit, the mora, for the representation of quantitative properties, since they are expressed by means of the independently motivated syllabic constituency and licensing principle, resulting in a more economical representation. Finally, the configurations allowed by this model are able to account for proparoxytonic words containing a closed stressed syllable, while this is not the case for moraic analyses (cf. Savoia 1989, Ghini 1996), in which the bimoraic foot cannot include a complex rhyme as well as the adjacent syllable.<sup>24</sup> In the model just illustrated, instead, in which no mora-count takes place, the foot structure of proparoxytones is the same in both cases of closed and open stressed syllable:  $[(\times \cdot)_{\text{foot}} \cdot]_{\text{foot}}$ . The difference lies in the fact that in the former, but not in the latter case, the dominant nucleus expresses its p-licensing potential already inside the rhyme, where a coda is lexically available.

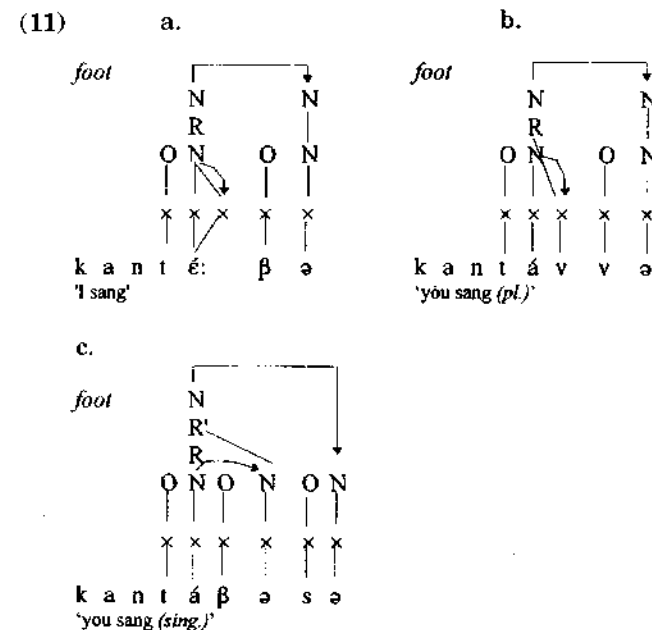
### 3.2. The "superrhyme" analysis

In this section we will attempt a partly different analysis of the phonological phenomena just described, starting from Marotta & Savoia (1994) and Savoia & Manzini (in prep.) and taking into account the argumentation concerning the metrical representation of ternary structures, presented here in section 2.1. We will adopt the same Government Phonology model summarised in the last section, and the same conception of licensing relations presented there. The difference between the present analysis and the one by Marotta & Savoia (1994) and Savoia & Manzini (in prep.) regards the treatment of proparoxytones.

The system that comprises the configurations in (10) is based on a binary foot. This choice does not depend on accentual facts of the dialects in consideration, in which stress may fall on one of the last three syllables. Moreover, in that view the position of stress is determined by specific lexical information and foot construction follows from lexical stress. The adoption of the binary foot thus stems from a theory-internal consideration, i.e. from the constraint concerning the maximal dimension of bounded feet, discussed here in section 2.1.

However, since these dialects show the same stress characteristics seen for Italian, we would like to extend to these varieties the same metrical structure that we have proposed for Italian, i.e. one admitting ternary 'flat' constituents for antepenultimate stress.

A goal of this analysis is to obtain a uniform representation of the closed position (see above (5b, c) as opposed to (5a)). The tonic nucleus in an open syllable of a proparoxytone behaves exactly in the same way as any nucleus in a complex rhyme (i.e. a rhyme containing a coda) as far as vowel quantity and quality are concerned. This analogy can be expressed by abandoning strict foot-binarity and including the first two syllables of a proparoxytone in a constituent, dubbed R', which in turn is included in a foot.<sup>25</sup> This is exemplified in (11), which partially revises (10): (10a, b) remain unchanged as (11a, b), while (10c) changes into (11c).



The representation in (11) states that the domain in which the dominant nucleus exercises its p-licensing activity at the first level is structurally the same in the three different cases, always corresponding to a rhyme (R or R'), either a simple rhyme containing a complex nucleus (a long vowel) (11a) or a complex rhyme (one closed syllable or two syllables) (11b, c). Note that, on the contrary, the similarity between the two kinds of closed position is not evident in (10), which is ambiguous in this regard. The licensing domain of the first level, that the dominant nucleus forms together with its complement, a

domain which is constantly the rhyme in (11), consists in the rhyme in (10a, b) and in the foot in (10c). In the same way, the stress domain, which constantly corresponds to the foot in (11), is the foot in (10a, b) and the foot' in (10c).

In other terms, the crucial point in the proposal by Marotta & Savoia (1994) and Savoia & Manzini (in prep.) regarding proparoxytones, a proposal we follow in this analysis, is that the licensing relation between the two prefinal nuclei of proparoxytones with open stressed syllable, as in [kantáβəsə], is a relation of the same level as the one holding between the two positions of a complex nucleus or of a complex rhyme. This is expressed in the representation by the fact that, in order for this particular internuclear relationship to exist, the licensing domain consisting of the two prefinal nuclei must be embedded in a constituent internal to the prosodic word, that corresponds to the stress domain. If this were not the case, we could not account for the different quantity effects of antepenultimate vs. penultimate stress, namely for the fact that the nucleus in an open stressed syllable of a paroxytone, as in [kanté:və], licenses a second nuclear position inside the same syllable, instead of licensing the nucleus of the adjacent syllable; that is, we could not explain why the vowel of a stressed open syllable of a paroxytone is long.

This crucial point is not directly expressed in the model behind (10). In (10c), the two prefinal nuclei form a foot, which is embedded in a foot'. However, as a constituent of the prosodic hierarchy, the foot does not necessarily involve a higher level of projection foot', nor is this other level defined by general principles concerning the prosodic structure. Therefore, for the form exemplified in (10c), the peculiarity of the p-licensing relation between the stressed nucleus and the one on its right must be stipulated, as well as the constituent foot'.

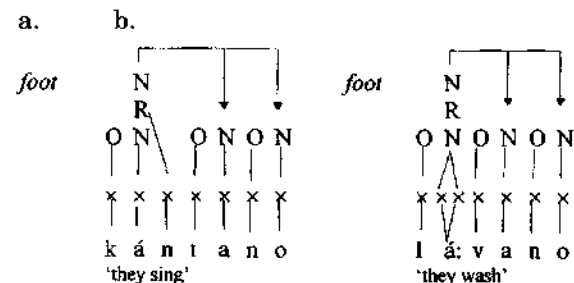
In the alternative hypothesis presented here, once we define an intermediate level R', by which we account for the peculiarities of proparoxytones in these dialects, the embedding of R' within a larger domain inside the prosodic word needs not be stipulated, but derives from the principles regarding prosodic structure, since this domain is provided by the theory as a universal constituent, i.e. the foot. This analysis makes it possible to translate in structural terms and in a general way the empirical notion of closed position, by defining it as 'a nucleus in a complex rhyme', and this result is obtained by representing antepenultimate stress by means of ternary constituents.

Viewed from a different, less formal standpoint, the difference between proparoxytones and paroxytones with an open stressed syllable – which produces different quantity effects on the stressed syl-

lable – lies in the quantity of phonological material that fills the space from the stressed syllable to the right boundary of the word. The representation in (11) makes it possible to define that space in an explicit and unambiguous way, identifying it as the foot.

The hypothesis advanced in this paper and illustrated in (11) is relevant to the more general question of antepenultimate stress, and is consistent with the metrical representation proposed in 2.1 based on accentual evidence. Indeed, one must observe that the foot in (11c) is binary, as it dominates two nodes, R' and the final N of the word. However, the fundamental difference between the notations in (11) and those in (10), lies in the hypothesis implied by (11), i.e. that the foot is not necessarily binary. It is binary, in fact, in the paroxytones represented in (11a, b), and it is binary in (11c), although in that case it corresponds to a trisyllabic domain. But ternary, and not binary, is the dominant foot of proparoxytones with closed stressed syllable in the Southern Italian dialects we have been treating (see (12a)), and ternary is the dominant foot of proparoxytones in those Italian varieties that do not exhibit effects of the foot structure on the quantity of the stressed vowels (see (12b), an example from Standard Italian).<sup>26</sup> In neither case does the representation require the intermediate structure R'.

(12)



To sum up, if the data illustrated here can be interpreted in the way we have suggested, the quantitative properties of stressed vowels in certain dialects constitute a case in favour of the hypothesis that surface ternary accentual sequences must be included in a single, flat foot. The adjacency requirement, which is necessary for the stressed nucleus to license the posttonic one, is satisfied at the level of R' and not in the foot, whose dimension only depends on the number of syllables that separate stress from the right word edge.<sup>27</sup> In this sense, the foot appears to be an intermediate category

between the syllabic constituents, which are constrained by the adjacency principle, and higher-level categories (word, phonological phrase), in which there may well exist non-local relations (it is not possible to exclude in principle words consisting of more than two feet, or phonological phrases consisting of more than two words). Therefore, in the representation proposed in (11), the constraint of binarity is pertinent to the domains where licensing relations take place, but it does not extend to the accentual domain proper, i.e. the domain that includes the stressed syllable and the weak syllables that follow.

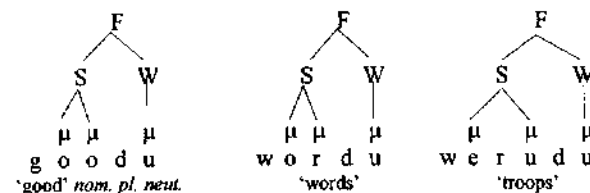
The difference among Italian varieties regarding the vowel quantity of proparoxytones is attributed, in the hypothesis here advanced, to a parametric variation concerning the activation of the intermediate constituent superrhyme. In this view, R' is a relevant domain only in those languages in which the dimension of the foot may affect the quantity of stressed vowels (see (11a) compared to (11c)),<sup>28</sup> while it plays no role in the prosodic structure of languages like Standard Italian (see (12b)) in which vowel lengthening applies in stressed open syllables, independently of the number of syllables contained in a foot.

As regards the treatment of ternary structures, the present hypothesis is similar in its effects to the analysis of the "Germanic foot" developed by Dresher & Lahiri (1991), although they refer to different theoretical frameworks. Interestingly enough, both models exhaustively analyse ternary accentual sequences containing an open stressed syllable as a sole foot, without resorting to extrametricality or incomplete syllable parsing.

In the work of Dresher & Lahiri (1991), some phonological processes of Old English (stress placement, segmental rules and properties of poetic meter) are explained by means of a particular metrical structure, the Germanic foot, which can account for both accentual processes and other phonological phenomena of this old Germanic language. The Germanic foot is maximally binary and left-headed. The head must dominate at least two morae, but they need not to belong to a single syllable. When the stressed syllable, which is always the first in the word, has only one mora, a "metrical resolution" takes place, whereby the stressed syllable and the one to its right (independently of its weight) are associated together to a single metrical position, corresponding to the head, i.e. to the left branch of the foot tree. In other words, after a metrical resolution, a bimoraic position corresponds to two positions, of which the first is monomoraic.<sup>29</sup> The right branch of the foot, i.e. the weak position, may contain at most one mora.

As we can observe in (13), this binary metrical structure may correspond to a trisyllabic domain. The following examples are taken from Dresher & Lahiri (1991: 256):

(13)



Between the representation in (11) and the one in (13), *mutatis mutandis*, there is a notable resemblance. Both of them express unambiguously the structural similarity between a closed syllable and a sequence of the two prefinal nuclei of a proparoxytone, a configuration to which we have referred as closed position. Either the stressed nucleus and its complement are contained in one syllable or belong to two syllables, they are part of the same rhyme (respectively R and R') in the analysis here presented, and are part of the strong branch of the foot in Dresher & Lahiri's proposal. A characteristic of both approaches is that a trisyllabic sequence is analysed as a single foot, a result that is generally avoided in other analyses of antepenultimate stress.

However, despite the interesting similarity on this point, it must be noted that the Government Phonology approach presented here and the moraic analysis by Dresher & Lahiri (1991) are not empirically equivalent and therefore not interchangeable. We have shown that the data presented in this paper are not suitable for analyses based on mora-count, since although the quantity of phonological material contained in a foot may affect the length of the stressed vowel, this relationship cannot be directly expressed in terms of number of morae contained in a foot. As observed above, no moraic analysis, even if admitting trisyllabic feet, is able to account for a structure frequently found in the Italian dialects in consideration, i.e. a word bearing antepenultimate stress on a closed syllable (see 10a).

#### 4. Conclusions

In this paper we have discussed the representation of ternary stress patterns in Italian and shown that lexical stress assignment

does not motivate the assumption that all the different metrical structures of this language must be accounted for by means of the trochaic foot. The view defended here that ternary sequences should be attributed to a flat trisyllabic foot is reinforced by data regarding non-lexical stress assignment, which show that antepenultimate stress is a spontaneous, not merely lexically induced metrical pattern in Italian.

In order to evaluate the validity of the metrical representation proposed on the basis of stress facts, in the second part of the paper (section 3) we have taken into account a phonological phenomenon that is related with the dimension of the stress domain. The data discussed, taken from previous analyses, come from Italian dialects that, while sharing with Standard Italian the conditions regarding the position of main word stress, differ from it as far as the quantity of the tonic vowel is concerned. In these dialects, the position of stress within the word affects the length of the stressed nucleus. It has been demonstrated that only by adopting the ternary foot such quantitative effects can be properly related to the metrical structure of the language.

The alternation in vowel length in the Italian dialects considered depends on the number of syllables contained in the foot and on the weight of the rhyme that bears word stress. Therefore, it has been shown that a framework admitting feet of different size, i.e. corresponding to disyllabic and trisyllabic stress domains, is better equipped for formally accounting for the different behaviour of paroxytones and proparoxytones. Furthermore, the analysis advanced here, by applying under certain conditions the recursive structure R', expresses the structural similarity between a complex rhyme and a sequence of two prefinal nuclei in a proparoxytone, a similarity that manifest itself in the fact that both configurations result in a short vowel.

We have also argued that the same result cannot be achieved in other approaches, which, on the basis of theory-internal not independently motivated considerations, admit only the trochaic foot. Such strictly binarist analyses are not able to coherently express the difference between proparoxytones and paroxytones, since, giving rise to a representation of antepenultimate stress that contains an intermediate level of metrical structure, they do not permit to distinguish between disyllabic and trisyllabic stress domains in terms of metrical constituency.

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## Notes

<sup>1</sup> It is generally assumed that a head must occupy a marginal position in its domain. However, according to Levin (1988) and Halle & Vergnaud (1987), this requirement is not an absolute principle on foot structure and is subject, instead, to parametric variation. The negative setting of this parameter allows ternary feet with a central head (. × .), thus respecting the adjacency principle. This configuration, however, violates another frequently posited requirement, i.e. directionality, whereby a head can have complements only on one side (cf. Kaye *et al.* 1990).

<sup>2</sup> We will not discuss in this paper the foot structure of monosyllabic units in Italian, either they consist of stressed monosyllables (e.g. *tré* 'three') or of the final syllable of oxytones (e.g. *caffé* 'coffee'), or of the unstressed syllable that precedes the main stress in trisyllabic paroxytones, (e.g. *patáta*).

<sup>3</sup> E.g. Italian *Ale*<*Alessandro*, *Alessandra*, *Tóre*<*Salvatore* (see Thornton 1996).

<sup>4</sup> E.g. Neapolitan *Totó*<*Antonio*, *Sasá*<*Salvatore*, *Mimí*<*Domenico*, *zizí*<*zio*, 'uncle'.

<sup>5</sup> It should be noted that Italian stress can be considered quantity-sensitive only in so far as a heavy penultimate syllable prevents stress from falling on the antepenultimate syllable. This does not mean, however, that a light penultimate syllable must necessarily cause antepenultimate stress.

<sup>6</sup> Interestingly, a comparison with the late Latin form *amandola* and its different results in the Romance languages (including Italian dialects) shows that (Tuscan) Italian *mándorla* is the only form containing a heavy penult together with antepenultimate stress (see REW 436).

<sup>7</sup> We cannot be certain that the input form of these words in the process of adaptation to Italian maintained the same stress they have in the source language, since, to our knowledge, the circumstances of this adaptation cannot be stated in detail. Generally speaking, an important role as a source of foreign loanwords is played by written language, which usually does not mark word stress.

<sup>8</sup> Sluyters (1990) argues that Italian stress is quantity-sensitive, in that proparoxytonic words with heavy penultimate syllable are not allowed. As evidence of this property, Sluyters mentions italianized place-names such as *Ambúrigo*, *Stocárdá*, *Francofórté*, *Lucérna*, *Gronínga*, in which a heavy penultimate syllable attracts stress. We must observe, however, that, unlike the forms cited here in the text, these names have become part of the Italian lexicon (as their complete phonological adaptation shows) and that their stress is now completely established. Forms such as *Amburgo* etc., testify at most a constraint operating at the moment of the adaptation to Italian phonology (although non-phonological factors must have contributed to the italianization of these words), but cannot be considered the effect of a metrical principle of current Italian.

<sup>9</sup> We do not discuss in this paper the metrical structure of the first, atonic syllable of these forms; see also above fn. 2.

<sup>10</sup> By well-formed rhythmic structure we refer to (phrasal) sequences that contain neither stress clashes nor stress lapses. On rhythmic well-formedness in Italian see Nespor & Vogel 1989.

<sup>11</sup> This appears to be the case for the place-name *Francoforte*<*Frankfurt* (see

here footnote 8). *Francoforte*, like other Italian place-names such as *Carloforte*, *Borgoforte* has the structure of a compound, *franco* 'frank' + *forte* 'fort' (but also 'strong') and shows the stress pattern typical of compounds (one main stress on each member).

<sup>12</sup> At least for some speakers, one can observe that the characteristics of the pronunciation of foreign words inserted in the discourse of L1 depend not so much on the degree of the speaker's competence of L2, which may be high, as on the intention to avoid a strong "foreign accent", which would be perceived as unnatural and affected. This common behaviour increases the production of what we have called "typical pronunciations".

<sup>13</sup> The pronunciation of English by Italian speakers presented in (3) has been observed in spontaneous Italian speech, in spoken (and read) Italian heard on the radio and on television, and in English speech, especially during English classes. It should be noted that the forms in (3) do not represent the exclusive or the absolutely prevailing pronunciation among Italian speakers as users or learners of English as L2, but they are so frequent that their occurrence can hardly be considered fortuitous.

<sup>14</sup> Moreover, speakers of Italian dialects may come into contact with a foreign language like English mostly through the medium of written language and of television and radio, which are typical domains of Standard (or local) Italian.

<sup>15</sup> It can also be noted that the diphthongs [je] [wo] in words like [pjé:de], [rwo:ta] are not to be necessarily analysed as branching nuclei. At least the front diphthong is probably more appropriately assigned to an Onset-Nucleus sequence (see Marotta 1987). Also notice that the stressed vowel in these forms is generally lengthened, which means that the presence of a diphthong does not satisfy *per se* the Strong Rhyme Condition in present-day Italian.

<sup>16</sup> The data discussed in this section are representative of syllabic properties of Southern Italian dialects spoken in Southern Abruzzo, Apulia, Lucania and Northern Calabria, which have been studied by Savoia (1989), Marotta & Savoia (1994), Savoia & Manzini (in prep.).

<sup>17</sup> The same effect on the length of the stressed vowel can be observed in English, in such alternations as *div[al]ne/div[ɪ]nity*, *s[eɪ]n/s[æ]nity*, known also as Trisyllabic Shortening (see Chomsky & Halle 1968: 50-55, 178-184, Kiparsky 1982:147-153.)

<sup>18</sup> In the following, the segmental content of the relevant nuclei will not be treated and the discussion will focus on quantitative aspects.

<sup>19</sup> Savoia (1989), Marotta & Savoia (1994), Savoia & Manzini (in prep.) also deal with the problem of final stressed vowels, which show the segmental characteristics typical of the closed position. A parallel situation can be observed in Italian, in which final stressed vowels are short. In some varieties of Italian, tonic vowels in word final position generally cause the gemination of a following consonant in phrasal contexts, so that, in fact, they are part of a closed syllable. We will not deal here with this question, since the metrical approach admitting only binary feet and the one presented here, allowing also ternary feet, are equivalent with respect to this problematic point.

<sup>20</sup> A similar proposal has been advanced by Calabrese (1985) to give account for the absence of diphthongization of mid-low vowels in Italian proparoxytones, and by Ghini (1996) for the Ligurian dialect of Miogliola, which presents the alternation in vowel quantity between penultimate and antepenultimate stress of the kind exemplified in (7), e.g. *pá:gu* 'I pay' vs. *káregu* 'load'. According to Ghini, final vowels are extraprosodic and, starting from lexically established stress, moraic trochaic feet (ῥῦ) are built, which correspond either to one syllable (the long stressed vowel or the short stressed vowel in closed syllable of paroxytones) or to two

syllables (the open stressed syllable and the adjacent one in proparoxytones).

<sup>21</sup> The two analyses differ as for the treatment of the melodic content of stressed nuclei, a question that we will not deal with here.

<sup>22</sup> We will follow Harris (1994: 168) in referring to the relations between units of the prosodic structure as *licensing*, and in indicating by *government* a sub-case of licensing.

<sup>23</sup> In the framework of Kaye *et al.* (1990) branching nuclei in rhymes containing a coda are universally disallowed. Harris (1994: 65, 77-78) admits such structure for the treatment of special cases of "superheavy" rhymes in some British varieties. See Savoia & Manzini (in prep.) for the analysis of Italian dialects that allow, under special conditions, branching nuclei in closed syllables.

<sup>24</sup> It could be observed that by means of incomplete foot parsing combined with extrametricality, i.e. by leaving the two last syllables unfooted, the bimoraic trochee could permit the representation of a proparoxytone with a tonic closed syllable. A word like [kántaŋ] 'they sing' would be assigned the following structure: [[káŋ]<sub>foot</sub> ta <nə>]<sub>p-word</sub> while [lávaŋ] 'they wash' would be footed as follows: [[láva]<sub>foot</sub> <nə>]<sub>p-word</sub>. However, besides implying the simultaneous application of two different special procedures in the foot construction, this analysis assumes a difference in metrical structure between the two forms, which is not supported by facts: it is not the case that a prefinal syllable following an open syllable is better integrated in the prosodic structure, or is, in some sense, "stronger".

<sup>25</sup> Note that this structure is by no means equivalent to the structured metrical constituent [(x .) J] (see section 2.1). R' is a syllabic constituent and not a metrical one, and the foot in which it is contained is a trisyllabic flat constituent.

<sup>26</sup> We assume here that in Standard Italian stress produces vowel lengthening in open syllable both in penultimate and, at least to some extent, in antepenultimate position, which means that the 'open position' coincides with any open syllable, excluding the final one (see what has been observed at the beginning of section 3). If this assumption proved to be unfounded, an analysis of the kind proposed here for some Italian dialects should be applied to Italian as well.

<sup>27</sup> We are referring here to dominant feet, i.e. to main stress.

<sup>28</sup> As already observed, we are referring here to languages that are not suitable to a moraic analysis, essentially because the relevant element in foot construction is the number of syllables, instead of the number of morae.

<sup>29</sup> The left branch may also contain three morae. This happens when the first syllable is light and the second syllable, which is involved in the metrical resolution, is heavy. However, the Germanic foot cannot contain a heavy syllable followed by two other syllables, since this configuration does not trigger the metrical resolution.

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